

**A COMPARATIVE STUDY OF DESIGN PRACTICE IN
MALAYSIA AND THE UK, WITH SPECIAL REFERENCE
TO THE CREATION OF SME BRANDS.**

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A thesis submitted in partial fulfilment of the requirements of the
degree of Doctor of Philosophy



Birmingham Institute of Art and Design (BIAD)

December 2008



Abstract

The rapid growth of the Malaysian economy in the last 25 years has led towards greater spending power. Global competitiveness drives developing countries to create differences and as Malaysia progresses towards post industrialism, the role of design has become more strategic in the national sense. In addition, the challenge of massive markets has pushed Malaysian manufacturing industries towards innovative competitiveness.

This research is primarily concerned with design practice in Malaysian Small and Medium Enterprise (SME) manufacturing companies in relation to how individual brands are being developed. The study focuses on perspectives of design capability and cultural representation in SMEs in both the UK and Malaysia and suggests how they can be applied in Malaysia. For this reason, examples of best design practice were sought across diverse manufacturing industry sectors in Malaysia. However, in order to focus the study on a smaller, appropriately compact research-able area, participant companies were sought amongst recipients of the Malaysia Good Design Mark (GDM) Awards and compared with successful UK examples linking government, design institutions and companies.

The study also shows the willingness of manufacturers to accept changes in design perception and values, provided it would benefit company growth. The signs of homogenisation in design perception and design practice show that

government agencies Malaysia Design Council or Majlis Rekabentuk Malaysia (MDC/MRM) and Malaysia External Trade Development Corporation (MATRADE) together with higher education providing human resources, all had a hand in promoting the role of design.

This research identified the key similarities and differences in management, product design and development process, customer expectation, marketing and branding. This led to the proposed Design Best Practice Model that may provide reference for Malaysian SMEs wishing to improve their competitiveness in both local and global markets.

*This work is dedicated to my beloved husband Hariri and children
Khairani, Izzati, Qistina and Irfan,
for their love, encouragement and support during its creation.
I would also like includes my late parents, siblings and immediate family
in this dedication.*

Acknowledgements

I would like to express my thanks to all individuals, friends and colleagues for their contributions and support in completing this research. The research presented in this thesis could not have been undertaken, and the thesis itself may not have been produced, without their generous assistance. With deep gratitude, I would like to acknowledge the following in the preparation of this thesis:

Dr. Andrew Saxon, Director of Studies and **Prof. Robert Jerrard** for their excellent supervision, knowledge, tenacity, guidance, argument, advice, unfailing support in the academic environment, encouragement and patience throughout the research process.

Carmen and **David Guard** as well as **Lynda Dudhill** for their constant stimulation and language guidance throughout the research despite their busy schedules.

All Participants from both questionnaires survey and interviews, who shared their views and perceptions for the documentation of this thesis.

Prof. Nick Stanley for his kind support and assistance as Director of Research and **Prof. Darren Newbury** for Research Methodology for Art, Design & Media Course and guidance.

Suriayati Rahman for sharing the SPSS knowledge.

Jenny Hewings, Yanyan and Evette, in Research Office who never tired with their assistance and administration support. **Becky Boydell** for her kind support and assistance.

John Ridgway and **All BIAD librarians** for the privilege given to me and Hariri throughout the research.

Eric Mead, Dave Higgins and **Daniel Maguire, Ted Howells** for the support in using facilities, parking and access to the BIAD buildings.

Tony Davis, Rashid Khandakhar, Andy Fitzmaurice and **Maggie Scott** for IT support and technical assistance.

Finally, my deepest gratitude also to **LIMKOKWING University of Creative Technology** (my employer), **Roosnani Saad** (my beloved sister, who managing everything on my behalf in my absence out of the country), **Wan Ainun Radzi, Geoff** and **Eileen** (my beloved neighbours), **Steve Gurney** (Stockland Green School) and again **all individuals** who took time and courage to contribute to this research.

Declaration

This thesis has not been submitted in whole or in part for consideration or application for another degree or qualification of this University or any other university, or other institutions of learning.

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Abbreviations

AFTA	ASEAN Free Trade and Agreement
AIM	Advanced Institute of Management Research
ASEAN	Association of South East Asia Nations
BDI	British Design Innovation
BS	British Standards
BSC	Balanced Score Card
BT	Business Times (newspaper)
BL	Business Link
BUMIPUTERA	Son of soil
CAD	Computer Aided Design
CADEM	Computer Aided Design, Engineering and Manufacturing
CDR	Centre for Design Research
CE	Concurrent Engineering
CEO	Chief Executive Officer
CDFI	Community Development Finance Institutions
CGNA	Cisco Certified Network Associates
CID	Commercial Impact of Design
CPU	Central Processing Unit
CRDF	Commercialisation of Research and Development Findings
CRT	Cathode Ray Tube
DC	Design Council
DCNSF	Design Council National Survey of Firm
DIUS	Department of Innovation Universities & Skills
DTI	Department of Trade and Industry
ebXML™	e-business Extensible Mark-up Language
EC	European Commission
EIB	European Investment Bank
8MP/RMK8	Eighth Malaysian Plan

EIF	European Investment Fund
E50	Enterprise 50 Awards
ECF	Enterprise Capital Funds
EPU	Economic Planning Unit
FAG	Factory Auditing Grant
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GRD	Grant for Research and Development
GDM	Good Design Mark
ICT	Information and Communications Technology
ITAF	Industrial Technical Assistance Fund
IGS	Industry Research and Development Grant Scheme
IMP	Industrial Master Plan IMP
IPDP	Integrated Product Development Process
IPR	Intellectual Property Rights
IPPD	Integrated Product and Development Process
IRPA	Intensification of Research in Priority Areas
ISO	International Organisation of Standardisation
ITAF	Industrial Technical Assistance Fund
ITM	Institute Teknologi Mara
KAI	Kirton's Adaption/Innovation Inventory
KTM	Keretapi Tanah Melayu
KLCC	Kuala Lumpur Convention Centre
KLIA	Kuala Lumpur International Airport
KPT	Knowledge Transfer Partnership
LAN	Local Area Network
LEP	Look East Policy
LSI	Large Scale Industry
DOS	Malaysia Department of Statistics
MTDC	Malaysia Technology Development Corporation (MTDC)
MATRADE	Malaysian Trade and Development Cooperation

MEC	Malaysian Electrical Corporation Berhad
MDC / MRM	Malaysian Design Council / Majlis Rekabentuk Malaysia
MIDS	Malaysia Industrial Design Society
MIMOS	Malaysian Institute of Microelectronics Science
MINDEX	Malaysian Invention and Design Exhibition
MINDS	Malaysian Invention and Design Society
MITI	Malaysian of International Trade and Industry
MCPS	Micro Credit Programmes Scheme
MCSE	Microsoft Certified System Engineers
MICA	Ministry of Information, Communications and Arts
MOE	Ministry of Education
MOSTI	Ministry of Science, Technology and Innovation
MNC	Multi-Nationals Companies
MODENAS	Motosikal dan Enjin Nasional
MTC	Malaysia Timber Council
MTIB	Malaysia Timber Industry Board
NEDO	National Economic Development Office
NGO	Non-Governmental Organisation
NPD	New Product Development
NSDC	National SME Development Council
OBM	Original Brand Manufacturing
ODM	Original Design Manufacturing
OECD	Organisation for Economic Co-operation and development
OEM	Original Equipment Manufacturing
OPP2	Second Outline Perspective Plan
PIA	Promotion of Investment Act
PQMA	Productivity and Quality Management Award
PROTON	Perusahaan Otomobil Nasional (National Automobile Industry)
R&D	Research and Development
RDA	Regional Development Agencies

RM	Ringgit Malaysia
ROI	Return of Investment
RVCF	Regional Venture Capital Funds
SDN. BHD	Sendirian Berhad
SIRIM	Standards and Industrial research Institute of Malaysia
SBS	Small Business Service
SME	Small and Medium Enterprise
SMI	Small and Medium Industry
SMIDEC	Small and Medium Industries Development Corporation
SMIDP	Small Medium Industry Development Plan
SFLG	Small Firms Loan Guarantee
SPSS	Statistical Package for the Social Science
TCS	Teaching Company Scheme
TQM	Total Quality Management
UKTI	UK Trade & Investment
UN	United Nations
UNITEN	University Tenaga Nasional
UiTM	Universiti Institut Teknologi Mara
VOC	Voice of the Customer
VOIP	Voice Over Internet Protocol
WLAN	Wireless Local Area Network
WTO	World Trade Organisation

Chapter 1
Introduction

1. Introduction

1.1 Context

It has become noticeable that visual appearance in some ways appears to be a critical determinant of the consumer's purchasing decision. Accordingly, design has become of great concern to manufacturers and particularly to consumers. The Industrial Revolution in Britain began a process that transformed the country into a nation of design, where the turnover of developing businesses was increased through design influences (UK Design Council, 2005). In contrast, design awareness in Malaysia is relatively recent in the consumer society while for the manufacturer, particularly the SMEs, design seems to be a costly investment. The Malaysian government recognised the importance of design to the SMEs by offering incentives with the aim of promoting Malaysian brands to gain international recognition and acceptance. Good design practice in the SME is viewed as a central strategy for the future development of the company through its own product and brand.

Malaysian SMEs, according to the Small Medium Industry Development Corporation (SMIDEC) (2006), are grouped into two broad categories. The first consists of Manufacturing, Manufacturing-Related Services and Agro-based industries. The second category consists of Services, Primary Agriculture and Information & Communication Technology (ICT) industries. As with SMEs in other countries, Malaysian SMEs are also divided into three sizes; Micro, Small,

and Medium (further explained in Chapter Three). These classifications are based on either the number of people a business employs, or on the total sales or revenue generated by a business in a year (SMEinfo 2005). Furthermore, in 2005 the Malaysian National SME Development Council (NSDC) approved the use of common definitions for SMEs in the manufacturing, manufacturing-related services, primary agriculture and services sectors. These definitions are used by all Government Ministries and Agencies involved in SME development, as well as the financial institutions.

1.2 SME and Design Rationale

There are significant differences within the two countries, Malaysia and the UK in terms of SME establishments, reflecting both management approaches and cultural influences. For example, Malaysia lacks manufacturing expertise and industrial maturity whereas the UK led the world in manufacturing since the Industrial Revolution and can now be conceived as a post-industrial nation. Malaysia received independence in 1957 with strong colonialist influences from the British Government. The adoption of Foreign Direct Investment (FDI), which relies on foreign investment in Malaysian businesses, has led to Malaysia being known as the subcontract manufacturer for renowned brands. Furthermore, the then Prime Minister, Mahathir Mohamad, introduced the Look East Policy in 1982 to learn from the experience of the Japanese and Koreans to replicate and develop industries rapidly.

Vision 2020 was to further Look East initiatives and was introduced in early 1991. The Vision 2020 (further explained in Chapter Three) was meant to achieve global competitiveness with the aim of ensuring that Malaysia would quickly develop into an industrial country.

The globalization in product manufacturing has created competition and resulted in an impact on prices. Through design, brand and individual identity may be used as a tool to strengthen the company portfolio where the consumers usually seek benefits and reassurance in their purchase decisions. Borja de Mozota (2003) suggested that there is an important distinction and inter-relation between design and brand. Marketing and design are both able to influence customers or users. Both are equally important and can provide breakthrough results when they are integrated.

“A product is something with a functional purpose. A brand offers something in addition to its functional purpose. All brands are products that serve a functional purpose. But not all products are brands. A brand is a product that provides functional benefits plus added values that some consumers value enough to buy” (Jones & Slater, 2003. p. 31-32).

From this it can be seen that ‘added values’ are an important element of defining a brand. A brand can be expressed and experienced in many ways. Although design is the key feature in determining the brand, its look, performance and durability all need to live up to its marketing promises.

In this study, the researcher seeks to identify ways to bring designers, and marketers who are responsible for the success of a particular brand, to work

together to achieve substantial results. Questions to be addressed include: how do the history, education and culture of design and marketing facilitate or hinder effective interaction? What are some practical tools to ensure successful interaction? What is the role of the design brief in bringing the two disciplines together? What strategies have successful organizations used?

1.3 Research Motivations

Many academics and non-academics have studied issues related to Malaysian SMEs. Most of the literature, however, deals with business and management, engineering and manufacturing capability or the application of technology or quality enhancement. Design has recently become a subject of discussion among government agencies and SMEs in Malaysia. However, despite the existence of design-related agencies such as the Malaysian Design Council (MDC/MRM), Malaysia Design and Innovation (MDI) and Standards and Industrial Research Institute (SIRIM), the importance of design is not yet fully appreciated and continues to be overlooked due to a lack of research documentation on design issues.

Therefore, this research examines and discusses the design issues and focuses in particular on design practices, its roles, values, acceptance, impact and future within the Malaysian SME manufacturing sector, compared to the UK SME.

1.4 Purpose and Aims

The main concern of this study is to examine, compare and contrast design practices between selected UK and Malaysian SMEs in the manufacturing sector. Through this process and from critical analysis, a model of best design practice can be proposed for the selected Malaysia SME manufacturing sector. To this end a literature review was undertaken and the findings, together with opinions and perceptions gathered from a survey and interviews, are presented (Chapter Five and Six) as a source for future academic reference. The findings are expected to contribute to our knowledge of the way design is viewed, within both government agencies and industries.

The research started with the aim of determining the practical methods of data collection to be used. The aims lead to the literature review of related issues in the UK and in Malaysia. This was followed by the formulation of survey questionnaires and mapping of current design issues, practice and approach, concluding with the evaluation of all information gathered from the in depth interviews and case studies. In view of the lack of available literature dealing with the Malaysia SME design context, the information gained from the interviews was considered very important for establishing the perception of the Malaysian participants and providing information for this study.

The research aims form the basis for the research methods and approach: these comprise three stages which are further explained in Chapter Four. The four research aims are:

Stage I: To identify factors that can be taken as a basis for explaining the success of brand development in selected SMEs in the UK.

- Approach; Literature review and Survey questionnaire – UK SMEs.

Stage II: To investigate and understand the specific role of design in the development of brands in Malaysia, and the use of design by SMEs.

- Approach; Literature review and Survey questionnaire – Malaysian SMEs.

Stage III: To develop and conduct a series of in depth interviews followed by case studies in relation to the role of design in creating Malaysian brands.

- Approach; In depth interview and case studies – Malaysian SMEs.

The data obtained from the surveys, in depth interviews and case studies from UK and Malaysian SMEs are examined, analysed, correlated, compared and contrasted to determine how the companies approach design practice. The factors discovered from the findings in both countries are synthesised to form a basis for the fourth aim:

- To propose a model that can be used as a reference for best design practice in the selected SME manufacturing sector.

1.5 Expectation of the Outcomes

This research seeks to identify key differences and similarities between the two countries as regards design maturity, culture representation, and design practices. In the UK, links between the government, higher education institutions and SMEs, helped to sustain design in industry. This study seeks to detect and evaluate whether this triangulation approach exists in practice and is appropriate to the Malaysian context. The possible novel aspects of this study are therefore:

- The survey.
- The case studies focusing on design practice in selected Malaysian SMEs.
- The particular comparison in which the approach of the two countries is compared and contrasted.
- The creation of a model that will be developed and adapted for its applicability to the Malaysian context.
- Documentation of the research into this thesis.

In consequence, the research results would provide a source of reference and guidelines for best design practice for Malaysian SMEs, especially in the manufacturing sectors as well as the government and private bodies. From this study it would be possible to understand and establish the role of design in the competitive Malaysian market. Thus, is intended to develop new knowledge in the following areas:

- Improved understanding of the success factors brought about by the use of design by SMEs in Malaysia.

- Comparison between design practices in the two countries.
- The identification of key influences on design capabilities for the creation of successful local brands.
- An understanding of how Malaysian brand strategies relate to global strategies.
- A new model for best design practice in Malaysian SMEs.
- A Thesis, which presents the knowledge gained.
- Dissemination through publication in refereed journals.

Chapter 2

Design, Practice and Brands

Chapter 2

2. Design, Practice and Brands

2.1 Introduction

This chapter presents a review of the literature related to the nature of design practice, brand, definitions and designers. The relationships between these topics have been highlighted in reference to the research background.

It begins by reviewing selected literature which discusses the nature of design and definitions of design, and also by discussing the similarities and differences within theories. The inter-relationship between design and user or consumer is further reviewed in a variety of contexts around how the word '*design*' is used. Selected theories relating to design as a process, the value of design, and design as a strategic resource are also examined. The relationship between creativity and innovation through design is also reviewed. Hence the chapter also highlights this particular context of design applied to this research.

Designers' descriptions of involvement in the manufacturing sectors are also discussed. This is followed by a review of design practice in management, industry and education. The literature review continues by discussing the nature of brand theories and definitions. The role of brand and its importance to economic achievement is underlined, as is the relationship between design and brand within the manufacturing industry as specifically related to SMEs. A critical view of all

literature reviewed was taken, followed by an explanation of the role of design and its contribution to the success of brand, and its importance to manufacturing industry. The chapter is concluded by a summary of the topics highlighted.

2.2 Design

It is increasingly common to relate design to our lifestyle. Descriptions of lifestyles associate design with what we see around us, such as the clothes that we wear or the car we drive, the house that we live in and things that we own and view around us. These are all items that have been designed, whether or not the design appeals to our individual taste or whether or not a qualified designer has produced them. What design is, very much depends on what exactly we are experiencing in our daily life. It is also what we reflect in the process of making new things and the end product produced by this process is what we called the *design*.

Design may be observed in many different disciplines, in the creation of man-made objects. These can include three-dimensional objects, visual communication, integrated systems such as information technology and the built environment. The design in this research covered the manufacturing of domestic equipment such as furniture, electronic appliances and the automotive industry. Design can be seen as a powerful tool for creating sustainable social practices because it is claimed that design plays a central role in the development of lifestyle models (Chick, 2000, 1993). However, it is important to remember that

design is not always about creating or producing something totally *new* or that has never been seen before, but is also at work in refining or adapting previous designs. Design appears to be recognisable by its qualities, but it is not simple or straightforward to define these qualities.

2.2.1 Design Definitions

The interpretation of the word *design* depends on the contexts used. It may be used in a variety of ways and with differences in connotation from products, buildings, engineering, multimedia, services or systems. A selection of design definitions focused on the manufacturing industry sector will now be reviewed. According to Whiteley (1995), the study of design has moved towards the approach taken by cultural studies. Thus it also includes a consideration of the entire range of society's, arts, beliefs, institutions and communicative practices as they relate to design (Grossberg *et al.*, 1992)

Previously, Whiteley (1993) defined *design* as an embodiment, directly relating to the values of its wider surrounding, rather than simply those of its creator, the designers. Design is in this way 'value laden' (Dormer, 1990) and even 'value made visible' (Cooper and Press, 1995). The Oxford English Dictionary (OED) (2005) defines design as;

“A mental plan - A plan or scheme conceived in the mind and intended for subsequent execution; the preliminary conception of an idea that is to be carried into effect by action; a project.”

In relation to this definition, design requires a mental progression that involves a person thinking of an idea, this design idea is then followed by an execution of a task or project. This designing activity usually solves or finds an individual problem in the refinement process to enhance and add commercial value to a product. In contrast, the following definition describes the designer's view is design as self-expression in realistic or abstract style. A piece of artwork is seen as having aesthetic value to the audience or viewers who can appreciate the work.

Thus:

“A plan in art - A preliminary sketch for a picture or other work of art; the plan of a building or any part of it, or the outline of a piece of decorative work, after which the actual structure or texture is to be completed; a delineation, pattern”.

There are a great many definitions of design in the Online Oxford English Dictionary (OOED, 2005). However only a few are very closely relevant within the context of this study. Thus:

“ To plan, purpose, intend - To form a plan or scheme of; to conceive and arrange in the mind; to originate mentally, plan out, contrive”.

“ To sketch, delineate, draw; to fashion artistically - To make the preliminary sketch of (a work of art, a picture, statue, ornamental fabric, etc.); to make the plans and drawings necessary for the construction of (a building, ship, machine, etc.), which the workmen have to follow out”.

“ To plan and execute (a structure, work of art, etc.); to fashion with artistic skill or decorative device; to furnish or adorn with a *design*”.

In summary, it can be concluded that design is about the documentation of ideas into a visual or functional form. Design can also be expanded or developed further for a specific target group, who can selectively perceive and appreciate its value.

This point of view is emphasised by Baynes (1976:28) who states:

“design is the area of human experience, skill and knowledge that reflects man’s concern with the appreciation and adaptation of his surroundings in the light of his material and spiritual needs. In particular, design relates to configuration, composition, meaning, value and purpose of the man-made phenomenon”.

In contrast to this, Walker (1989) stated that design can refer to a process (the art or practice of designing), or to the result of that process (a design, sketch, plan or model); or to the products manufactured with the aid of design (design goods) or to the look or overall pattern of a product (‘I like the design of that dress’). Similarly Gorb and Dumas (1997:162) also refer to design as a process and defined it as;

“ a course of action for the development of an artefact or system of artefacts; including the series of organizational activities required to achieve that development.”

Walsh (1995) raised an interesting and useful way to define ‘*design*’ in other European languages, which generally have two or more words to emphasise the separateness of the different concepts, such as ‘*engineering*’ and ‘*product*’. However the English language uses the one word ‘*design*’ to describe all design activities in various disciplines such as graphics, ceramics, jewellery, interiors and architecture. Thus, Walsh (*ibid.*) believes that design is a multifaceted concept which includes not only function and appearance, but also choices and decisions. Therefore ‘*design*’ is to be seen in a much wider sense than has commonly been adopted in English (see Fig. 2.1).

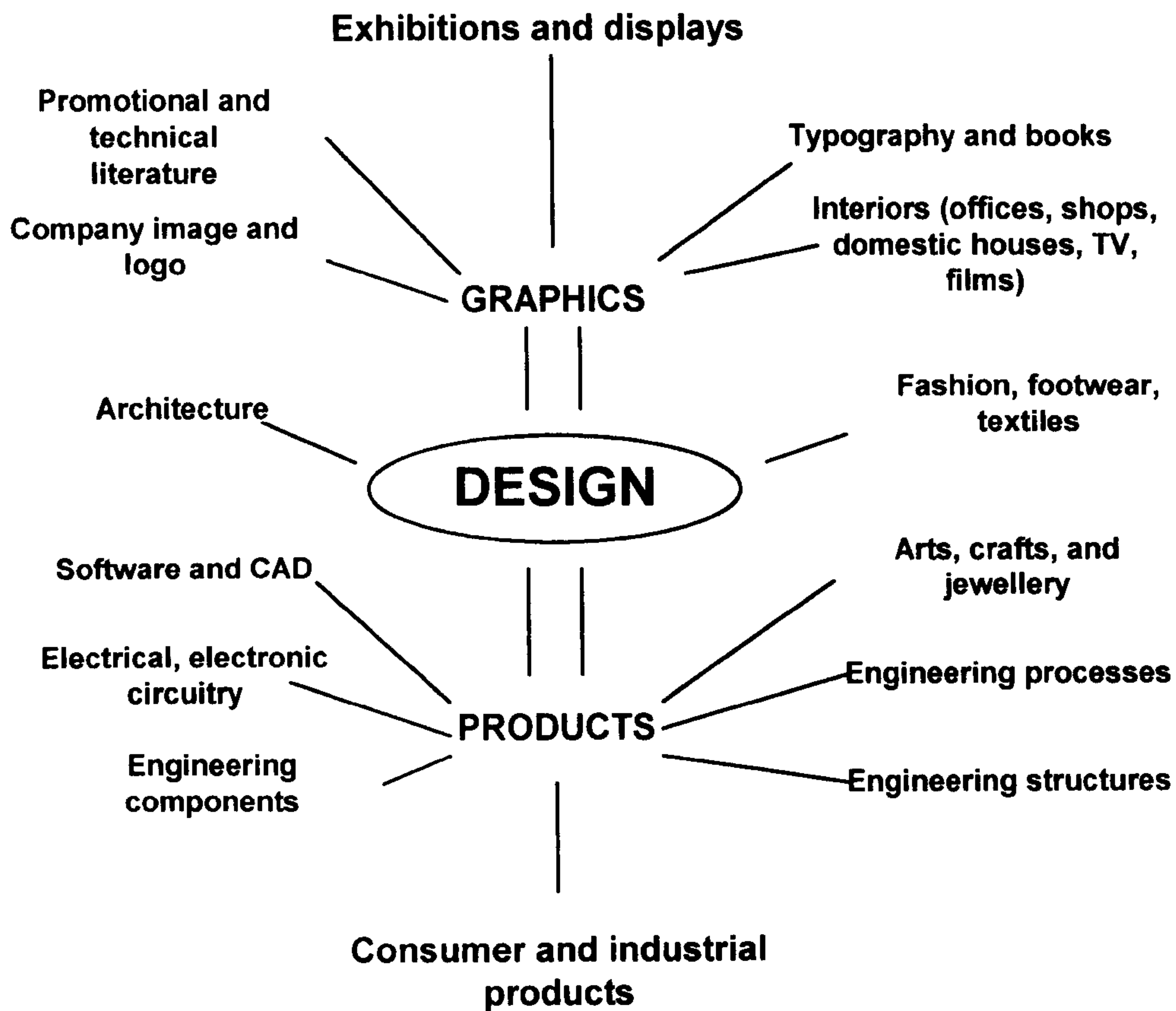


Figure 2.1 - The main areas of design. *Source: Walsh (1995)*

Another definition, aired by designer Richard Seymour during the Design Council's Design in Business Week 2002, is "*making things better for people*". The Design Council (2004b) elaborates that the emphasis for design activity is first and foremost on human behaviour and quality of life, not factors like distributor preferences, but the general public could say design "*makes things better for people*" (*ibid.*). On the other hand, Saxon (2003) defines 'design' as "*envisioning the future, in order to bring it into the present*". Clearly, he recommended that designers ponder design issues deeply and imagine creatively

to advance ideas for current and future use. In contrast with the above definitions, the UK Design Council (2004a) stated that,

“design does not necessarily have to be new, different or impressive to be successful in the marketplace, as long it’s fulfilling a need, but design methods do lead to innovative products and services. There may be no absolute definitions of design that will please everyone, but attempting to find one can at least help us pin-down the unique set of skills that designers bring to bear”.

The argument here is that it is not necessary to create *new* or *different* designs. So long as the product or service is acceptable, but perhaps such a view requires further consideration: based on several studies, differences in design play a major role in ensuring product success in meeting worldwide competition. (Press and Cooper, 2003, de Mozoto, 2003, Walsh, 1995, Walsh *et al.*, 1992).

With these differing viewpoints, the word ‘*design*’ clearly means “many things to many people” (Morrison and Twyford, 1994). Probably the most practical way of understanding what ‘*design*’ means is to acknowledge what people know it to be, including the context in which the word is used (*ibid.*). Therefore, it may be said that design definitions possess a number of meanings, depending on the context and application where they are used. In relation to this study, the original BS 7000 (1995), design was used as a noun and defined as:

‘The set of instruction (e.g. specifications, drawings and schedules etc.) necessary to construct an artefact or service can be design.’

And, when used as a verb, design is defined as:

‘to generate information from which a required product or service can become reality.’

For the purpose of this study, therefore, the meaning of design has been described as; *a powerful, fundamental idea, that can expand innovative products and differentiate in function through design*. The researcher believes that *design* is to be known as a problem-solving practice, and all design-centred activities need to focus on solving a particular problem. It can be argued that a vital purpose of design is to expose and understand the problem so we can solve the right problem. In its most general sense, design is a form of politics with which people struggle to shape their surrounding environment and society in order to satisfy everybody's need.

2.2.2 Design as A Product Development Process

There are many theories in regards to design as a process of translating ideas into reality. Indeed, there is even a British Standard (BS) for the process. Examples can be found in BS 7000-1 Guide to Managing Innovation, published in 1999, BS 7000-2 Guide to Managing the Design of Manufactured Products, published in 1997, and BS 7000 Guide to Managing Product Design published in 1989 (British Standard, 1999). It is also claimed that a common pattern has been recognised for design process in various industries and different types of product, (Jones, 1970, Pugh, 1986). This common pattern takes the form of a repetitive process used to explore possible solutions to any problem arising in the *design brief*, thus enabling specific design methods and approaches to be applied in manufacturing goods.

The literature in design management (Borja de Mozota, 2003; Cooper & Press, 1995) suggests that the design process is about the utilisation of a designer's skills in solving a problem within the *design task* such in the internal creative process (see Fig. 2.2). In addition '*design process*' can be referred to as the strategic planning of product development. Echoing this point, Bruce and Bessant (2002) claimed that, "good design does not emerge by accident but as the result of a managed process". Major design elements such as performance, quality, durability, appearance and cost are creatively used to enhance consumer satisfaction and company profitability. It has been claimed that through these elements in the design process, corporate identity, environment and product have emerges. (Kotler and Rath, 1997).

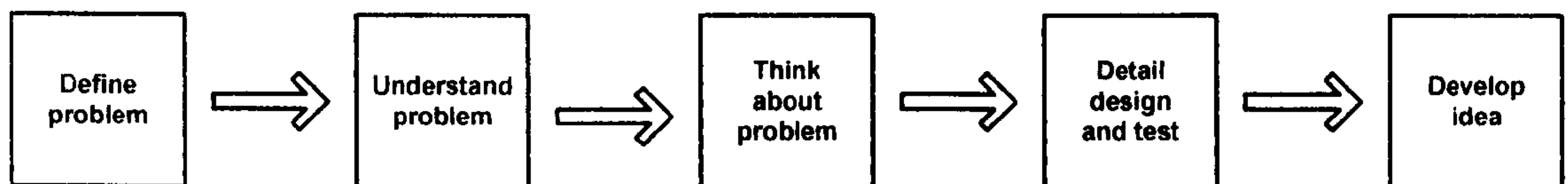


Figure 2.2 – The internal creative process of design. *Source: Cooper & Press 1995.*

Despite various routes that companies take there is a large degree of similarity in the entire design process between different companies and industry sectors (Walsh *et al.*, 1992 , Bruce and Bessant, 2002). Generally, there are three stages usually involved in the design process (*ibid*);

- Planning stages, which include the preliminary idea development, market analysis for potential demand and also the design brief.

- Design and development stages, which include the market and technical specification, design concept, prototyping and testing, detail design as well as engineering production.
- Production and sales stages, which include the production and marketing planning, tooling, manufacturing testing, full-scale production, market launch and follow up.

In this common design process, it is typical to see a step-wise process of development from identification of market demand or identification of a problem to product launch (see Fig. 2.3).

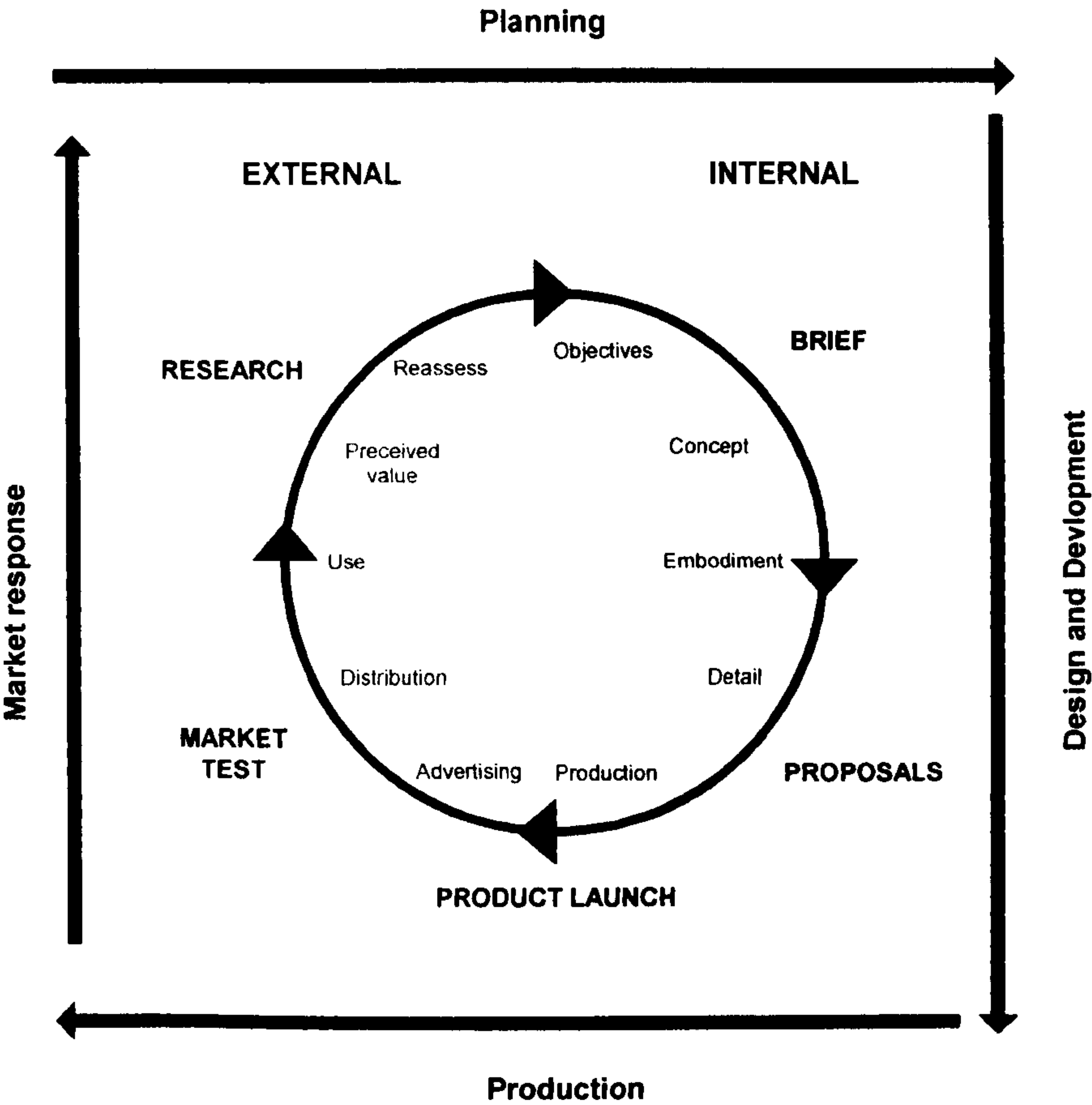


Figure 2.3 The total process of design within management. Source: Walker 1989

This can also be viewed as a generic process, that defines the steps that all design development is required to go through (see Fig. 2.4). The content, the activities and the focus in the process may vary, and this will depend on the industry sectors and the organisation. In industry, most companies use stages or a phase model to represent their design development process.

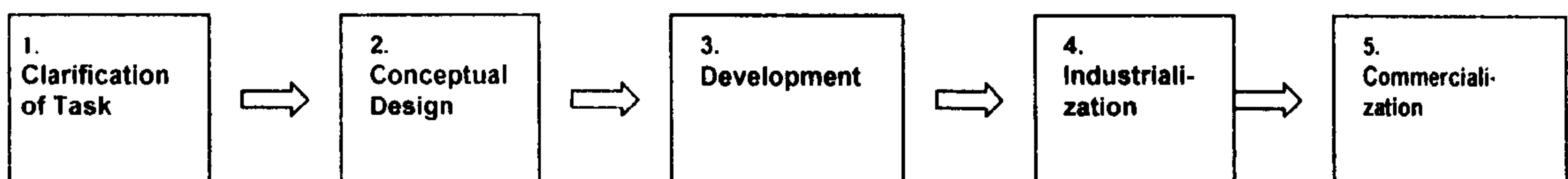


Figure 2.4 A generic process with typical steps in a product development project

There are occasions where companies base themselves on a prescribed ‘phase model’ or utilise their own model in implementing this design process. Therefore, phase model aims to organise design process in a manner to provide systematic procedures to make the design process clearer, more controllable and effective. According to Press and Cooper (1995) the need for the phase models originates from the increasing complexity of most design development. This design development may include functionality, performance, reliability, safety, maintainability, sustainability, recycling and manufacturing. Looking at other views, Jerrard (1998) stated that in the process of design, designers will associate their own experiences to construct their personal aesthetic judgement in their design work. Borja de Mozota (2003) concluded that design is a process which creates a form, an artefact involving unity between structural, functional and symbolic constraints. The process of design therefore can be seen as an activity of creative invention or innovation by the designer and design engineer in the

development of products. These activities are guided and structured through management protocols to ensure the feasibility of design and future products.

In Schon's (1983) view, design drawings are part of the mental process of thinking with regard to design. In contrast to earlier statements about design as a process, Schon and Wiggins (1992) reconceptualised design not as a process but as a "reflective conversation with materials whose basic structure - seeing-moving-seeing- is an interaction of designing and discovering". For them, design is a "conversation with materials conducted in the medium of drawing". Their theory about design distinguished various elements, thus: "literal visual apprehensive", "appreciative judgements of quality" and "apprehension of spatial gestalts" (*ibid.*). In their view of design as a conversation, they suggest that designing is an interaction of 'making and seeing' or 'doing and discovering'. These interactions appear to be a different kind of *seeing* which can be called *critical seeing*. For example, when someone sees an error he or she would find ways to rectify the mistake. Alternatively, seeing what is *good* inclines one to preserve or further develop such things.

Lawson (2004), in discussing design, claimed that a designer produces a drawing to express "a line of thought" rather than to communicate with others. He also said that in the visual development of drawing, such activity will allow the "designer to *see* new possibilities" (*ibid.*) or gain ideas to resolve any problems arising. With the current easy availability of technology, it is common to see

designers having *conversational* interaction with new media on the computer in regards to their ideas. Other authors and designers have discussed this concept of design as a conversation and have expanded this idea into other types of design conversation. Hence design conversation as *interaction*, design conversation as *negotiation* (Lawson, 1994. Maher and Pooh, 1996, Eckert and Stacey, 2000, Dorst and Cross, 2001). In addition, design conversation can be seen as a “process of reconciliation of conflict” (*ibid.*).

It can also be argued that problems and solutions in the design process have a relationship in the negotiation between those problems and their solutions, which is difficult to describe because of their type of complexity. The design solution can often be seen as an integrated response to any design problem. But Lawson (2006), rather than seeing designing as problem solving, sees it as “a dialogue, a conversation, a negotiation between what is desired and what can be realised”.

2.2.3 Value of Design And its Importance

Design has influenced many aspects of company growth and consumer satisfaction. Design is used in products or services to give a difference in price range, dependent on types of design used. The designer’s or the creator’s passion and care for detail are reflected in products or even in the quality of a service offered; design gives personality to the products or services and is very user-focused. A quotation from Peter (1994) illustrates this further:

“Design is a total consistency, a sense that pervades every single thing a corporation does, the product of an organisation that deeply honours playfulness and creativity, living (literally) with customers in a pleasant surprise...”.

In contrast Kotler and Rath (1984) propose design’s objectives as creating high satisfaction for target consumers and increased profits to the company. This is very focused on tangible value activities (such as the feature of the function in the product designed) where the benefit of the product is directly reflected. They also proposed the term ‘design mix,’ consisting of performance, quality, durability, appearance and cost. They believe that effective design uses these variables to create products at a cost affordable for the target market.

The UK Department Trade and Industry (DTI) (1991, 2005) and Advanced Institute of Management Research (AIM) (2004) also claimed that design can contribute to improved competitiveness in three main areas: cost, product acceptability and service. With regards to product acceptability the DTI (*ibid.*) indicates that design governs a product’s performance and specification, such as product uniqueness, reliability, appearance, ease of use and safety. Design also plays an important role in a product’s presentation through its packaging.

From the readings (Press and Cooper, 2003; Bruce and Bessant, 2002) it seems that businesses need to communicate with their intended markets. This may be through reports, promotional and advertising materials, videos, signage and other designed products. Therefore to gain the full potential design benefit, managers need to know how best to use design and to clearly understand its contribution to

their business. As an example of this, Sir Brian Corby in Gorb (1990), Chairman of the Prudential Insurance Company defined the purpose of design for Prudential as,

“to support and demonstrate visually their business style, which places value on the simplicity, clarity, being contemporary, innovative and friendly”.

From the above, it appears that *design values* have improved the quality of Prudential's products and services, making a contribution to their business success. However despite all the information in regard to value of design and significant evidence to suggest that there is an important role played by design in companies' performance, Bruce and Bessant (2002) claimed that many are still uncertain over the benefits that they could gain by investing in design. The question of what design is worth in this modern economy is repeatedly discussed by them (*ibid.*). Hertenstein *et al.* (2001) claimed there is firm evidence that there are increased profits, and a greater inclination to launch more moneymaking products within those companies that have invested in design. Hertenstein *et al.* have investigated 51 companies within four industry sectors over a period of five years. They have also utilised 12 measures of financial performance confirming that “*design-conscious*” companies generally perform better than others.

An earlier study conducted by Roy *et al.* (1994) also showed that companies that were “*design-conscious* usually take an average over 7 years for a better return on capital (ROC)”. The return on investment (ROI) in design by these companies was not statistically significant at the time the research was conducted.

Nevertheless, the result showed that the most financially successful firms were those which implemented a '*systems*' approach to design. This is where different aspects of new product development (NPD) had been adopted, covering market requirement, price, production considerations, technological opportunities and materials. These aspects were considered throughout the entire process and not just made an added requirement at the end of production.

Trueman and Pike (2003), claimed that *design* could be used as tool in decision-making for NPD because it “can add relevance and quality”, which enhances product value. However there are serious implications if the project team members in NPD are unaware of design benefits. They suggest that perhaps deeper understanding is needed as to how design can generate, interpret, integrate and communicate ideas. This understanding will reduce complexity and differentiate the products. They also added that “the relevance and integrity of any new products” created needs to be developed through a strong relationship between finance, marketing, design and other team members whilst also including customers and suppliers.

Trueman and Pike (*ibid.*) also stated that without real understanding of good design, companies will be unable to create or sustain real brand value, even though corporate strategy reinforces the image and identity of the company and products. Figure 2.5 illustrates the understanding of design benefits as regards to value, image, process and production. This figure also clearly defined the aspect

of value in making profit by companies that relates to the appropriateness of market research, the capability in producing through technology developments as well as the usability of added value in design. Subsequently, the aspect of image able to increase sales growth in companies that relates to company image in promoting product benefit, identity and brands. Then, the aspect of process in developing new product that contributed to turnover is also essential which relates to various involvements of multidisciplinary teams, external networking and integrated design into the activities. Further in the aspect of production, which perform the reduction of overheads that relates to minimise complexity, increase production time and saved of materials.

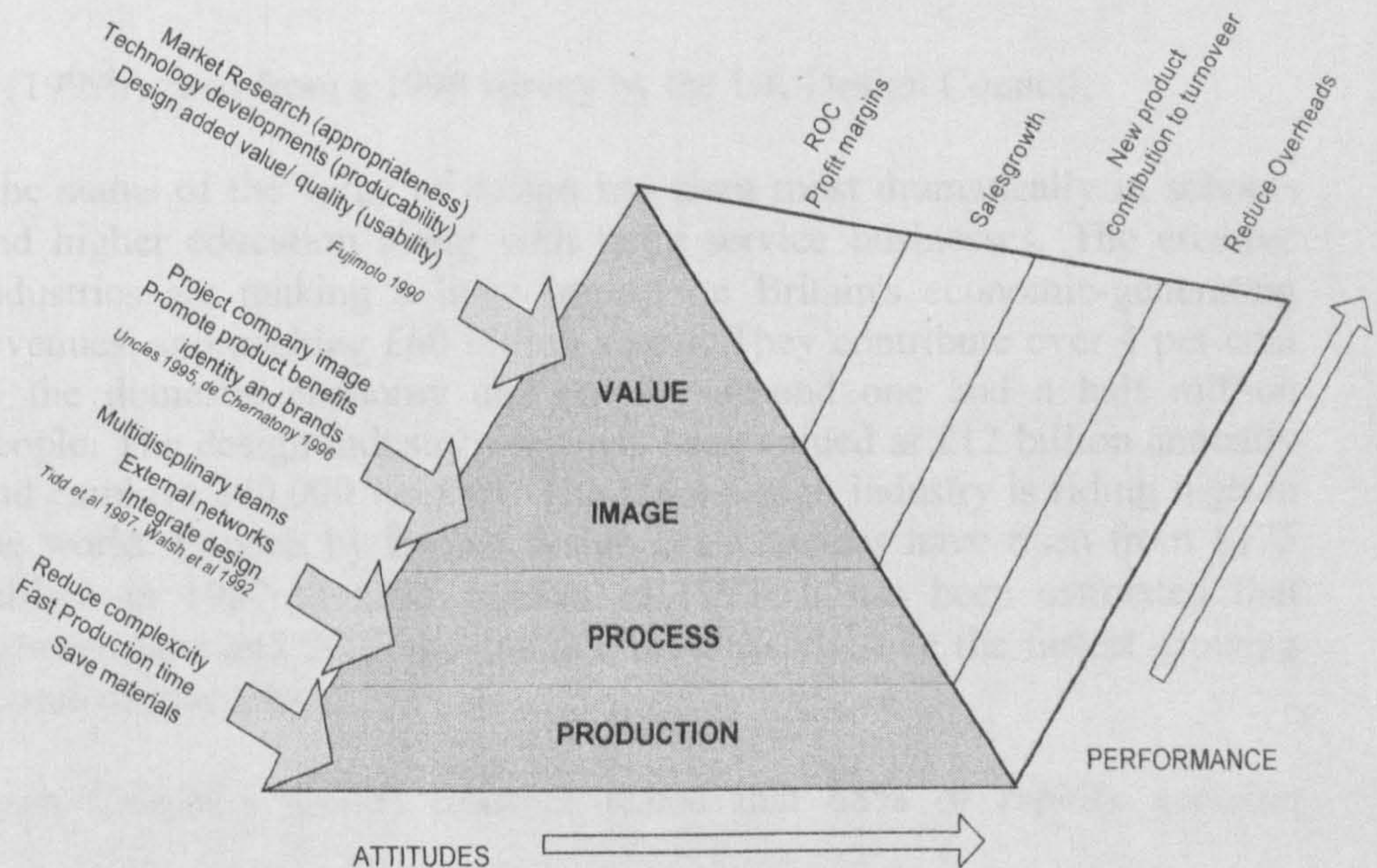


Figure 2.5 The VIPP Framework. Source: Trueman & Jobber 1998

In addition Figure 2.6 shows how this affected the implementation of the new products (Trueman and Pike, 2003). These models were used in the research approach to examine participant's understanding on design (*ibid.*).

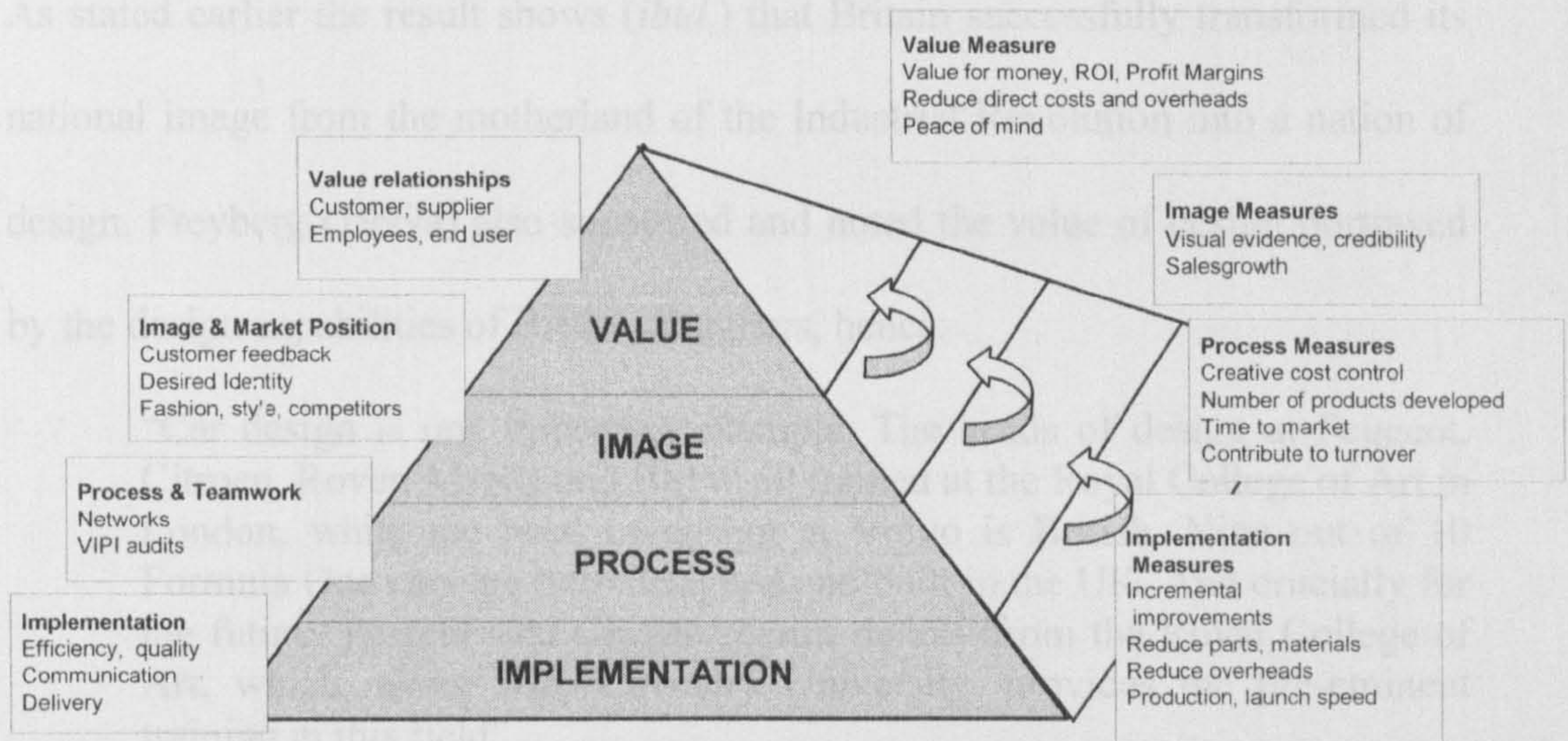


Figure 2.6 The VIPI Model & Performance Measures. *Source: Trueman & Pike 2002*

Freyberg (1999b) cited from a 1998 survey by the UK Design Council;

“the status of the value of design has risen most dramatically in schools and higher education along with large service businesses. The creative industries are making a huge impact on Britain's economic-generating revenues, approaching £60 billion a year. They contribute over 4 per cent to the domestic economy and employ around one and a half million people. The design industry itself has been valued at £12 billion annually and employs 300,000 workers. The UK's design industry is riding high in the world. Exports by British design consultancies have risen from £175 million in 1987 to £385 million in 1997. It has been estimated that between now and 2006 the creative industries will be the fastest growing source of new jobs.”

The Design Council's (2005) research stated that 68% of rapidly growing businesses said that design had increased their turnover in the last three years. It seems that design is one of the driving forces behind other recent success in the British economy. The design boom that started in the 1980s coincided with a number of promotional measures taken by the government working hand-in-hand

with the private sector, as well as initiatives implemented by the education sector. As stated earlier the result shows (*ibid.*) that Britain successfully transformed its national image from the motherland of the Industrial Revolution into a nation of design. Freyberg (1999a) also supported and noted the value of design portrayed by the design capabilities of British designers, hence:

“Car design is one important example. The heads of design at Peugeot, Citroen, Rover, Mazda and BMW all trained at the Royal College of Art in London, while the head of design at Volvo is British. Nine out of 10 Formula One cars are both designed and built in the UK. And crucially for the future, Porsche and Citroen recruit mainly from the Royal College of Art, which, along with Coventry University, provides the pre-eminent training in this field”

On the other hand Jay Mays (1996) suggested the idea that, “design plays an important role in influencing car sales compared to the engineering”. Pininfarina (1994) also claimed that “body design is still fundamentally the best weapon and the most important weapon the motor industry has to attract people to buy”. This is a concept very much debated among engineering designers, who view their work more in terms of the technical performance of their products. In particular they feel that car performance is based on the excellence of engineering qualities.

2.2.4 Design as a Strategic Resource and Management Asset

For any business to perform well it will require resources which are also necessary to produce superior performance in the development stages of the value creation process. Design therefore represents a particular route or cluster of specialist resources for creating value for companies, thereby delivering emotional and cognitive insights and understanding as to how the senses are central in

creating objects, artefacts, systems, services and experiences. Kotler and Rath (1997) suggest that in order for companies to gain sustainable competitive advantage they are recommended to use design as a '*potential strategic tool*'. In addition, they emphasised that good design can enhance products, environment, communications and corporate identity. And yet it seems that many companies have neglected design as a strategic tool (*ibid.*). Ainamo (2004) makes the claim that many strategic managers are yet to be convinced of the need to adopt design as a competitive tool. They claim that positive effects on profits and growth using "investment in design", is only evident in the first phase of product development (Ainamo, 2002). It would appear that in those companies where the relevance of design and the company's goals are communicated to the teams and design resources at all levels of corporate activities are brought together, such companies are much more likely to achieve their objectives.

According to Walsh *et al.* (1992) and Kotler and Rath (1997), as a management asset, design is to be of essential importance to companies, particularly to SMEs, as the role played by design can improve communication and product development, providing a long-term resource to support innovation. Brazier (2004) highlighted her view on industry and stated,

"Most start-up companies do not have design on their company's agenda, not considering it either affordable or accessible. Yet the start-up phase is one at which having an effective identity matters a lot. Your first need is to establish the credibility and communicate the idea"

In today’s challenging market no situation can be said to be entirely predictable or secure. Cooper and Press (1995) stated that companies need to put in proper planning and complement this with a “guiding compass of strategy”. As with design, the strategy is to be “creative and visionary” therefore as a business element, it has to be critically functional (*ibid.*). Both design and strategy will further reinforce and enhance profitability thus “making values visible” (*ibid.*). Perhaps these two activities are to be further developed and adapted, as these are corporate activities which contribute to a company’s strategic goals (see Table 2.1). This table below reflected further how the role of design with strategic goals can overcome the challenges by various type of industries.

Challenge	Strategic Goal	Role of Design	Example
Small firm in consumer electronics market	Secure distinctive international niche	Provided niche through unique styling, identity and product innovation	Consumer electronics B&Q Linn Psion
Survival in a mature industry with keen price competition	Concentrate on added value markets or processes	Add value through fashion orientation	Textiles Leeds Group Issey Miyake
Transnational manufacture with diverse world markets	Coherent identity and appropriate exploitation of scale economies	Corporate identity and co-ordination of design resources to target global markets	Electronics Philips
Japanese companies in competitive western markets	Quickly develop products appropriate to diverse lifestyles	Integrate innovation process and humanisation of product	Electronics/ Motor vehicles Canon, Ricoh & Sony Toyota
Service supplier in newly competitive market	Develop distinctive identity	Corporate identity and environmental design	Services Prudential, Scottish Power & Royal Mail

Table 2.1 – Strategic Role of Design. *Source: Cooper & Press (1995)*

A previous UK Secretary of State for Trade and Industry, Peter Mandelson, in Freyberg (1999) stressed that design is one of British industry's chief resources and claimed.

" Design enables companies to bring desirable new products and services to the global market place. It also influences how new products are conceived, made, used and disposed of. In the best companies, design is a central part of the strategic business process, managed with as much professionalism and rigour as marketing and finance"

The above quotation clearly illustrates why design is important to industry and how design is increasingly recognised as a strategic resource in market competition. Likewise, Kotler and Rath (1997) claimed that design would possibly take on a significant role in a company's search for sustainable competitive advantage in the marketplace as other strategic marketing tools became increasingly expensive. Furthermore Roy and Potter (1993) show that surveys conducted across different industrial sectors demonstrated the increase in turnover and profitability which can result from design investment. Subsequently Thackera (1997) demonstrates through case studies at an individual company level, how individual products have benefited from consideration of design issues as a strategic resource and management asset.

2.2.5 Creativity and Innovation Through Design

"Design is the purposive application of creativity to all the activities necessary to bring ideas into use either as product (service) or process innovations". (Bessant *et al.*, 2005)

It appears that manufacturing history can be illustrated through the evolution of design. This evolution has been influenced by the development of manufacturing technology, as well as by the natural evolution of aesthetics. Design in industry has been brought to life through thinking processes, ideas, prototypes and finally, with support from engineering and marketing into production and distribution. However, design does not come instantly or happen accidentally. Events or needs can be observed as being the inspiration that stimulates people to satisfy such needs or solve problems with design contributions.

Design often enhances the product values in manufacturing industries; it may therefore be considered either as an aesthetic or technical solution. However, when it comes to the appearance of the product, design calls for a high degree of creative talent. The creative talents commonly will use design as a tool to generate, interpret, integrate and communicate ideas. Saxon (2003) who added that there are special qualities in those people who are creative; “a genius that aids their intellect and personality in making great leaps in imagination”. This exquisite quality is immeasurable: either you are creative or not. Where good design reflects creativity, it can also depend very much on who is evaluating the work. Design is conveyed differently by different people. Industrial designers most probably look at their work in terms of creativity, art, problem solving, and value them in reference to aesthetic appearance and ergonomics. Whereas Cook (1998) said “creativity is the input to the processes that lead to innovation, competitiveness and returns on investment”.

In slightly a different aspect Jerrard (1986) suggested that the “totality of design” process inside creativity is not an immediate “inspiration”, but rather the complex and uneven progress of an existing product. Creativity will be required in the development of an individual product, either in the *fresh* innovation or the *refreshed* invention. Jerrard (*ibid.*) stated that creativity can be viewed as “a new and fresh method of approach to a problem rather than merely in the production of the solution to the problem”. In addition, Dorst and Cross (2001) claimed that creativity can be seen in every design project. Even though it is not immediately obvious as a creative event, it requires a certain degree of creativity to develop as “the evolution of a unique solution”.

Many developed countries including the USA, Japan, the UK and Germany have proven capabilities in inventing products or services that are creative and innovative. Their design and designers are known as the ‘creative engine’ and have prove to be an important asset as they are the main contributor to creativity and innovation which are the foundations of a successful business (Blair, 2003). Therefore, the most common means of identifying creativity has been through the products. The acceptance of function, problem solution or appearance may provide evidence of creativity. However, it is arguable that there is a distinction between considering creativity as residing only in the artefact to be appreciated by people, and considering that certain processes have the potential to produce artefacts which may be evaluated as creative.

2.2.6 Design in the Context of This Research

In this research, the term design relates to both the core product and the product environment. It is essential for design management to understand the whole product experience and value as it relates to the consumer as the end user. Design is generally viewed in a much broader sense. However, in the context of this research, the focus is on the selected manufacturing SMEs. These are companies who have won the Malaysia Good Mark Design award, which has been organised by the Malaysia Design Council over the last decade. As suggested by the Malaysian government in the 1990s (MITI, 1996), SMEs in Malaysia should make greater efforts in the design and production of high quality consumer products to compete in the wider market mainly to promote Malaysian goods. Therefore further reviews are undertaken in this study on the importance of design as a means for industrialisation and to investigate the actual level of design understanding and implementation among the manufacturing sectors.

2.3 Designer Involvement in Industries

The design world and the role of the designer have become significantly more important in today's competitive market place. There is now a wide range of specialist designers, each in an individual field, such as products, furniture, textiles and fashion. In the industrialised world, most of these designers receive a formal design education and are well trained despite the claim made by Gorb and Dumas (1987) with regard to 'silent design'. 'Silent design' reflects design produced by people who are not specialist designers and who are not aware that

they are participating in design activity. Based on Gorb and Dumas' investigative research, design in many organisations was undertaken by the 'silent design' individuals. In fact, some of these organisations even had a formal design policies but, they were also effectively operating open design activities. It could be argued that designers in industry can use their specialist knowledge and skill to facilitate completion of a specific design task. Designers are able to apply the processes necessary to permit the company to make innovative improvements.

Lawson (2006) stated that in satisfying other needs, a designer needs to solve the outwardly compulsory problems and continue creating beautiful objects. Chaney (1996) has produced an extensive critique of the way in which designers approach their work. It seems to him that some designers may become too self-conscious and reflexive in their design work and allow style to take precedence over functionality, although it is always important to consider aesthetic aspects as well as function and purpose. Further, it is also possible to argue that designers often express their design in satisfying everyday needs. In other words, designers are able to introduce human qualities into a product, which would be recognised by consumers. This can be seen in Chaney's (1996) statement on how he relates design to the designer where he puts his view forcefully:

“Designers' use of a language of style to ironically evoke or play with other contexts of use makes style a reflexive medium: a way of talking about itself and a way of talking about modernity. The logic of a process in which the self-consciousness or reflexivity of design grows more important is that the goods of economic exchange begin to lose any foundation in intrinsic value or function... It seems that an inevitable consequence of a reflexivity of production is that style comes to supersede substance.”

Bull (1999) suggests that a designer needs to act as a “collaborator and integrator” within the design development process to avoid poor quality emerging in the final product. He added that an integrated approach to design could ensure better collaboration within the design process. This issue was raised as often, the product development process is left to the technical engineers or marketing specialists, which can result in a poor design outcome. Harkins (1994) also stated that the function of a good industrial designer is as a development integrator with an ultimate goal not only of producing sketches but also of being able to produce a functional, workable and manufacture-able product. He further stated that a designer needs to be familiar with a broad range of manufacturing processes and be able to combine the best possible innovative and cost-effective methods. He said that it is rewarding for designers to be able to view a product from the perspective of all users, rather than only from oneself (*ibid.*). In contrast, however, Kotler and Rath (1997) claimed that companies often make mistakes whereby the designer’s involvement in new product development (NPD) comes rather too late. They stated that designers are to participate from the initial idea-generation stage instead of just at the product development stage (see Table. 2.2).

Stages of Process	Process Description
Stage 1	Idea-generation
Stage 2	Screening
Stage 3	Concept development and testing
Stage 4	Marketing strategy
Stage 5	Business analysis
Stage 6	Product development
Stage 7	Market testing
Stage 8	Commercialization

Table. 2.2 – Eight Stages in the New Product Development Process.
Source: Kotler and Rath in Bruce & Cooper (1997).

From a general perspective, an industrial designer who works in product development is called a '*product designer*'. An industrial designer and a product engineer have distinctly different roles in developing products, despite the confusing similarity of title. The former deals with usability and aesthetics according to technical specifications, but normally in industry, a company will employ a product designer who is also an engineer (Lewis and Brown, 1999). To be effective the company is also to employ a product designer who is an industrial designer (Marzuki, 1999).

Press and Cooper (2003) defined the designer as a *maker*, where the activities of design and “skills of making” depend upon design. In addition, they also claim that the “designer makes meaning possible”. This is because, whatever we experience in our daily life, will to a certain extent reflect our personality and our possessions will carry a certain significance. Furthermore they stated, “the designer makes their own definition”. In reviewing this definition, designers may use their unique skills, knowledge and design thinking to get recognition in the world. While design is a “value-driven activity”, designers create and propose new ideas to bring changes to their clients or themselves as well as the consumers. Indirectly they impose “values to the world” (*ibid*). In confirmation of the designer’s role and strength, the Malaysian Minister of International Trade and Industry (MITI) agreed with and recognised the importance of the role played by designers and design services for Malaysian industry. Thus,

“It is hoped that Malaysia can create increasing numbers of talented and creative designers in the various industry sectors, who can provide the necessary impetus, to creation and manufacturing of products, which carry well-nurtured and promoted brands, which can gain international recognition and acceptance” (Rafidah, 2004).

2.4 The Concept of Best Practices

The global challenge of today’s business world has led many organisations and their management to recognise that the new generation of ideas can, with refinement and application to real world circumstances, make a huge impact on their products and business growth. Inevitably, the drastic global changes have forced many organisations to experiment further, to research and to identify new management approaches for improvement. According to Zairi and Whymark (2000), DTI (1992 and 2003) one important way to improve management is the concept of best practice, which has been developed as a tool for managing change. Best practices in Management came to the fore as a result of a change in management thinking. It was recognised that in a changing business environment and with growing competitiveness, no organisation could stand alone and be disengaged. The key to competitive edge is to promote a knowledge-based approach to management, and this can be done through a process of continuous development, supported by learning and re-learning, adapting innovation and measuring performance.

Much literature has led to the suggestion that in today’s management, the domination of the best practice concept has been very evident and can now be

considered and accepted as an ideal approach for management in all circumstances. Examples of the literature mentioned earlier include Shum and Lin (2007) and Doley *et al.* (2002) in their studies on best practice in product development; Management Development Review (1997) in its case study on best practice approach in people management and Shenwell *et al.* (1998) on best practice for creating sales culture. However, Jarrar and Zairi (2000) observed that there is no single best practice, as the best is not for everyone. Their study on 'the best' placed emphasis on those practices which have shown remarkable results and have been chosen by a systematic process, judged to be exemplary, good or successful in demonstrating best practice and are then adapted to fit particular organisations. Furthermore they concluded that best practices are always contextual as 'best' in today's world is a moving target applicable to specific situations, and hardly an ultimate that can be achieved. Dooley *et al* (2002) considered they could identify 'best' from their study, and that this would be derived via either rigorous empirical studies, case studies and single-company descriptions, or declared 'best' in a prescriptive manner by experts.

Best practice can be said to be an approach that helps improve management performance and which can be applied at the corporate level as well as at the most basic manufacturing unit. This concept is powerful simply because it will directly motivate people to action and is easy to understand. Unfortunately, this concept is not used often enough since it also requires an unusual combination of difficult and detailed analyses, together with a determined leadership which is capable of

setting the right targets and implementing the correct programmes. These difficulties might be more easily overcome if managers realised how valuable and important the best practice approach can be. Some common questions raised by some of the best practice researchers include, for example;

- 1) Is the company performing better than it ever has before?
- 2) Is the department performing better than other department or business units within the company itself?
- 3) Is the company performing better than its competitors?
- 4) Are there any other industries that are performing particularly well from whom they can learn?

In promoting best practice in UK industries, the DTI (1998) credits the success of leading world companies to their ability to take on ideas, technology or a process that works somewhere else, and then refine these for their own purposes. Good examples of this include the Japanese technology and automotive corporations, and many 'copy-cat' competitors from the Far East. These ideas have been credited with laying the foundations of Japanese post-war success, and are current examples of worldwide successful enterprises. These days the best practice method has been used widely for benchmarking by most of the successful companies around the world in all sectors of business, both manufacturing and services, to help them to be as good or better than the best in the world in the most important aspects of their operations (DTI, 2003). Much literature has been published in relation to best practice but there is no evidence to suggest such best

practice is derived from using a specific configuration or pre-determined prescription for all situations (*ibid.*). In fact evidence emerges from the literature that suggests that best practice operates within a flexible frame work which promotes rethinking of the current approach, and different methods exploring or applying various processes to maintain the expected learning and adoption of innovation into the management process (*ibid.*).

2.4.1 Best Practice Benchmarking

Benchmarking and best value are concepts that have arisen and become synonymous with best practice. Benchmarking is widely recognised as a technique developed, based on best practice, to determine performance in the critical areas of business (DTI, 2003, DTI, 1998, Zairi, 1996, Bogan and English, 1996). Furthermore, it is used to improve an organisation's performance in that benchmarking is a systematic way to identify, understand and creatively evolve superior products, services, design, equipment, processes and practices. Oliver (2002) stated that benchmarking entered the management vocabulary during the latter part of the 1980s as a label to describe comparisons in business and process performance. Best value, a sub-set of benchmarking, is widely used to indicate the performance level achieved by the product or service against the usual standard set by best performers. It is commonly associated with the delivery of products or services of the highest quality, at optimum scale, and at the lowest cost, to satisfy the demands of the consumer, and most importantly also to satisfy the standards imposed by regulators.

According to Karlöf and Östblom (1993), benchmarking is a method of improving operations by looking at and learning from others and comparing yourself to them. Benchmarking is a long-term process and involves the whole organisation in searching for the best practice outside the company, not just for what is done best, but how it is done. Bogan and English (1996) regarded benchmarking as a skill that is to be communicated and utilised in day-to-day business operations. According to them benchmarking is essential to business as a fundamental skill that enhances quality excellence. Camp (1989), also views benchmarking as a continuous process where products, services and practices are measured against the toughest contender among industry champions. Therefore benchmarking is used to overcome problems, to initiate planning, set business targets, make improvements in process, innovation, re-engineering, strategy setting and in various other contexts. The view of Oliver (2002) is that benchmarking literature on innovative performance seems to focus more on product development performance rather than on design, perhaps because ‘performance’ is more measurable during the later stages of product creation than in the earlier stages. For example, the effectiveness of product creation may be deduced in part from the product itself. He added that there are two main types of benchmarking in product development which consist of process benchmarking referring to comparisons of discrete business or other processes, and product benchmarking which compares the features as well as performance of actual products (*ibid*).

2.4.2 Benefits of Best Practice for SME as a Small Business

There is a growing awareness that best practice in SMEs is also an important factor in industrial competitiveness. However this has frequently not been fully implemented by the SMEs due to a lack of understanding about the true value and potential to be gained by applying this effort. DTI (2004) highlighted some benefits that SMEs could gain in implementing best practice in companies. Thus:

- **Reduce costs** – small companies often do not have the deep financial back-up of larger businesses to ‘reinvent the wheel’. By learning what other companies have successfully done, a small business can save money without testing new ideas.
- **Avoid mistakes** – solving business problems on their own can result in costly errors. SMEs could benefit by following the example of other successful companies and thereby sustain their business.
- **Find new ideas** – adopting the ‘not-invented-here’ attitude can disadvantage small business. It is recommended that SME learn to borrow the best from other companies.
- **Improve performance** – by looking at best practices outside their business they can eventually raise the bar of performance and set new standards of excellence to propel the company forward.

2.4.3 Design Best Practice

In the field of design best practice, there is a great deal of consensus on the importance of a design and creative culture in an organisation leading to business

success. In specific cases, design may have been a winning force in management's hands, and it is possible to find anecdotal evidence supporting this view. It was recognised by the DTI Innovation Unit (currently integrated with the Department of Innovation, Universities and Skills – DIUS) that such a design culture within an organisation could contribute to business success. This was highlighted by DTI Best Practice record as described in the Winning Report (DTI, 1998), which has been in great demand since its publication. The report concluded that:

- winning companies are led by visionary, enthusiastic champions of change
- companies know the requirements of their customers intimately, and are often able to anticipate future customer needs
- they welcome the challenge of demanding customers and constantly strive to learn from customers and also from suppliers
- they share the business vision with their staff and empower them to use their skills to the full in achieving business goals
- they constantly strive to introduce new, differentiated products and seek to win by delighting the customers
- above all they understand and stress the importance of harnessing the talent of the entire organisation: 'a good idea does not care who has it'.

Essentially, design is a business process which turns ideas into material things, gives them tangible form, and realises them in an accessible and acceptable way which can command a premium price in the market. This role in the innovation cycle leads ultimately to competitive success. Zairi (1996) describes best practice

Within the aspect of product planning and design, developing a detailed understanding of the market is essential, with specification and performance targets determined for a new product before starting on design and any prototyping activities. Design of new products is recommended to use modular elements or system features which allow the sharing of elements between different product ranges. Best practice in product planning and design would break down projects into two main stages: pre-planning and implementation. All company functions needs to buy in or commit to the tasks and targets inherent in the new project as part of the pre-planning stage and before commitment to implementation is made.

In the area of new product processes, it is also vital to have a clearly defined and well understood process for introducing new products and these needs to be accepted and followed throughout the company. Furthermore, there is a need to look at achieving fast responses to changes in market demand and to constantly strive for shorter time to market new product programmes. Subsequently there needs to be control of the new product process through a multi-disciplinary team structure, whether formal or informal, whereby each function has an input at all stages of the process.

The DTI concluded that top management involvement is essential in order to implement best practice in product development. It is expected that the company's chief executive would be involved in sponsoring the new product process, and in

the management of project decisions, as well as in creating the multi-disciplinary team necessary for achieving the full benefits of concurrent engineering.

2.5 Design Practice: Management, Industry and Education

It can be said that larger corporations or multi-national companies (MNCs) have better capital to invest and place strong emphasis on the importance of design but there is a question as to how designers or design providers can raise significant awareness in SMEs of this issue; smaller companies see design as an expensive option. However they are faced with practical realities requiring them to produce something that works well and that is differentiated from their competitors. It is claimed that the role played by design can lead to successful product and service development, which can ultimately lead to commercial competitiveness (UK Design Council, 2005, Borja de Mozota, 2003). Effectively using design enables an organisation to increase the perceived value of whatever they are offering whilst also improving the efficiency of systems within the organisation.

The UK Design Council (2005) 'Manufacturing Campaign', which works directly with companies to integrate design into their business, shows what can be achieved by investing in design. For example according to Davis (2004), the Sheffield knife manufacturer Harrison Fisher spent £60,000 on design and increased sales by £800,000 through successful new product lines. Clear lessons may be drawn from the existing best practice models in the UK. These include:

designing for higher quality products having less dependency on existing products and the use of new technology in design and production.

Many studies have shown that design can significantly enhance the competitiveness and bottom line of SMEs (BDI, 2006, Bessant *et al.*, 2005, DTI, 2002). But what are the best ways to encourage businesses to make this investment and change their negative mindset (Cawood *et al.*, 2004). We may look at the Dyson brand, which has produced competitively designed vacuum cleaners (see Fig.2.7). While other vacuum cleaner bags clogged up with dust, Dyson designed a bagless vacuum cleaner. This manufacturer also claimed that this unique cleaner would not lose suction. “Dyson has no corporate message, no mission statement, and is driven by people who can demonstrate an ability to innovate, to think differently” (Bommer, 2001). Perhaps with the establishment of Dyson Appliances manufacturing plant in Malaysia in March 2003, Malaysian industry might take the opportunity to learn and apply similar capabilities to expand their own design capacity innovatively (MITI, 2004).

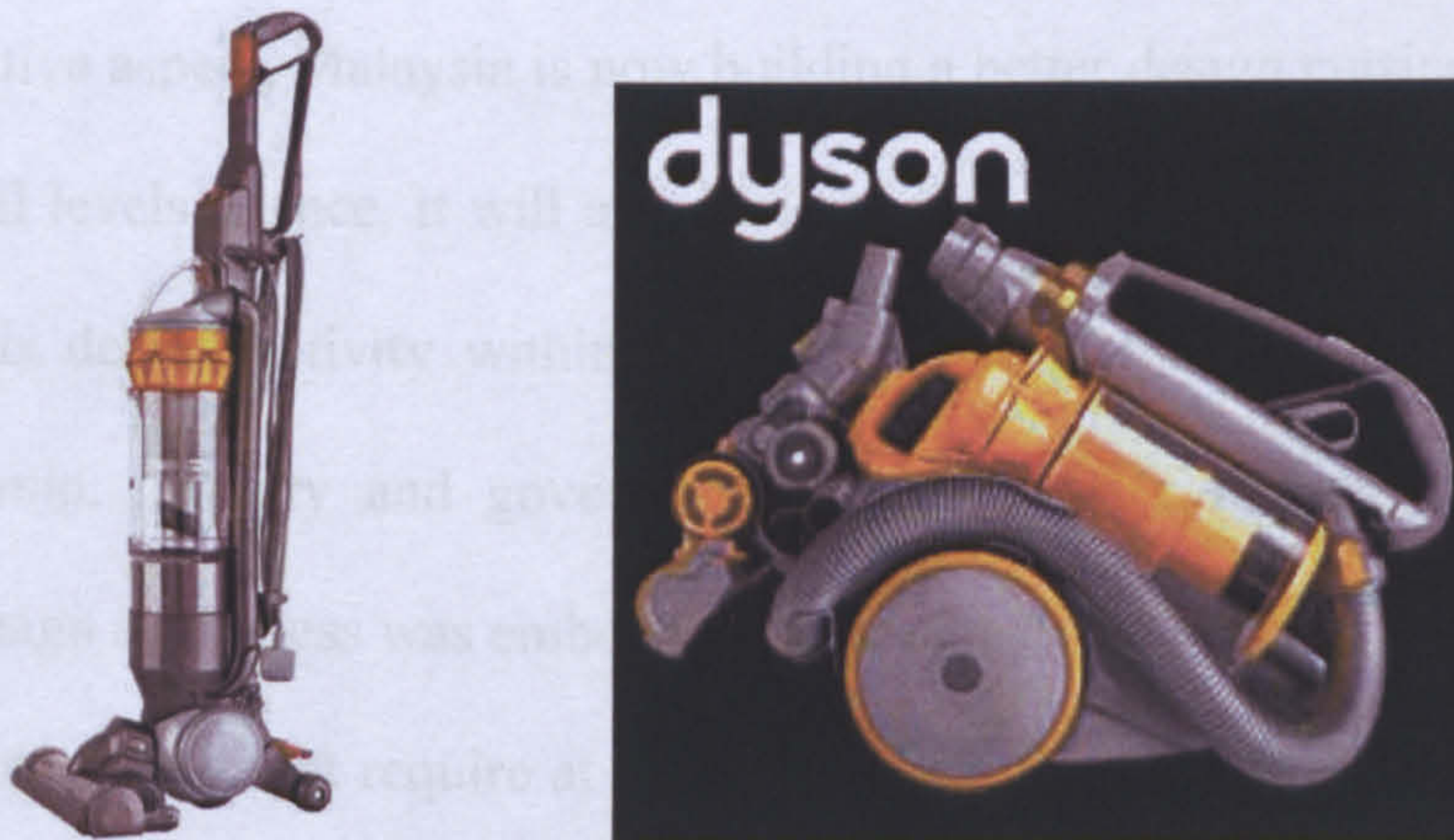


Figure 2.7. - The Dyson bagless vacuum cleaner. Source: www.dyson.co.uk

Conflicts between designers and management can and do arise, thus it is a common phenomenon (Bruce and Cooper, 1997, Borja de Mozota, 2006). Further investigation will take place on how managers overseeing design in corporations may provide insights into their perception of design and indicate how best to increase understanding and maximise the use of design. Subsequently it might also be possible to explore further whether design can elevate a brand to evolve and whether design can play a role in modelling the future of the company. However Rafidah (2003a) claimed that there is a lack of awareness in design among Malaysian SME company managers. This lack is also reflected in areas such as brand building practice. Based on anecdotal evidence, it would appear that design has a low priority and is misperceived by many Malaysian companies, particularly SMEs. Their perception is that embedding design process into their company would be a very costly investment and expensive to implement (Yasmin, 2004). This is also reflected in the way design is viewed and ultimately, on how design is established in local companies.

On a more positive aspect, Malaysia is now building a better design curriculum in its schools at all levels. Hence, it will also be important to consider how to raise the level of this design activity within the curriculum to form the integration between academia, industry and government. It has been a decade since an emphasis on design awareness was embedded in the school curriculum. Even with this change in place, it might require at least five to ten more years before one is able to see some positive results regarding a proper understanding of design.

Cawood *et al.* (2004) also took the view that education is the foundation for the design sector and noted that it also influences the level of design awareness among the population. Upgrading Malaysia's national education curriculum may encourage an increase in design awareness and eventually promote investment in design by companies.

2.6 Brand

The idea of brand is said to have been around for at least 5000 years (Neumeier, 2003). However in the 1850s, the modern style of branding appeared and is considered to have its origins in the USA and the UK. The development and achievements of these countries during the Industrial Revolution resulted in mass production, mass distribution and mass communication. The brand became a tool to differentiate the many products available and a way of enhancing the marketing of products (Southgate, 1995). In contrast, the identity of an individual product or service became the most significant factor in showing the identity, personality or image that is presented to the public (Jones and Slater, 2003). The world market is even more competitive today and society in most developed nations has moved from an economy of mass production to an economy of mass customisation, where choice has multiplied. Therefore the need to compete means that products must appear to be substantially different one from another and also give extra value to the consumer (Trueman and Jobber, 1998) .

The increased focus on brands resulted from a deeper understanding of the theories of building and maintaining the brand. According to Aaker (1996) in today's competitive market there is a need for someone, or some group, to be in charge of designing the brand and its identity. In the view of Hankinson and Cowking (1993) "The Branding Cycle" theory is about developing and maintaining strong brands in a continuous cycle, involving a five-step process; research, brand proposition, marketing, communication and consumer as shown in Fig. 2.8. This process involves research, planning, implementation and control.

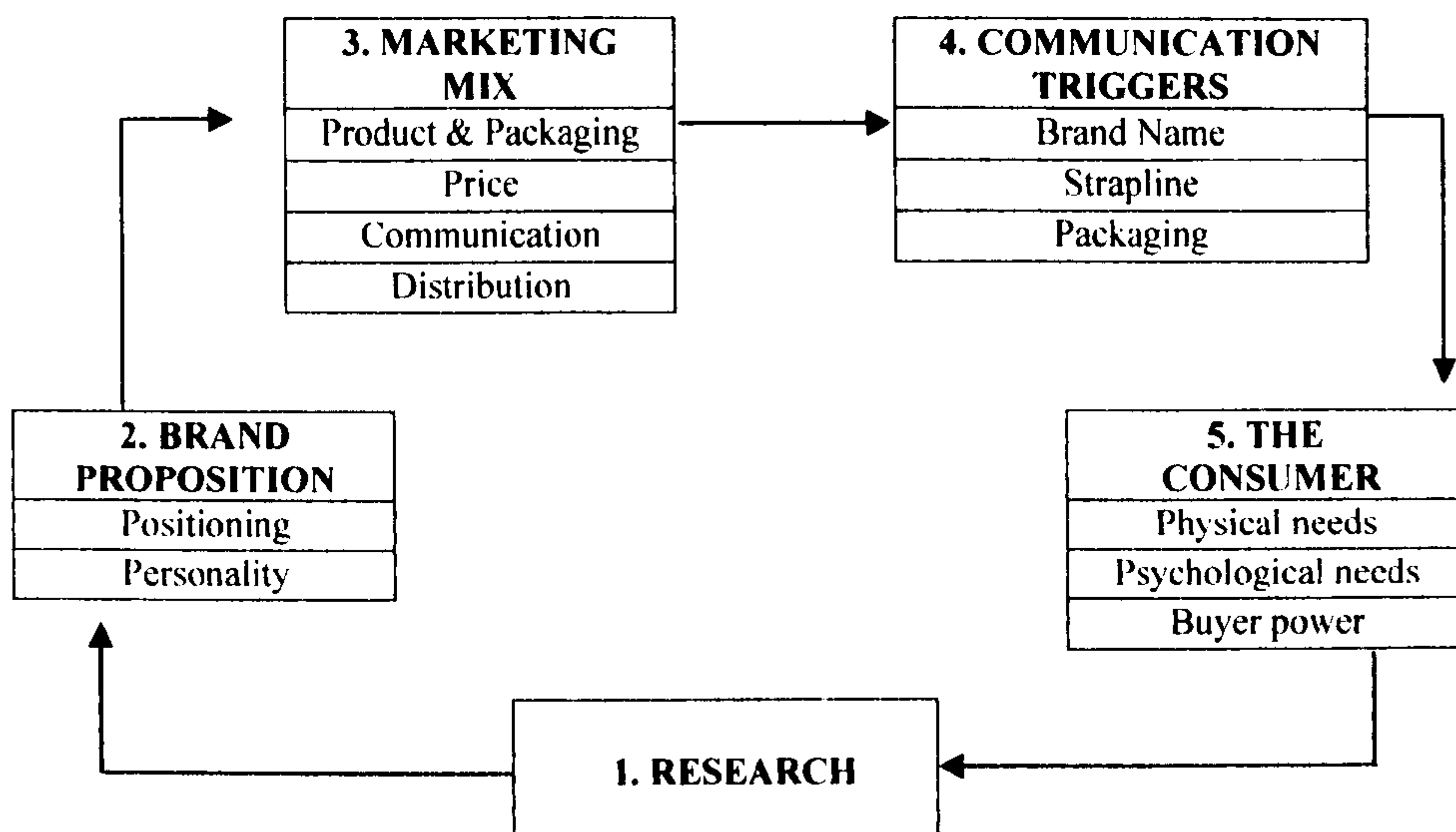


Figure 2.8 - The branding cycle. *Source: Hankinson & Cowking 1993*

This model illustrates how for a new brand, research is needed to identify market demand regarding key consumer issues on both physical and psychological factors. The product therefore requires the development of its physical attributes and symbolic values, which can enhance its brand personality. Appropriate market positioning for a new brand can also be achieved by exploring the product usage

and the consumer's perception on competitive branding and brand personalities (*ibid.*).

2.6.1 Brand Definitions

According to the OOED (2005), branding is, “to apply a trademark or brand to (a product); to promote (a product or service) on the basis of a brand name or design”. Alternatively, OED (2005) also defines branding as, “to mark indelibly, as a proof of ownership, as a sign of quality, as for any other purpose; to impress (a word, letter or device) by way of brand specification to mark (cattle or horses) with a brand”. It can be concluded from the above definitions that brand can be described as a combination of names, slogans, logos, product design, packaging, advertising and marketing, which reveal or display a specific product or service with a recognisable identity.

In contrast, Neumeier (2003) viewed brand differently by stating that a brand is not a logo, nor is it a trademark. He claimed that both the logo and trademark are merely symbols. In addition he claimed that brand is not a corporate identity nor a product. Neumeier further noted that all of us are “emotional and intuitive” despite our best efforts to be rational and sensible. For this reason he proposes that brand is an individual's “*gut feeling*” rather than being defined by companies or general public perception. Likewise Ind (2003) stated that a brand only exists in the minds of consumers and the power to initiate, sustain or terminate the relationship remains with the consumer. Therefore he claimed that problems

might arise in measuring the value of brands as the life of the brand is under the control of the consumer rather than the company that made the product.

Further to these definitions, Kapferer (2001) states 'Brand' is a deceptively simple concept. Some people or consumers might perceive or talk about the name by which a product is known, others might perceive the brand as giving *added value*, *image*, *expectation*, *values*, while others again might talk about the differentiating *mark of the product and consumer badge*. From these reviews, it can be seen that *brand* can directly relate to an individual product's *image* and *identity*. Kapferer (2001) added his definition in relation to brand and said:

“There is no brand without a product, a mark and an image. The brand is both the part and the whole; it is also the overall value conveyed with promises of tangible and intangible satisfaction”.

In addition, Kitchen (2003) states that “brands are simply ideas with the names on” and Jones & Salter (2003) say “a brand is a product that provides functional benefits plus added values that some consumers value enough to buy”. Based on these statements it is evident that a brand must create trust and loyalty if goods are to be purchased. A brand therefore is a business strategy to provide confidence for consumers to choose one product over the competing products.

A somewhat different definition comes from Robinson (1969) an economist who at that time pioneered the analysis of oligopolistic markets (the type of organisation most typical of consumer goods markets today). He argued that “various brands of a certain article which in fact are almost exactly alike may be

sold as different qualities under names and labels which will induce rich and snobbish buyers to divide themselves from poorer buyers”. In this situation, one can still adopt the definitions that have been elaborated earlier. With that in mind, Robinson’s view, which stated that many brands differentiate their target audience by income and mainly promote their brands to higher income groups, is valid. One can often see that many brands in the market are positioned in a high price band, so much so that lower income groups have no possibility of purchasing them. Such types of brand are commonly described as ‘*being in a class of their own*’. To conclude; ‘*brand*’ can be defined as an *element* or *symbol* to introduce its (product or service) personality or character to its consumers.

2.6.2 Value of Brand and its Importance

Branding is as important to a company as is innovation (Temporal, 2001). In order to compete, companies must go beyond merely making and selling a commodity to ‘creating a brand.’ Van Gelder (2003) explained that brands are assets that require investment to nurture and develop. This practice requires a change in the mindset of top management about what building a brand really involves. Apart from the registration of a name or logo it also requires a promise to deliver what has been communicated to the consumer, consistency in the quality of products and services offered, as well as an assurance of availability of supply to the market. See figure 2.9 on how brands work.

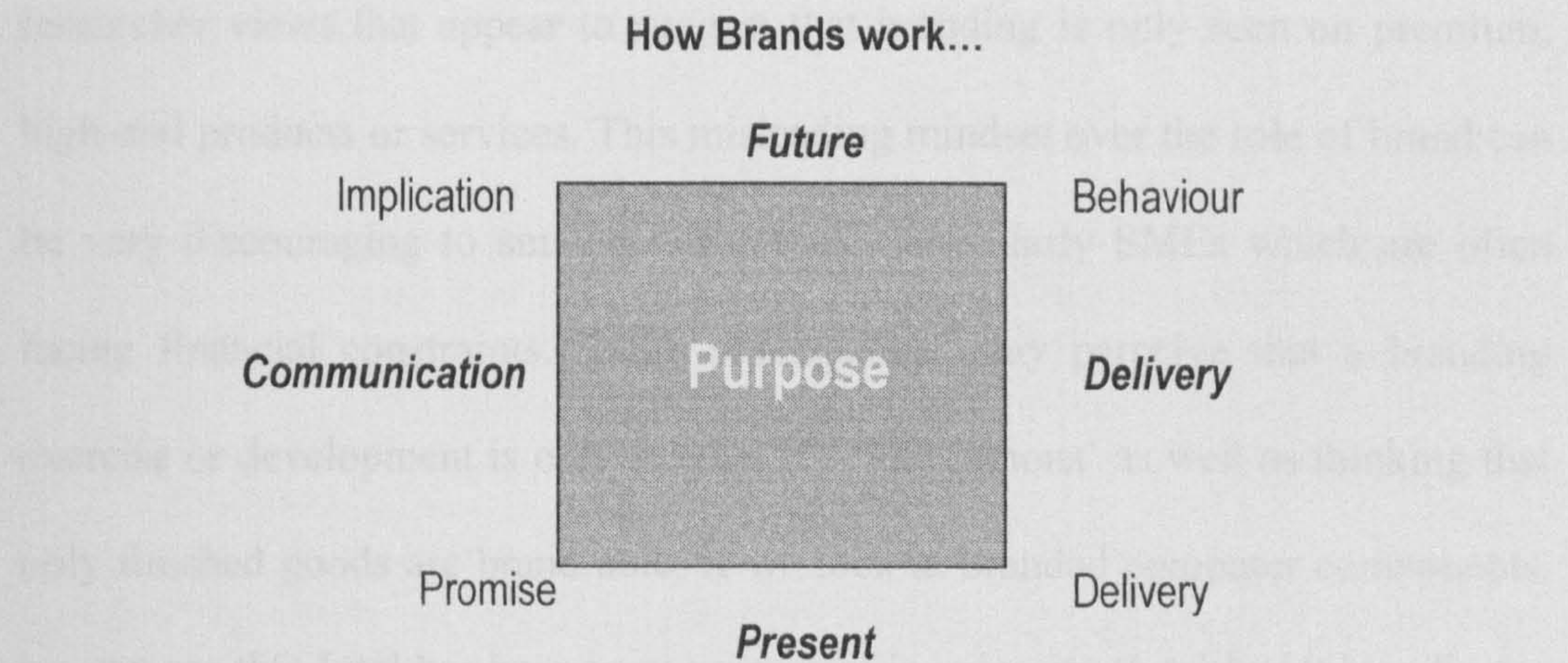


Figure 2.9 - On how brands work. *Source: Kitchin in Ind 2003.*

This figure illustrates the brand decision context which also shows how stakeholders might make transactional decisions to interact or not to interact. Depending on the shortfall the consumer can observe the brand image through the ‘promise and delivery’. As the stakeholder, manufacturers can facilitate the relationship whether to trust or not to trust the product. The stakeholders believe that by delivering on the promise and fulfilling customer expectations they will maintain a loyal client base to the brand. This is the individual version of brand reputation (Kitchin, 2003).

It is interesting to note that from the view point of personal observation one sees that ‘*brand*’ has been valued mainly as a method to promote premium price goods or services and to ensure customer loyalty to those products. Moreover, branding has been viewed as being linked to advertising and promotion as well as to design and its branding practice. There is also a perception based on anecdotal and

researcher views that appear to suggest that branding is only seen on premium, high-end products or services. This misleading mindset over the role of brand can be very discouraging to smaller companies, particularly SMEs which are often facing financial constraints. SMEs management may perceive that a branding exercise or development is only for the 'rich and famous' as well as thinking that only finished goods are brand-able. If we look at branded computer components, we can see that Intel has been very successful in using its '*Intel Inside*' tag line as a competitive brand (Intel, 1991). This tag line was used in a campaign associated with 'technology leadership' which emphasised the element of 'quality' and 'reliability' which is now known across the world. In reality, the chip is only one component of the computer processor, whilst Intel has been in the PC business for almost two decades. However, Intel managed to place itself in the public consciousness as a world-renowned brand, so that its name is now synonymous with the computer industry.

In psychological terms, brands are highly effective at conveying complex meaning (Jones and Slater, 2003). If achieving human harmony and common purpose is a precondition for survival, then brands are going to have a very big part to play.

“Brands drive relationships, relationships liberate knowledge, knowledge generates insight, insight drives innovation, innovation drives transactions, transactions create value, which reframes the brand and so on, and so on” (Ind 2003).

An important factor in the development of brands is consumer perception or adoption and it is common for consumers to have purchasing intentions. They are effectively the ones who will decide whether or not to proceed with a specific

purchasing decision. Consumer reaction is the key to brands achieving a certain level in the market.

“Twentieth century consumer choice in the developed world was a major factor in business and commercial success. In order to compete, companies must go beyond making and selling a commodity to *creating a brand*. This involves developing a brand image, encouraging brand loyalty and developing a brand that has equity in the market place” (Press & Cooper 2003; 48).

Increasingly, consumers globally are influenced by brands. Branding is therefore one of the ways to increase global competitiveness (Temporal, 2001) and a means to differentiate the country and the products or services offered. Brands are no longer simply just about quality of products or services; they also reflect values and fundamental philosophies (Jones and Slater, 2003). Consumers nowadays have more access to knowledge and information. Therefore they are more discriminating, and exercise their right to choose more carefully and wisely than ever before. Often, people's perception of a company, product or service is influenced by the brand and what the brand stands for, or “conjures” in their minds (van Gelder, 2003).

2.6.3 Brand as Tool

It can be concluded that the challenge for most brand marketers today is to establish what can be achieved by the idea of the brand as a tool. This means that brands can be whatever brand marketers want them to be and need not being limited by a particular product's attributes or qualities. Furthermore, a brand's significance is a combination of all its uses and values that is need not be limited to only one ‘meaning’; the development of meaning appears to reside in the lives

of consumers. Ind (2003) said that brand is vital as a tool because it makes the real market work. He added that this tool functions as a navigator which people use to guide them to the “real value exchange and trust building process”. Therefore, we feel much more comfortable to purchase a product directly from a trusted brand in the market, rather than from an unknown one, even though there is no guarantee that the known brand will fulfil our expectations. However, the brand we purchase is to perform to transpose ‘level’ and ‘certain’ expectation based on its reputation.

On the other hand, Jones and Slater (2003) claimed a brand is enriched with added value. The successful brand results in added values being identified and preferred by consumers for functional performance reasons, rather than just as a result of a superior advertising campaign. In addition, a brand directly reveals product identity and value added features in the product will serve as a tool to promote the brand.

2.6.4 Brand Building and its Importance

In today’s competitive market, building a brand is like building a cathedral during the Renaissance, claimed Neumeier (2003). Major construction requires a tremendous amount of time and creativity. Similarly many of today’s brands are too complicated to be managed by a person or a single group of people. Therefore, building a brand requires a team of experts that specialise in the management of the brand and sharing creative ideas across a network. In the context of the

Malaysian manufacturer the challenge is to make the strategic decision as to where to position their products in the global value chain. Will the manufacturer or SME be able to create and own their end-to-end value chain where brand success can better be managed and controlled? Or will the SME be able to differentiate its product offerings as the best available on one or more links in the value chain?

The successful brand builder, whether national, international or global, will continue to invest in brand value creation even if they are currently only Original Equipment Manufacturers (OEMs) not only in Malaysia but also in other developing countries around the world. This is because some of these OEMs have taken a larger role in the design of the product they are manufacturing and have become Original Design Manufacturers (ODMs); some have even become Original Brand Manufacturers (OBMs) focusing on branding their own products. Based on this phenomenon, it is interesting to establish to what extent Malaysian SMEs will increase their strategic efforts to overcome this global competitive dilemma.

Clearly from the above reviews, there are many challenges for Malaysian manufacturers or SMEs in using branding as a competitive tool. Many of these challenges lie in the basic knowledge of branding concepts, processes and accountability. The reviews seem to suggest that consumers become the key factor in a brand's success. It is for this reason that brands have been accepted as one of the most important and valuable assets of a company, playing a large part in

determining the company's success. Many companies, including those in Malaysia, are now focusing on building a brand strategy, to meet the challenges of market liberalisation and increasing competition.

The importance of branding in Malaysia is evident in the need to differentiate in the face of increasing competition (Rafidah, 2003b). Legislation from The Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA) and The World Trade Organisation (WTO) has removed the barriers to entry for most markets over the past decade. This has taken place especially in the reduction or elimination of tariffs on intra-ASEAN trade in the goods sector for its member countries. In conjunction with this, Rafidah emphasised the importance of branding as a means of making a country known globally. Her vast experience as International Trade and Industry Minister for more than two decades enables her to evaluate the significant contribution of well-known brands to the economic success of the country. She stated that,

“Branding determines very much how the country is perceived in the world market” (Rafidah, 2003).

This suggests that a well-known brand does not represent the particular company or product alone; rather, the particular nation can also benefit from the brand's success, as shown in figure 2.10. A number of Malaysian brands have gained their success in world markets even though they may not be associated with the country itself such as Royal Selangor Pewter, Proton, and Lewre. To be more successful, Malaysian companies have to compete to attract various customer groups and

must market and sell their products, ideas and services to people in the other ASEAN countries.


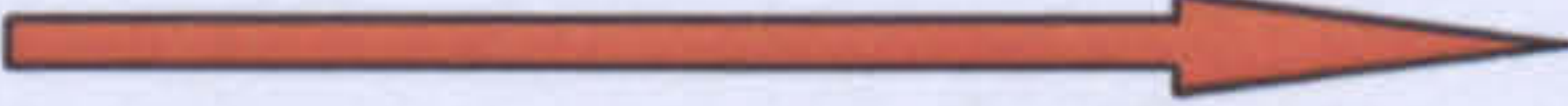

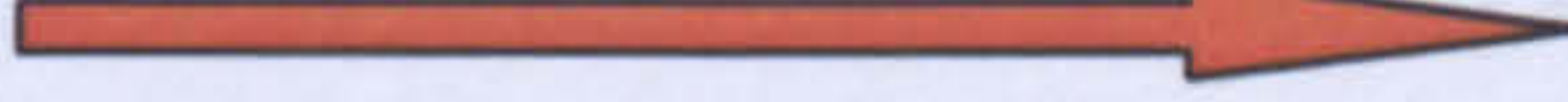
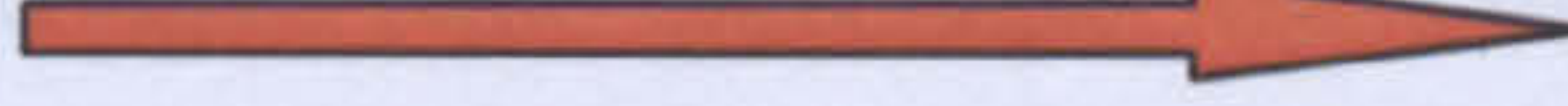

BRAND		COUNTRY OF ORIGIN
Rolls Royce		British
Sony		Japan
Rolex		Swiss
Ikea		Sweden
Bosch		USA
Samsung		Korea

Figure 2.10; Examples of the specific brands associated with their country of origins

2.6.5 Brand Practice

Brand practice policy generally enables companies to make great brand decisions.

Brand management which focuses on understanding customer requirements via feedback on the products will help the company to make better brand decisions.

Within branding, brand practitioners in companies tend to focus on the following three areas (van Gelder, 2003):

- Brand tracking and management
- Brand equity, image and extensions
- Brand positioning

Brand performance in the market has changed over time, as brands and markets themselves have changed. Companies tend to use this knowledge of brands and

markets to develop strategies that will improve the efficiency and effectiveness of marketing activities. Brand tracking and management directly provides opportunities to grow brands and to identify market sectors where market share can be increased.

For brands, image is the key measurement of effectiveness. This helps the brand practitioner to determine if the product image is instant, positive and unique in its category and is what motivates the purchase by consumers. Together with segmentation analyses, this provides an understanding of consumer perception and allows the optimal brand image for the right target group to be built. Furthermore, brand marketers will also test the elements of the marketing mix such as packaging and product line extensions to make sure business decisions have an appropriate relationship to the image.

As a whole, positioning is a key source in competitive advantage; locating an attractive and defensible competitive position makes marketing mix decisions easier and marketing expenditure more effective. The brand positioning is seeking to identify the right position for a given brand, and also seeking to identify the product attributes and customer segments that are core to the most attractive market position.

2.7 Design and Practice in Relation to the Brand

Marketing and design are both considered as tools in convincing customers or users. Companies need therefore to consider incorporating design into a market planning process. Current successful brands illustrate how design played a very important role in promoting products. Brands such as Apple's iconic iMac and iPod, Swatch, BMW, Nokia, and Sony have created their wealth through designed thinking. Brands are expressed and experienced in many ways. Design has a key role in determining the brand, making the brand feel, appear and perform the way marketing promises it will.

“A product is something with a functional purpose. A brand offers something in addition to its functional purpose. All brands are products that serve a functional purpose. But not all products are brands. A brand is a product that provides functional benefits plus added values that some consumers value enough to buy” (Jones and Slater, 2003; 31-32).

Looking at the relationship between design and branding, we can view brand development as a business concept, which is in partnership with design. In a significant way design through branding actually elevates the power of design.

“Image creation, like corporate image, is a major factor in building a brand, and thus the role of design and designers is central to its success” (Press and Cooper, 2003).

Press and Cooper (2003) also claimed that the role and contribution made by design in the development of brands has become more significant as the art of branding has become more sophisticated. They emphasised the inter-relation between design and brand and claimed that the product elements commonly

developed through design represent the personality of the brand. Through corporate and marketing strategy design developed the brand values further (*ibid*). It is evident that design strategy and the design brief of the product or service must represent the brand and the whole product model.



Figure 2.11 - The Volvo 850 model (above) and S80 model (below). *Source: www.volvo.com*



Volvo automotive products are known for their boxy edge design, versatile estate models and “*Safety for Life*” philosophy. The boxy edge design was maintained since the design “*Revolvolution*” in 1960 (Volvo, 2003). The 850 models that were launched in 1997 (see Fig 2.11) may be considered as being the last of the Volvo boxy edge era. With the introduction of the S80 models in 1998 (see Fig 2.11), the genuine “*Revolvolution*” is visible in Volvo models. Any design carries risk as noted by Jerrard and Barnes (2006):

“Whilst diversity in markets may generally spread the risk of failure, a calculation may be made concerning competing products.”

However the new design approach with broad shoulders, softer and curvy shapes appears to preserve the brand heritage, further maintaining the Volvo brand recognition (Karjalainen, 2004). Therefore, Volvo cars not only set a new brand design and identity but also increased the sales record through design (Volvo, 2003).

A further example of the importance of this inter-relationship is the branding of Apple Computer after its years of failure. The release of the iMac G3 model in 1998 (see Fig. 2.12) illustrates the way in which designing a brand relates directly to perceptions and how personality is conveyed by the designers. The original first iMac integrated a Cathode Ray Tube (CRT) and Central Processing Unit (CPU) into a streamlined, translucent plastic body. This model became highly in demand, selling about one million units a year (Apple, 2000). It also helped re-introduce Apple to the media and the public, and announced the company's new emphasis on the design and aesthetics of its products. This is the way the designers saw their brief to create a brand.

In 1999, Apple introduced the Power Mac G4, which utilized the Motorola PowerPC 7400 as its flagship processor line (*ibid*). Also in that year, Apple unveiled the iBook, its first consumer-oriented laptop that was also the first Macintosh to support the use of Wireless Local Area Network (WLAN) via the

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optional AirPort card that was based on the 802.11b standard connection. In 2000, Apple introduced further models such as the iBook, the Power Mac G4, and the AirPort product series, which helped popularize the use of Wireless LAN technology to connect computers to networks. These examples illustrate just how reliant brands are on the designers and technology to develop images that reflect and promote the value of a product.



Figure 2.12. The Apple iMac G3 model. *Source: www.apple.com*

In conclusion, the evidence appears to indicate that designers and marketers need to work together if they are to achieve significant results. If both designer and marketers can collaborate, there will be a greater likelihood of achieving success than if they were to work individually. In addition, one needs to look at how history, education, and the culture of these two disciplines can facilitate or hinder effective interaction. Much literature has discussed this issue (Bruce and Cooper, (1997), Borja de Mozota (2006), Rieple, (2004) and possible methods have been

suggested to measure the reasons for this phenomenon and ways to overcome the divergence in thinking between the management and design team. Rieple (2004) claimed that evidence in differences in thinking between these two disciplines was found by using Kirton's adaption/innovation inventory (KAI). KAI is an instrument for measuring cognitive style, which is extensively used with occupational groups.

Broja de Mozota (*ibid.*) proposed a value model for use within a design management framework, as a tool that will bridge the gap between designers and managers. Subsequently, she explored how this model can be implemented using Robert Kaplan's and David Norton's Balanced Score Card (BSC). Broja de Mozota (*ibid.*) also added that this BSC is able to measure any design project and the impact of design value. BSC also can be used as key factor to successful implementation as design strategy. Hence, it is also claimed that the BSC can be used as a practical tool to ensure successful interaction between designers and managers. Furthermore, BSC can be used for the value of management in presenting design (*ibid.*). The design brief aims to bring the two disciplines together. Finally, the strategies which have been used by successful organisations to develop design and marketing collaboration are to be identified.

2.8 Chapter Summary

A variety of design and branding theories have been presented together with specific design practice examples. This chapter demonstrates the diverse role of design in the complex process that relates to production, technological change and consumption. In meeting market demand, design processes and planning needs to be constantly innovative. This will subsequently achieve significant advantage in terms of financial gain produced by the value of design.

Creativity and innovation through design requires a combination of logical and intuitive thought. Perhaps one role of design management is to stimulate the creative thinking process. This research mainly considers design in the manufacture of consumer goods in Malaysia, primarily those manufacturers that have won the Malaysia Good Mark Award.

Section 2.3 of this chapter relates to the designer's role in industry, with contradictory views being noted. One common theme is to measure the important role played by designers. Design practice in management, industry and education were highlighted. Reference was made to a number of key points used by brand practitioners which promote better understanding of client's product or services. This was followed a review of various branding theories. How the value of brand created greater impact on an individual product in the market by exhibiting its identity was also shown. In relation to brand as a tool, it was clearly seen that in

today's highly competitive markets, one is to differentiate products through different brands so that different value may be added.

Brand building has become one of the main strategies in building the company's success in niche markets and in meeting global challenges. Evidence published from companies shows that brand building and practice impact significantly on the success of the company's strategies. The two main issues highlighted in this chapter were design and brand and their inter-relationship. The integration of these two areas appears to influence the quality and success of the design product.

Chapter 3

SME; Malaysia and the UK

Chapter 3

3. SME; Malaysia and the UK

3.1 Malaysian Context

SMEs in Malaysia have a critical role in the country's vision of becoming a fully industrialised nation by the year 2020. The 'Vision 2020' was set with the objective of transforming Malaysia into a fully developed country, not only in its economy but also in its political stability, social and spiritual values, quality of life, national pride and confidence (Mahathir, 1991). The former Malaysian Prime Minister, Dato Seri Dr. Mahathir Mohamed reiterated this in the Malaysia 2004 Budget speech in September 2003.

“Our domestic private sector must develop and produce Malaysian brands of world-class quality, able to penetrate international markets” (Mahathir, 2003).

This has been built upon by the current Prime Minister, Dato Seri Abdullah Ahmad Badawi.

3.1.1 Malaysian SMEs

As in other developed nations SMEs fall under the umbrella of the Ministry of International Trade & Industry (MITI). MITI is directly supported by two organisations in overseeing SMEs and their development. These are the Small Medium Industry Development Corporation (SMIDEC), which is MITI's

privatised agency, and the National SME Development Council (NSDC), which is a government organisation. SMIDEC was established in May 1996, its establishment was in recognition of the need for a specialised agency to further promote the development of SMEs in the manufacturing sector through the provision of advisory services, together with fiscal and financial assistance (SMEinfo, 2006). On the other hand, NSDC was established in June 2004 and this council, chaired by the Prime Minister, represents the Government's top-level commitment to promote SME development. The Council is intended to coordinate inter-Ministry and Agency efforts on SME development, as well as to provide a strategic policy framework for the industry to progress. There are more than 12 Ministries and 38 Government Agencies supporting the Government's SME development efforts. Each of these organisations has been tasked with specific development objectives aimed at particular target groups. It can be argued that these government bodies and agencies are too numerous to provide cohesive, coherent direction and the danger is that red tape and bottlenecks may hamper smooth administration for the benefit of the SMEs.

In order to promote Malaysian products, including non-traditional industries, abroad and to address the challenges of global trade requires major efforts from the private sector if it is to become a successful investor, producer and exporter.

“It will enhance the transformation of SME's from being labour intensive to that based on capital, knowledge and technology, including the ability to innovate, design and develop new products and processes” (Anon, Prime Minister Office, Economic Planning Unit 2001).

In 2005, the National SME Development Council (NSDC) approved the use of common definitions for SMEs in the manufacturing, manufacturing-related services, primary agriculture and service sectors. These definitions are applied by all Government Ministries and Agencies involved in SME development, as well as by financial institutions. It is claimed that the use of common definitions for SMEs in Malaysia will: strengthen government efforts to create effective policies and support programmes for specific incentives; make it easier to provide technical and financial assistance to SMEs and allow for the identification of SMEs in the various categories and levels. Generally, SMEs fall into two broad categories (SMIDEC, 2006). The first covers manufacturing, manufacturing-related services and agro-based industries. The second comprises services, primary agriculture and information and communication technology (ICT) (see Table. 3.1), thus:

- Manufacturing, manufacturing-related services and agro-based industries are enterprises with full time employees not exceeding 150 or with annual sales turnover not exceeding RM25 million.
- Services, primary agriculture and Information and Communication Technology (ICT) sectors are enterprises with full-time employees not exceeding 50 or with annual sales turnover not exceeding RM5 million.

Malaysian SMEs can be classified according to size: Micro, Small, or Medium. These groupings are decided based on either the number of people a business

employs or on the total sales or revenue generated by a business in a year (SMEinfo, 2005).

Definition of Category	Micro-enterprise	Small enterprise	Medium enterprise
1 Manufacturing, Manufacturing-Related Services and Agro-based industries	Sales turnover of less than RM250, 000 OR full time employees less than 5	Sales turnover between RM250, 000 and less than RM10 million OR full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million OR full time employees between 51 and 150
2 Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover of less than RM200, 000 OR full time employees less than 5	Sales turnover between RM200, 000 and less than RM1 million OR full time employees between 5 and 19	Sales turnover between RM1 million and RM5 million OR full time employees between 20 and 50

Table 3.1. Malaysia SME's Definition. *Source: SMEinfo, 2005 & SMIDEC, 2006*

MALAYSIA SME's
20,455 total establishments in manufacturing sector 18,271 or 89.8% are SMEs
192,527 total establishments in service sector 186,428 or 96.8% are SMEs

Table 3.2. Malaysia SME's. *Source: DOS, Census 2005.*

Similar to other growing and developing countries, Malaysia is experiencing a rapid growth in SMEs. According to the Malaysia Department of Statistics (DOS), the 2005 Census (see Figure. 3.1 & Table. 3.3) - the latest available figures at the time this study was researched - showed a total of 20,455

establishments in the manufacturing sector of which 18,271 or 89.8% are SMEs. In addition, the largest number of establishments according to SMIDEC (2004) were in the textiles and apparel sector, which accounted for 18.2% of the total, followed by food and beverages with 15.2%, metals and metal products (14.8%) and wood and wood products (14.1%) (see Table. 3.4).

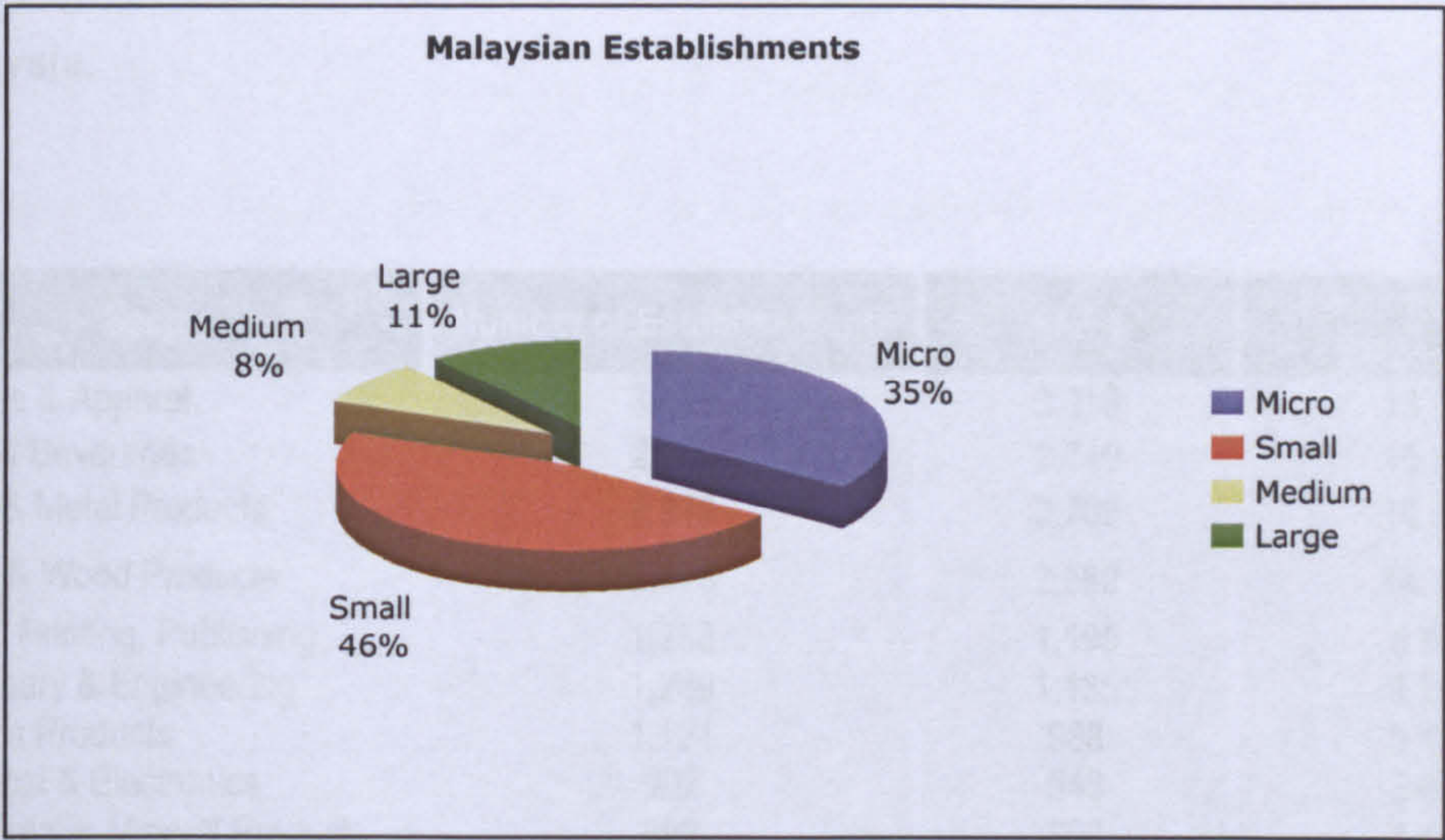


Figure 3.1. Distribution of SMEs by Size in 2005. *Source: DOS, Census 2005*

Type	Number of Establishments	Share (%)
Micro	7,171	39.3
Small	9,445	51.7
Medium	1,655	9.1
Total SMEs	18,271	89.3
Large	2,184	10.7
Total Enterprises	20,455	100

Table 3.3. Distribution of SMEs by Size in 2005. *Source: DOS, Census 2005.*

The Census also captured a total of 192,527 establishments in the services sector, of which 186,428 or 96.8% were SMEs. SMEs in both sectors accounted for 204,699 enterprises or 96.1% of the total (DOS, 2005). Eighty-eight percent of the companies in the service sector were in the distributive trades (retail and wholesale). This is followed by 4.4% in education and health, 2.9% in professional services and 2% in transport and communication. In both sectors according to SMEinfo (2006) there were approximately 204,699 SMEs in Malaysia.

Sector	Number of Establishments	SMEs	Percentage of SMEs (%)
Textiles & Apparel	3,419	3,319	18.2
Food & Beverages	2,949	2,749	15.2
Metal & Metal Products	2,918	2,709	14.8
Wood & Wood Products	2,776	2,582	14.1
Paper, Printing, Publishing	1,288	1,195	6.5
Machinery & Engineering	1,249	1,135	6.2
Plastics Products	1,121	988	5.4
Electrical & Electronics	907	543	3.0
Non Metallic Mineral Products	893	803	4.4
Other (Jewellery)	733	666	3.6
Petrol-Chemical & Chemical	712	526	2.9
Transport Equipment	507	433	2.4
Rubber & Rubber Products	482	366	2.0
Palm Oil & Palm Oil Products	434	155	0.8
Leather	67	65	0.4
Total Enterprises	20,455	18,271	100.0

Table 3.4. Distribution of SMEs in the Manufacturing Sector (by Sector) in 2005.

Source: SMIDEC 2006.

Such figures suggest that SMEs form a fundamental part of the economy, comprising over 98% of total establishments and contributing to more than 65% of employment, as well as over 50% of the gross domestic product (MITI, 2005).

3.1.2 Design Practice in Malaysia

According to Abdullah (1995), in pre-independence Malaysia, primarily British advertising agencies became the provider of design activities in the early 1950s. They were also the main contributors to today's design development. The influence of design came into Malaysia via British companies. They invested in the country and introduced creative companies as part of British activities to promote economic growth, both before and after Malaysia received independence from the British government in 1957. Design houses that focused on graphic design, advertising and photography needed to expand further into other areas of design - mainly industrial manufacturing based design in areas such as textiles, footwear, electronic products and furniture. Such design activities began to be significant after 1960 as Malaysia received foreign investment and started manufacturing as an independent nation. Following industry demand, design courses were introduced in 1967 (Hassan, 1977) by Institute Technology MARA (ITM) [now known as University Institute Technology MARA (UiTM)]. This institute was the pioneer public institution that introduced art and design courses after it was first founded as RIDA (former name of ITM) in 1956.

An imitative or copying stance has become part of the Asian business culture in its approach to design and manufacture, especially after World War Two when economies needed to be rebuilt (Gotthelf, 2003). Thus, design and design capabilities were not viewed in a positive way nor were the advantages properly understood (*ibid.*). Such imitative work can be clearly seen in many products from

Asian countries, along with a lack of respect for intellectual property rights. Gotthelf (2003) claimed,

“Many Asian business people will prefer to keep copying already established products and hope for brand diffusion rather than differentiation”.

Similar characteristics existed in the Malaysian manufacturing sector because local business people did not practise the concept of creating brand equity. Instead of creating, which involved inventing or designing their own products, Malaysian businesses made use of available resources or existing products. Short-term profit was the reason for copying and generally made use of reverse engineering. Nevertheless, some companies such as Beebull Engineering, Joven Electric, Green Continental Furniture, Kian Contracts and others have started to embrace the importance of design and its influence in brand creation and development. The emphasis on design and its role in achieving successful products, has enabled these companies to win the ‘Malaysia Good Design Mark’ (MGDM) (MDC/MRM, 2005) award in recognition of design excellence by the Malaysia Design Council (MDC/MRM).

The Malaysian government encourages local Malaysian SMEs to develop and manufacture their products in Malaysia and then promote their brands in world markets (Mahathir, 2003). It is often claimed that Malaysian SMEs have the capabilities to develop products of an international quality (Rafidah, 2003). Evidence suggests that many Malaysian SMEs are among major sub-contractor manufacturers working for established brands such as Dell and Motorola (Batey,

2002). In other word, these sub-contractors were appointed by manufacturers from developed countries to provide added value or produced finished products (Mansor, 2003). There are a number of fundamental obstacles to be overcome in assisting Malaysian SMEs into a competitive position in the use of design and innovation. Access to market intelligence and business information is needed, as well as investment assistance (UPS, 2005). Government support has been seen as lacking in terms of labour costs, innovation and access to working capital. These are seen as major hurdles in the race for success (*ibid*). Nevertheless there are now significant numbers of SMEs investing in design and innovation, as the realisation spreads that design could contribute significantly to their business and help to meet global challenges. However, it has not been possible to ascertain the percentage of companies responding to this effort.

From the reviews, it appears that investment in design by the manufacturing sector has risen gradually in the last decade as indicated by Marzuki (1999) and (Khairul *et al.*, 2003). However, there does not yet appear to be significant published evidence to suggest that design integration will raise Malaysian SMEs turnover and increase their competitiveness. Also there have not been any published surveys to show the number of design graduates employed by the SMEs, even though approximately three hundred industrial design students mentioned by Marzuki (1999) graduated from UiTM between 1967 and 1995. However, MDC/MRM (2006) claimed that there was an increase in the number of design agencies and consultants in the last two decades.

If we look at current development, the number of design solution companies has increased tremendously. According to MDC/MRM (2006) there are more than 500 companies involved in design services ranging including advertising, interior design, branding, multimedia and public relations. However design companies that focus on providing manufacturing design solutions are very limited (*ibid.*). Evidence shows that many Malaysian SMEs have chosen to embed their own in-house design department as part of their R & D activities since the late 1970's. However, the trend to engage external design consultants specialising in industrial design was relatively small.

Kamarudzaman (1995) claimed that most Malaysian industries rely totally on their own in-house designers, which has limited the growth of independent design consultants involved in product design and development. He also added that most industries do not seem to value the contributions made by designers (*ibid.*). In consequence many qualified industrial designers leave their profession or move on from one company to another for a better salary and working environment (NST, 1995 in Marzuki, 1999) (Khairul *et al.*, 2003). MDC/MRM (2006) also claimed that the lack of industrial design consultants in Malaysia compared with other design disciplines -advertising, interior design and architecture - is due to the high cost risk of investing in such services. Although the manufacturing industry is seen as very competitive, the market demand for design consultants is low due to the use of in-house design and R&D.

The economic recession, which struck Malaysia during 1986, delayed economic recovery, which only began to pick up again after 1990. By this time, design and innovation had proven their worth, mainly within larger companies seeking to become multinational organisations and which had developed additional business ventures as a result of foreign investment. Moreover, many small companies have bounced back and overtaken the less resilient ones over the last 10 years, following a second recession in Malaysia in 1997. As a result there has been a positive increase in investment in design, especially within R & D. This was in response to the challenge of worldwide competition and also legislation from the ASEAN, AFTA and the WTO. Manufacturers believed that design would enhance market competitiveness. Nevertheless, Mazuki (2005) claimed that activity regarding design and development in Malaysia was still based on reverse engineering. Hence, instead of designing and producing totally new products, reverse engineering enabled companies to duplicate an existing part, component or subassembly. This could be done by capturing the component's physical dimensions, features and material properties. Therefore, Malaysian companies were able to cut manufacturing production costs by relying totally on foreign technology.

3.1.3 Government Incentives and Support

3.1.3.1 Malaysia Design Council

It is imperative for Malaysian companies to invest in good design to penetrate the international market, which is far more resourceful and creative (MRM, 2006).

The establishment of the Malaysian Design Council or ‘Majlis Rekabentuk Malaysia’ (MDC or MRM) in 1993, therefore, was intended to lead and coordinate design activities amongst Malaysian manufacturers by promoting good design as listed in the Table 3.5. Currently, MDC/MRM is under the umbrella of the Ministry of Science, Technology and Innovation (MOSTI); however, the Standards and Industrial Research Institute of Malaysia (SIRIM) controls the administration of MDC/MRM.

MALAYSIA DESIGN COUNCIL FUNCTIONS
To assist the industry in appreciating the importance of quality design and effective design management in the manufacturing of products in order to compete in the open market
To develop activities that enable local product design to be promoted internationally
To be a repository of information and other reference materials on design in order to assist local industries in developing design capabilities.
To coordinate advisory services to the industry.
To promote programs for upgrading the capability of local industries in product design.
To promote greater public awareness of quality design.

Table 3.5; Functions of the council to Malaysian industries.
Source: Malaysian Design Council, 2006.

MDC/MRM’s programmes and activities to support design promotion and awareness are focused on three strategic areas; Development and Recognition, Liaison and Promotion, and Publication and Information. Although the

MDC/MRM was aiming solely at the industrial sector, their programmes and activities involve educational institutions, public and craft industries. Through the *Development and Recognition* approach, programmes were created to develop innovative thinking at the community level, in order nurture a creative generation through innovative activities and to enhance design capabilities among designers and manufacturers. In order to nurture design importance at local and international levels, the recognition programmes were introduced through three award-winning designs as shown in Table 3.6;

MRM Design Recognition
MALAYSIA GOOD DESIGN MARK To enhance local manufacturers' capabilities and to recognise locally made and designed products.
MALAYSIA YOUNG DESIGNERS AWARD To enhance local talent in quality design and to recognise local innovation at educational institutions and industries.
NATIONAL DESIGN AWARD To recognise designers, design firms and manufacturers which had contributed to the development of the country through design.

Table 3.6: Malaysia Design Council design recognition awards.

The *Development and Recognition* programme aims to encourage local companies and the public to understand and be aware of the importance of design. However, the controlling body of MDC/MRM may have a different viewpoint that has limited the implementation of all design programmes and activities; this is discussed further in Chapter 6 (6.5.3).

MDC/MRM second strategy, the *Liaison and Promotion* programme, aimed to strengthen the promotion of design through international networking, by exchanging and sharing information for the benefit of local companies. In addition, involvement in exhibitions and media became their tool to create design awareness in industry and the public. In the third focus area the *Publication and Information* programme, MDC/MRM disseminates information to agencies through newsletters. The Design Information Centre was established to support design enhancement through the provision of a design library, database, design survey and the MDC/MRM website itself.

3.1.3.2 Incentives

The Malaysian government continues to provide incentives to encourage SMEs to increase their investments. As a result, greater effort has gone into strengthening the performance of SMEs by initiating a number of programmes and incentives during the seventh and eighth Malaysian Plans (Government of Malaysia, 2001). This includes the Second Industrial Master Plan (IMP2). Under the IMP2 for the period 1996 to 2005, the government implemented various policies and strategies. The IMP2 was aimed at moving manufacturing operations beyond just production to include research and development, design capability, development of integrated industries, packaging, distribution and marketing activities through manufacturing strategy (MITI, 1996). Furthermore, MITI (2005) formulated a plan to enhance the growth of the manufacturing sector through the whole value chain, and to encourage cluster-based industrial development, thus providing an integrated

approach for development. In the seventh and eighth Malaysian plans, several issues were addressed. These included access to markets, increasing technology capabilities, enhancing the adoption of ICT and increasing access to finance (MITI, 1996).

During the Seventh Malaysian Plan (7MP/RMK7) for the period 1996-2000, several programmes were implemented covering a wide spectrum of SMEs needs. The plan gave a vital role to SMEs in supporting the national industrialisation effort through foreign linkages across the manufacturing sector. During the Eighth Malaysian Plan (8MP/RMK8) (2001–2005), the majority of SMEs did not have the technological capability to improve production efficiency and product quality (The Government of Malaysia, 2001). The government therefore provided strong support for the development of resilient SMEs during the period of this plan, especially in sectors with high growth and export potential.

The government's commitment to the development of SMEs is evidenced by IMP2, which ended in 2005. This was then followed by the Third Industrial Master Plan (IMP3) (2006-2020), which coincides with the country's vision 2020 (MITI, 2005). According to SMIDEC (2002) in its Small Medium Industry Development Plan 2001-2005 (SMIDP), incentives for SMEs provided by the public sector comprise four instruments, summarized in Table 3.7, thus:

- Tax incentives to stimulate investment
- Grant assistance

- Loans, credit and equity participation
- Infrastructure and supporting services

However, the government incentives are available only to Malaysian owned companies.

Tax Incentives	Grant Assistance	Loans, Credit & Equity Participation	Infrastructure & Supporting Services
Pioneer status	Industrial Technical Assistance Fund (ITAF)	Minimum Lending Guidelines for SMEs	Infrastructure Development Grant
Investment Tax Allowance (ITA)	Skill Upgrading Program	Government-Funded Financing Facilities	Supporting Services are:
Reinvestment Allowance (RA)	Technology Acquisition Fund (TAF)	Credit Guarantees for SME Borrowers	Technical and business advisory clinics and briefings
Double deduction of expenses incurred on brand advertising, export credit insurance premiums and research & development	Commercialization of Research & Development Fund (CRDF)	Equity Financing and Venture Capital	Information dissemination and promoting awareness
	E-Commerce Grant		Product displays and business matching
	Factory Auditing Scheme		Promotion of exports by SMEs

Table 3.7 Summaries of Existing Public Sectors Incentives for SMEs.
Source: SMIDEC, 2002 & SMIDP 2001-2005.

The incentives main programmes are (see Table 3.8):

Main Programmes	Function of Supports
Industrial Linkages Programme (ILP)	Promotion and development of SMEs into reliable and competitive supplier of critical components and services to leading industries.
Global Supplier Programme (GSP)	Enhance capacity and capabilities of SME to provide world-class services and products to MNCs in their operations worldwide
Market Development Programme	Promotes market opportunities for SMEs.
Technology Development Programme	Promotes the usage of appropriate technology
Financial Assistance Programme	Cuts across all other developmental and assistance programs
Skills Upgrading Programme	Enhancing the skills of SME employees
Factory Audit Scheme	Enhancing the capability of SMEs
Infrastructure Development Programme	Assists SMEs in acquiring factory lots that will strengthen their capacity for the expansion.

Table 3.8 Incentives Main Programmes. Source: SMIDEC 2004

The listed programmes in Table 3.8, are to assist SMEs in:

Developing access to markets whereby Malaysia External Trade Development Corporation (MATRADE) facilitates the participation of SMEs at trade fairs and missions by financing their participation costs.

Upgrading technology where assistance to upgrade SMEs' technological capabilities is given by issuing matching grants.

Promoting the Application of ICT in areas where fast changing market trends and shorter product life cycles are putting pressure on SMEs to respond by adopting the latest technology. According to SMIDEC (2004) financial assistance is available for eligible enterprises to adopt RosettaNet™ common messaging standard for business communication in the Electrical and Electronic sector. Other sectors are to utilise the ebXML™ (e-business Extensible Mark-up Language) as advised by the United Nations.

Research & Development (R&D) and Innovation where the government encourages innovation through R&D via channels such as the Industry Research and Development Grant Scheme (IGS) offered by MOSTI and Commercialisation of Research and Development Findings (CRDF) provided by Malaysia Technology Development Corporation (MTDC). Under the Eighth Malaysian Plan (8MP/RMK8), RM1.4 billion has been allocated for R&D promotion (see Table 3.9). In addition, SMIDEC also provides assistance in product development

under the Industrial Technical Assistance Fund (ITAF) programmes. These are the ITAF 2, the ITAF 4 and The Factory Auditing Grant (FAG). These incentives are intended to promote the products of those SMEs which focus on new product development. They also encourage the promotion of brands, advertising, packaging, designing as well as assisting SMEs in financial management, production, logistics, marketing and R&D (MITI, 2005). The government has also set out to transform the economy from being foreign direct investment driven to domestic-led investment driven.

Productivity and Quality where matching grants are allocated to SMEs to attain certifications that verify international standards such as the ISO series, HALAL and GMP. In addition, SIRIM also provides technical assistance to enhance the product quality of SMEs. According to SMIDEC (2003) the ITAF3 for the Productivity and Improvement Scheme has benefited 1,704 SMEs with approved grants totalling RM56.7million as of December 2003.

Awards and Recognition, which include The Prime Minister's Industry Excellence Award, the Productivity and Quality Management Award (PQMA) and Enterprise 50 Awards (E50).

Access to Financing where the government under 8MP/RMK8 has allocated RM556.6 million for loans to SMEs, of which RM100 million was channelled through SMIDEC. In May 2003 an additional fund of RM2.2 billion was injected

via the Stimulus Package in which RM1 billion was allocated to micro size enterprises via the Micro Credit Programmes Scheme (MCPS) (SMIDEC, 2004).

Supply of Skilled Labour where SMIDEC claims to collaborate with 20 skill centres to provide training in technical and managerial skills to local SMEs. In 2003, 250 graduates were trained at a cost of RM5.2 million with Microsoft Certified System Engineers (MCSE) and Cisco Certified Network Associates (CCNA). The government also established technology based universities such as the Multimedia University (MMU) and University Tenaga Nasional (UNITEN) and provided scholarships to improve the skill level of the labour market. Furthermore, the government has intensified its efforts to attract foreign knowledge workers to come to Malaysia as well as incentivising Malaysians working abroad to return home. In addition, in order to build up the domestic R&D capability via technology transfer, the government also brought in foreign companies to assist local manufacturers.

Funds Schemes/Grant	Allocation (RM million)
Commercialisation of Research and Development Fund (CRDF)	50
Technology Acquisition Fund (TAF)	125
Industry Research and Development Grant Schemes (IGS)	230
Intensified Research In Priority Area (IRPA)	833
Multimedia Super Corridor Research and Development Grant Schemes (MGS)	100
Demonstrator Application Grant Schemes (DAGS)	90
Total	1,428

Table 3.9 Grant Allocations for R&D under the Eighth Malaysian Plan (8MP/RMK8).

Source: 8MP/RMK8

Despite all the support and incentives provided by the government, there is extensive literature highlighting some of the major challenges and barriers still faced by SMEs in Malaysia. These limitations prevent SMEs from growing further as they faced major challenges from globalisation and liberalisation as well as extensive organisational, institutional and technological change. Wang (2003), SMIDEC (2002) and Moha (1999) claimed that SMEs are facing major barriers which undermine their performance. These authors also highlighted the major challenges as being lack of financing, low productivity, lack of managerial capabilities, limited access to management and technology and a heavy regulatory burden (*ibid.*). In addition, Ting (2004) identified five key challenges: lack of access to finance, human resource constraints, limitation or inability to adopt technology, lack of information on potential markets and customers and global competition.

UPS (2005) conducted a survey investigating competition issues faced by selected SMEs from 12 Asian countries. This survey covered more than 1200 industry leaders from various sectors. The findings revealed that 73% of respondents considered China's SMEs to be more competitive, whereas Malaysian SMEs were ranked tenth and considered competitive only by 27% of respondents. Inevitably, the findings of the survey identified the key competitiveness issues faced by one hundred Malaysian SME leaders and concluded that labour costs, innovation and access to funding and working capital are the major challenges which need to be addressed.

Despite the efforts of the Malaysian government, information on the incentives available and how to access them does not appear to be getting through to the target SMEs. The efficiency and effectiveness of the incentive delivery system are vital to their utilisation. Lack of transparency in business disclosure by SMEs can also hinder access to government funds (SMIDEC, 2006). Funding limitations could be resolved if SMEs were willing to disclose their financial status, repayment records and managerial capabilities to allow funding institutes to formulate financial assessments more objectively.

3.1.4 The Importance of Design in Promoting Malaysian Brands

As Malaysia moves beyond modernisation and towards globalisation, the Malaysian Government has realised the importance of design in achieving industrialisation. From the early 1980s, the importance of design in promoting Malaysian brands was highlighted through major successful projects. Firstly, a Malaysian national car, the Proton, and a new image for the national train, Keretapi Tanah Melayu (KTM). These were then followed by major projects in the 1990s such as Perodua, the second national car; Komuter by KTM Berhad, the first electrified rail system in the country (now renamed and privatised in 1992); Inokom, the national lorry Motosikal & Enjin Nasional Sdn Bhd (MODENAS), the national motorcycle, and Malaysian Electrical Corporation (MEC) Berhad which manufactures electrical domestic appliances. The above examples highlight the government efforts in supports of the country's commitment to promote

Malaysian design by encouraging the development national products and brands. Ultimately, these government efforts are directed towards achieving its Vision 2020.

It has been suggested that Malaysian branding is a vital business tool, particularly in today's highly competitive marketplace, if Malaysia is to compete with other global players (Lim, 2003). Rafidah (2003) also stated that branding provides new challenges to Malaysian manufacturers as they increasingly look to promote their products overseas. Many Malaysian companies have started to use the knowledge gained in OEM to go further along the value chain and have initiated ODM and OBM (MITI, 2004).

As in other developing countries, Malaysia faces the challenges of market parity and the need to differentiate in the face of increasing competition. Temporal (2003) claimed that there is a dawning recognition that a nation's image is made up of 'perceived value' and that value can consist of intangible as well as tangible elements such as Malaysian design and branding. Quality and uniqueness of design remain the basic fundamental aspects of a powerful brand. Inevitably, these are the major challenges that Malaysian manufacturers, particularly SMEs, are facing as the government seeks to develop a conscious national image.

Countries such as Finland, Denmark, UK, Japan, South Korea, Spain and Ireland have successfully used design integration and developed national design policies

as a key driver to national competitiveness. This could be reflected in Malaysia and particularly the MDC/MRM could play a much more aggressive role. Lessons could also be learned from the neighbouring country of Singapore, where sensitivity towards design awareness has expanded tremendously as their government has instituted drastic changes in their policy towards design and creativity over the past two decades. These two aspects have been embedded and encouraged at the most fundamental level of their education as part of the recent Creative Economy, which is intended to enhance the continued competitiveness of Singapore. 'Developing Creative Industries' plays one of the greater roles in the Singapore Ministry of Information, Communications and Arts (MICA). An allocation of Singapore \$541 million to MICA from the Singapore Financial Year 2007 Budget is intended to encourage major developments (MICA, 2007) such as:

- Media 21 – aims to develop Singapore into a global media city.
- Design Singapore – aims to inspire design and develop the country as Asian design and creativity hub.
- Creative Community Singapore – aims to provide new opportunities for Singaporeans to unleash their creative potential by funding project ideas.

3.1.5 Malaysian Brands

Malaysian local brands are not in competition with established UK brands because awareness of design in Malaysia is relatively recent and time is needed for Malaysian brands to gain recognition. In fact, it has been claimed that Malaysia is

10-15 years behind South Korea (Pek, 2006). Nevertheless, with the efforts of the last two decades, Malaysia has managed to produce some brands that Malaysians can be proud of. From an economy that depended on rubber and tin, the country has achieved a transition to a knowledge-driven economy in less than five decades since gaining independence from British colonial rule.

Today, most of the Malaysian Brands that are known in others parts of the world are products and services that have been produced by larger companies or by government driven projects. Other Asian manufacturers, in particular Taiwan, converted the label 'Made In Taiwan' from a mark of cheap and low quality into some of the best selling brands in the world such as Acer, BenQ & Mitac computer hardware. This was done by improving quality whilst at the same time investing in brand advertising and promotion (Tanzer, 2001). In fact BenQ, with its X2 and X3 mobile phones, is sold under the O2 brand in the UK (UK mobile network provider). For many years in the early stage of product development, 'Made in Malaysia' products also suffered from an image of low quality. It is a common problem that has dogged not only Malaysian, but also Asian brands as a whole when trying to build and promote brands domestically and internationally. It was usual to hear the statement by Malaysian shoppers that they do not want to buy Malaysian brand because it is made locally. However in recent years, Malaysia has learned from other Asian brands, particularly Korean ones, such as Samsung, LG, Hyundai and Daewoo, of the need to push for quality. Kim (2005) claimed that Samsung's speedy success was based on the company's recognition

of the importance of design in enhancing the value of its brand. This is one substantial way to be able to highlight or emphasise brand presence in a world market. This improvement of quality has also made Malaysian cars brands, Proton and Perodua, acceptable to many Malaysian buyers and has enabled them to gain the biggest market share of car ownership in the country. In fact, the heavy taxes on imported cars also plays a large part by giving the advantage of lower duty to the local brands.

One way to help Malaysian SMEs to develop beyond the contract manufacturer (OEM) into their own ODM and OBM companies is by moving into other niche-markets. Instead of trying to compete with giant brands and established designs that already dominate most markets with universal appeal, they could seek out markets that have not been served properly, for example, those in Africa, the Middle-East and South America. Temporal (2001) stated that looking at this niche is a way to build a brand that can be international or even globally known.

3.2 The UK Context

The Department of Trade & Industry (DTI) in the UK estimated that there were 3.75 million active businesses in the UK at the start of 2001, of which 99% were SMEs. In addition, more than half of all UK employment (55%) was in this category, with small enterprises accounting for 43% (approximately 22 million people) and medium enterprises accounting for roughly 11%. Subsequently, more than half of the business turnover for the UK (52%) was in this area with small

enterprises accounting for 37% and medium-sized enterprises accounting for 15% of an estimated turnover of £2.2 billion by all UK enterprises (DTI, 2005b). This evidence suggests that SMEs make a significant contribution to the UK economy. It is also expected that there will be significant growth in the numbers of SMEs. A UK government report in 2001 entitled 'Financing The Enterprise Society' predicts that there will be over 4.5 million SMEs by 2010 and with current globalisation and market competitiveness, design, creativity and innovation are set to play a bigger role in the UK economy.

The important influence of design amongst UK SMEs was noted by Lord Grenfell in a House of Commons debate on 31 March 1999 when he stated;

"I am a very great believer in small and medium-sized enterprises". As the Design Council itself said: "Small and medium-sized enterprises are a critical part of the UK economy. According to the Design Council research, awareness among SME managers of the importance of design is growing. Between 1997 and 1998 the number of small manufacturers climbed from 44 per cent to 62 per cent" (Grenfell, 1999). (Design Council in Grenfell, 1999).

Subsequently, the Design Council also claimed that 68% of rapidly growing businesses believe design has increased their turnover in the last three years (Design Council, 2004; Anon., 2004).

3.2.1 The UK SME

There is a wide diversity of businesses in today's competitive economy. The Small Business Service (SBS), an agency of the DTI, does not establish a particular definition of a UK SME. However, a 1971 Report on Small Firms by

the Bolton Committee stated that a small firm is an independent business, managed by its owner or part owners and having a small market share. Subsequently, the Bolton Committee has also adopted a number of different statistical definitions that recognise that the size is relative to sector (SBS, 2006). Thus, a firm could be small in one particular sector, despite being in a large market with more competitors, whereas a firm of a similar proportion could be described as large in another sector, where there is less competition. In considering this description, the number of employees is perhaps more appropriate in defining size for some sectors while in other sectors, the turnover may be a better way to define the company.

It is usual to measure size according to the numbers of full-time employees or their equivalent. Section 248 of the Companies Act of 1985 stated that a company is “small” if it satisfies at least two of the following criteria show in Table 3.10 (SBS, 2006).

Micro-enterprise	Small enterprise	Medium enterprise
<ul style="list-style-type: none"> full time employees less than 9 	<ul style="list-style-type: none"> Sales turnover not more than £2.8 million OR balance sheet total of not more than £1.4 million OR full time employees between 0 and 49 	<ul style="list-style-type: none"> Sales turnover not more than £11.2 million OR balance sheet total of not more than £5.6 million OR full time employees between 50 and 249

Table 3.10: The UK SMEs Definition in summary. *Source: DTI 2006*

Nevertheless, in practice, schemes which are nominally targeted at small firms, adopt a variety of working definitions depending on their particular objectives.

The European Commission (EC) (1996) set out a single definition of SMEs and according to the DTI (2006) the EC now applies this across all Community programmes and proposals. The directive also includes a (non-binding) recommendation to Member States, the European Investment Bank and the European Investment Fund, encouraging them to adopt the same definitions for their programmes. The directive permits them to use lower threshold figures, if desired. The DTI also added that the EC was using existing SME definitions in Community programmes and continued to use them until 31 December 1997. After this date, any modification of programmes was expected to follow the new single EU definition.

However, according to the SBS, on 6 May 2003 the EC adopted a new Recommendation 2003/361/EC regarding the SME definition. The thresholds for the number of employees remain unchanged but changes were made to the financial thresholds (SBS, 2006). SBS also stated that there were an estimated 4.3 million business enterprises in the UK at the start of 2005. This compares with an estimate of 4.0 million business enterprises in the UK at the start of 2003 (SBS, 2005), an increase of 59,000 (1.4%) on the start of 2004. This comprises both the private sector and public corporations and nationalised bodies but therefore excludes Government and non-profit organisations. According to SME Statistics for the UK in 2005 published by SBS (2006), 99.3% of these enterprises were small (0 to 49 employees). Only 27,000, 0.6%, were medium-sized (50 to 249 employees) and 6,000, equivalent to 0.1%, were large (250 or more employees).

There were an estimated 22.0 million people employed by UK enterprises at the beginning of 2005 with an approximate combined annual turnover of £2,400 billion (DTI, 2006). The SMEs together accounted for more than half of UK employment: that is 58.7%, with turnover of 51.1%. Small enterprises, defined as companies with between 0 to 49 employees, accounted for 46.8% of employment and 36.4% of turnover (DTI, 2006) (see Fig. 3.2).

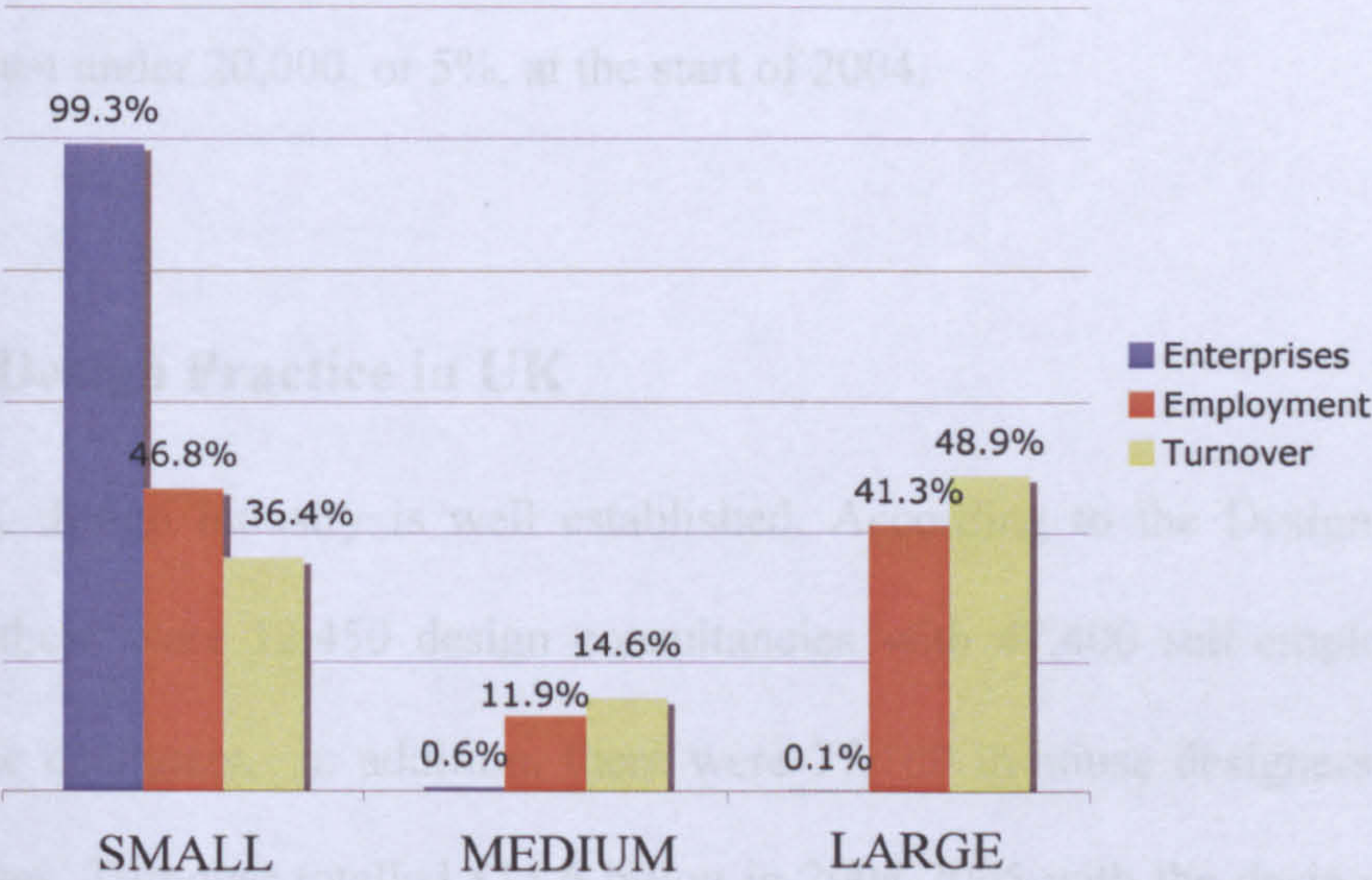


Fig 3.2. Share of Enterprises, Employment and Turnover by Size of Business in UK Private Sector Start of 2005. Source: SBS 2006.

The increase in the estimated number of enterprises in the UK from 4.0 million at the start of 2003 to 4.3 million at the start of 2005 is the largest since the collecting of statistics began in 1994. From the start of 1995 to the start of 2001, the number of enterprises was stable at 3.7 million (SBS, 2005). The increase was due to a rise of 230,000, equivalent to 13%, in the number of unregistered sole proprietorships, plus a rise of 20,000 (13%) in the number of unregistered

partnerships. The Office for National Statistics Labour Force Survey (2005) also showed an increase in the number of self-employed people in the UK during 2003. According to the Inter-Departmental Business Register (2005), the number of registered businesses rose by nearly 10,000 between the start of 2003 and the start of 2004. It was also claimed (*ibid.*), that the number of registered companies rose by more than 60,000 (7%) from 2002 to 2003, while the number of registered sole proprietorships fell by just under 40,000 (5%). The number of partnerships fell by just under 20,000, or 5%, at the start of 2004.

3.2.2 Design Practice in UK

The UK design industry is well established. According to the Design Council (2005) there were 12,450 design consultancies with 47,400 self-employed and freelance designers. In addition, there were 77,100 in-house designers in other businesses. Turnover totalled £11.6 billion in 2004-2005 with the design industry focusing mainly on branding and graphics, packaging, exhibitions and events, as well as multimedia. There were fewer agencies in engineering and product design. See Table 3.11 for a further breakdown of design disciplines in the UK.

Agencies undertaking discipline	%	Number of Companies
Branding & Graphics	70	3151
Multimedia / New Media	60	2688
Packaging	55	2453
Exhibitions & Events	53	2397
Design & Innovation Management	37	1672
Product / Industrial Design	25	1144
Broadcast, TV, Film & Video	23	1031
Interior Design	23	1051
Design Strategy	22	995
Architecture / Landscape	19	861
Designer-Maker	12	532
Engineering	11	481
Music & Entertainment	10	460
Financial / Legislative	9	425
High-End Consumerism	9	410
Prototyping	8	339
Innovation, Research, Technology	7	333
Fashion	6	285
Internal Communications	6	291
Proposition Creation	6	267
Service / Experience Design	4	187
Product Testing	3	146
Commercial IPR Exploitation	2	98

Table 3.11. The UK Design Disciplines.

(As of June 2006 BDI began a re-classification of commercial design firms to separate strategic design consultancies from design agencies from design studios. Additionally, all design disciplines were revised to take account of new skill sets emerging in service and proposition creation).

Source: The BDI Valuation Survey 2005 to 2006 (2006)

In the industrialised world, design has become a professional activity, which is a relatively recent idea (Lawson, 2006). Further to Lawson's view, Wasserman (1990) stated that design is the only remaining tool in industrial competition because it offers the facility of product differentiation. It is also claimed that UK SMEs benefited from a strong design input (Walsh et al., 1992). In addition, Blair, (1997) reminds us that Britain was once the workshop of the world and had led the Industrial Revolution. The Design Council (2007) claimed that manufacturing is the most 'design-savvy' sector, with 69% of companies thinking it worthwhile

to invest in design, compared to the UK average of 49%. In the last year, 80% of businesses claimed they had used one or more design disciplines (*ibid.*).

Drawing from the above evidence, one can see that the UK has acquired enormous experience in building up competitive, creative and strong cultural design values over many years. Britain has proven design capabilities and has invented and designed many high-value strong aesthetic and functional products for decades. The country has many world-renowned designers in the current market including James Dyson, Paul Priestman, Dick Powell, Jonathan Ive. Further to this Blair (2003) stated,

“The creativity and inventiveness of our people is our country’s greatest asset and has always underpinned the UK’s economic success”.

In today’s competitive climate many industrial countries are finding that any advantages they try to establish through their core products is quickly lost as competitors rapidly imitate or develop new innovations themselves (Cantamessa, 1999). Maintaining their competitive edge by this means is becoming increasingly fleeting hence, developed countries like the UK are looking at other strategies by which to differentiate themselves from their competitors (de Mozoto, 2003). New knowledge economies have started replacing the industrial nations.

Firm	Nationality	Sector	Closed Plant	Retained Plant	Announced
1. Courtaulds	UK	Fibres 90 employees	Grimsby	Germany	1/97
2. Fiat	Italy	Light Trucks 500 employees	Slough	Brescia	1/97
3. Hasbro	USA	Toys & Games 250 employees	Leeds	Waterford Valencia	2/97
4. Hasbro	USA	Toys & Games See above	Paddock Wood	Waterford Valencia	2/97
5. United Technologies	USA	Auto components 600 employees	Londonderry	Spain/Portugal	2/97
6. Intercare	UK	Wheelchairs 56 employees	Huddersfield	Netherlands	11/97
7. Hormel Foods	USA	Food 140 employees	Liverpool	Denmark	12/97
8. Siemens	Germany	Semiconductors 1,100 employees	North Tyneside	Dresden	8/98
9. Grove Crane	USA	Excavators 670 employees	Sunderland	Wilhelmshaven Tonneins	8/98
10. Avesta Sheffield	Sweden	Steel Plate Mill 100 employees	Sheffield	Degerfors	8/98
11. Wilkinson Sword	USA	Razor Blades 353 employees	Cramlington	Solingen	10/98
12. Volvo	Sweden	Trucks 250 employees	Irvine	Ghent Goteborg	1/99
13. Continental Tyres	Germany	Rubber 774 employees	Newbridge	Germany	8/99

Table 3.12 UK Plant Closure Involving Cross-border Selection, 1995 – 1999. Source: Watts 2001

The new economy aims to minimise the use of intensive manpower in the developed world. Shepherd *et al.*, (1985), Griffith (2001), Watts (2001) and Symeonidis (2007) all claimed that the abandonment of manufacturing sites in the UK is due to the effect of competition on wages and productivity. Examples of some plant closures in the UK are clearly seen in Table 3.12. Outsourcing of manufacturing processes outside the country and extending product value chains into other developing countries minimises the cost of labour used in the home country which in turn will increase company profitability. As the UK is a relatively high cost place to manufacture compared to China for example, UK

manufacturers now tend to compete on quality rather than on cost, which implies greater investments in design, innovation and creativity (Tether, 2005).

The UK, which is known as a pioneer nation in industrialisation, possesses a mature design sector, producing creative output. Evidence suggests that the UK has an internationally competitive design consultancy sector and a strong design education base (Cox, 2005). The value of design as a tool in supporting industrial competitiveness appears to be clear. Based on the findings from research commissioned by UK Design Council, (2004) 90% of businesses which experienced rapid growth viewed the use of design as essential to their operating success. Surveys conducted across various different sectors have concluded that a positive increase in turnover and profitability has resulted from investing in design (Roy and Potter, 1993). According to Sermon in Gornick (2006), internal design input and the establishment of in-house design facilities were important factors, since it is more difficult for design agencies to create total design strategies in organisations on an individual project basis.

The challenge of integrating design activities within an organisation is often linked to whether design can be outsourced effectively. This can take place but companies need to ensure that the process is well managed (Bessant *et al.*, 2005). Undoubtedly, in-house design within SMEs requires substantial investment, not only in design expenditure but also in terms of human resources. The major questions that have often been raised within SMEs are whether design could be

used as a strategic resource within an organisation and subsequently, whether there are barriers to using design as a strategic resource within the business? Looking at the pattern of response in the Design Council's National Survey of Firms (DCNSF) in 2004 (see Fig. 3.7), three quarters of the companies which responded claimed that design is used to develop new products and services.

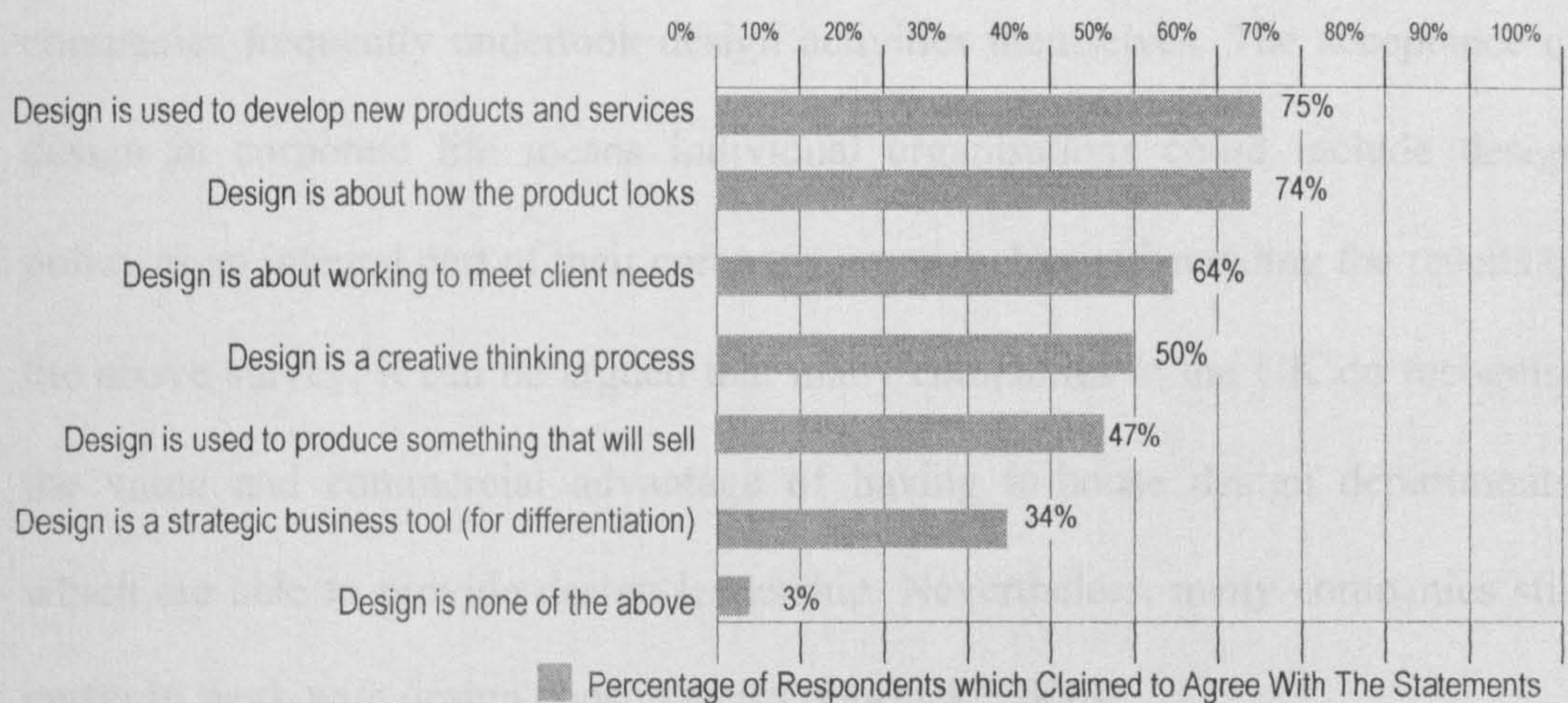


Figure 3.3. What is Design? Based on Design Council's National Survey of Firm 2004.

Source: DCNSF 2004

Similar percentages believed that design is used to develop new products or services and design is about how the products look (styling) 75% and 74% respectively. In addition, 64% claimed that design is about products working to meet client needs. Half claimed that design is a creative thinking process, whilst almost half of respondents said design is used to produce something that will sell. However, only 34% of respondents claimed that design is a strategic business tool and is often used to differentiate their products or services from their competitors. Although design is seen as important, this feedback indicates that for most businesses, design is not seen as integral to their competitiveness.

Nevertheless, in-house design will enable design thinking to contribute enormously to corporate adaptability and success. Non-design employees would ideally commit to supporting design throughout the company. As discussed in Chapter Two (section 2.3), Gorb and Dumas (1987) identified that people unaware of the phenomenon known as ‘silent design’ which they work in companies frequently undertook design activities themselves. The acceptance of design in corporate life means individual organisations could include design policy as an integral part of their company practice. Notwithstanding the results of the above survey, it can be argued that many companies in the UK do recognise the value and commercial advantage of having in-house design departments, which are able to provide design leadership. Nevertheless, many companies still prefer to work with design consultancies (Gornick, 2006).

Studies by other scholars regarding design practice in the UK (refer Table 3.13), have considered the integration of design and the effective part it plays in companies’ success. The empirical evidence that affects a company’s performance is summarised in Table 3.13. One could conclude that, despite the empirical evidence, questions remain about the effectiveness of design practice in the UK. Since the last Cox Review of Creativity in Business published in December 2005, the UK has made great strides in integrating the design process into company policy. In building a much more competitive nation, the UK Budget 2006 confirmed that design is a central tool to be used when facing increased

competition. Nevertheless, despite all the efforts by government, Kester (2006) claimed that too many UK companies spend nothing on design, which indicates that design-led planning is not part of mainstream business thinking.

“Design is good for the bottom line but with only a fraction of UK businesses investing in design, they are missing a huge opportunity”. (Alistair Darling, Secretary of State for Trade and Industry 2006).

Researcher/ Author	Year	Evidence on Role of Design
Ughanwa	1988	A survey of 138 UK firms (Queen's Award winners) indicates that effective management of design is a powerful factor in maintaining & sustaining competitiveness in manufactured products, but that design is ill-managed in British firms.
Bruce <i>et al</i>	1995	60% of 178 UK funded design projects could be defined as commercially successful (measured by positive financial returns on investment). Around half of all projects for which export information was obtained saw some international trade benefit.
Thackara	1997	Dyson has clearly shown how design can deliver uniqueness and functionality, helping a company to out-sell makers of more conventional products. This was reflected in its annual turnover, which increased thirteen-fold in just two years (1993 -1995), with turnover reaching 84 million ECU in 1996.
Roy & Riedel	1997	Statistical survey of 44 UK product development projects suggests little difference in the roles of design between the commercially most successful products and the less successful. However, in the successful projects more attention had been paid to genuine improvements in product performance, features and quality than in the loss-making projects, which tended to focus on styling or costs.
Sentence & Clark	1997	Design intensive industries and firms are much more active in export markets. They use estimates to suggest that had UK manufacturing invested one-third less in in-house design, growth rate would have been 0.3% less per year over the period 1986-1996.
Roy, Potter & Riedel	1999	Study of 42 UK firms finding statistically significant relationships between business success & various measures of long-term investment in design & innovation. The study also finds that markets where the firms operate moderate this relationship.
Gemser & Leenders	2001	They found that the impact of design on company performance was much stronger in precision instruments, where design use was immature, than in furniture where use of design was mature. They suggested that technology developments in precision instruments had started to level out, making it more imperative to find new ways for firms to differentiate.

Whyte <i>et al.</i>	2002	Found that design had a greater impact for manufacturing firms than for firms in the service sector and that manufacturers attributed more of their exports to design.
Design Council	2002	Survey of 1000 firms which focuses on the importance & role of design, design practices and design influences. It suggests that one of the greatest barriers to increased use of design, innovation and creativity in a firm is a perceived lack of relevance. Yet, 4 out of 10 firms have developed or introduced new products or services over the last 3 years. And 74% of firms rely on their customers as the main source of ideas to improve or change their businesses, products & services.
Whyte <i>et al.</i>	2002	Around half of actual export sales made by winners of the 'Queens Award for Export' (winners are chosen for their reputation and performance in exports) could be directly attributed to their investment in design.
Whyte, Salter, Gann & Davies	2003	Six Millennium Product winners' case studies suggested that successful firms are combining & integrating new capabilities with existing strengths in traditional engineering design, developing a holistic approach to design by complementing core design activities with complementary ones. These include branding, marketing, interactive websites, customer & employee feedback, integration of design & sales, customization of products, team-based working & managing external collaborations.
Design Council	2005	Surveys of UK firms that were carried out for the Design Council discovered rapidly growing companies attach much greater weight to design than average growth companies. In businesses where design is integral to strategy, 70% say that design has increased the quality of their products and services and only 21% of design-intensive firms are driven to compete primarily on price. Separate research for the Design Council (2005) showed 63 design intensive companies outperformed the FTSE by more than 200% between 1994 – 2004.
Bessant <i>et al.</i>	2005	Provided a broader overview of evidence on design and business performance. They also argue that '....there is clear evidence of the contribution and therefore potential for design to affect competitiveness'. Even with a strong correlation between design input and a firms performance, establishing clear causality is difficult.
Haskel <i>et al.</i>	2005	Using 'The Community Innovation Survey' to assesses the impact that expenditure on design has on a firm performance. These were grouped according to their productivity and turnover. Results show that more innovative firms tend to have higher growth in turnover and productivity but there appears to be no simple 'univariate' relationship between expenditure on design and performance. They also consider how expenditure on design affects the probability of innovating and productivity growth. They found that firms with higher design intensity have a greater probability of carrying out product innovation, but are not more likely to carry out process innovation.

Table 3.13 Summary of Evidence on the Role of Design in Companies. *Source: Thackara 1997, DTI Economics Paper No.15, 2005, Cox Review 2005 & Whyte, Bessant & Neely 2006.*

3.2.3 Government Incentives and Support

The UK government through the DTI is committed to helping SME to increase productivity and to enabling them to develop world-class competitiveness. This research has focused on the incentives and support to UK SME manufacturers with particular reference to supporting R&D, design and innovation. The government has recognized the importance of design to the competitiveness of manufacturing industry since the establishment of the Council of Industrial Design in 1944 (Design Council, 2006) (known as Design Council since 1970).

Through DTI and government agencies such as SBS, Business Link (BL), Regional Development Agencies (RDAs) and UK Trade & Investment (UKTI) many sources of finance, grants, initiatives and other government support are available to helping SMEs to increase (see Table 3.14). These incentives will ultimately promote best practice in design and manufacture, whilst policy and regulation provide investment opportunities to industries with legitimate interest in this area.

Grants, Funds & Loan Guarantee Schemes by SBS	Incentive Descriptions
Community Investment Tax Relief	Tax Relief of 5% per annum for individuals and corporate bodies of the amount invested in accredited Community Development Finance Institutions (CDFIs).
EU Funding for SMEs	Funding available across European Commission for the individual list of funds as listed: Agriculture & Rural, Research & Development, Education & Training, Energy, Environment &Transport, Information and Communications Technology (ICT), Investment & Loans, Access to Overseas Markets, Miscellaneous and Structural Funds.
Early Growth Funds	To encourage risk funding for start-ups and growth firms. The objective: to increase the availability of small amounts of risk capital of on average £50,000 for innovative and knowledge intensive businesses, as well as for other growth businesses.

Enterprise Capital Funds (ECFs)	<p>To increase the availability of growth capital to SMEs affected by the 'equity gap', so helping to alleviate what would otherwise remain a significant barrier to enterprise and to productivity growth. This will be achieved by:</p> <ul style="list-style-type: none"> • providing Government funding for a new investment product that encourages an increased flow of private capital into the equity gap; and • lowering the barriers to entry for entrepreneurial risk capital managers seeking to channel finance and mentoring to SMEs, so helping to foster the development of a sustainable skills base in this part of the market. <p>ECFs are allocated through the competitive process, to enable the Government to select applications that are judged to offer the best overall value for money in achieving its objectives: the bids offering the best financial terms to the Government will not necessarily be the successful ones.</p>
Facilitating Finance	Report analyses business experience and recommends possible solutions to improve SME access to external finance.
Late Payment	Late Payment of Commercial Debts (Interest) Act 1998, which gave small firms (with 50 or less employees) a statutory right to interest for the late payment of commercial debts. This statutory right to interest and other new entitlements have been available to all businesses and public sector bodies since 7 August 2002. The late payment legislation does not prevent businesses from setting, and agreeing with customers, their own terms of business including the level of interest to be charged on late payment.
Regional Venture Capital Funds (RVCFs)	RVCFs form an England-wide programme to provide risk capital finance in amounts up to £500,000 to SMEs who demonstrate growth potential. The funds, managed by experienced venture capital professionals, are commercially focused, making commercial returns.
Support for CDFIs (Community Development Finance Institutions)	CDFIs operates, for the most part, in deprived areas and make loans to both start-ups and existing businesses/social enterprises that are unable to access loans from mainstream sources such as banks. Additionally, CDFIs often have a strong link to a disadvantaged community.
Venture Capital	Informal investors, usually called 'business angels', are often wealthy individuals searching for profitable investment opportunities. Usually with business backgrounds, they are willing and able to make small-scale equity investments in SMEs. Many are also able to provide hands-on management and other expertise, which can be of benefit to a small business.
Less Taxing Tax	<p>Less Taxing Tax is a response to the O'Donnell Review of March 2004, which recommended the establishment of a new single revenue department, subsequently named HM Revenue and Customs.</p> <p>It sets out the views of small firms regarding organisational changes to the Inland Revenue, HM Customs and Excise and HM Treasury.</p>
Small Firms Loan Guarantee (SFLG)	<p>Many SMEs have viable business plans that need funding, for which a loan would be appropriate. However, some SMEs may be unable to obtain a conventional loan because they do not have assets to offer as security.</p> <p>The SFLG helps to overcome this by providing lenders with a government guarantee against default in certain circumstances.</p>

Table 3.14 Sources of Finance for Small Businesses involvement by SBS. *Source: SBS 2007*

One of the DTI major initiatives for innovation is the Grant for Research and Development. According to SBS (2007), this grant is intended to provide assistance to individuals and SMEs in England to research and develop technologically innovative products and processes. The size of the grant available varies with the type of project undertaken. This initiative has replaced the previous Smart Scheme that ended on 31st August 2003. The Smart Scheme had previously subsumed the SPUR, SMART and Regional Innovation Grant schemes. Businesses in Scotland, Wales and Northern Ireland also benefited from similar R&D grants under the Smart Scheme from individual states.

A related grant-based scheme is the Grant for Investigating an Innovative Idea, which reimburses consultancy advice. BL (2007) stated that the Grant for Research & Development is administered by nine English RDAs for the DTI. Under this scheme, there are four types of grant supporting different forms of R&D projects (see Table 3.15), which require the applicant to make their own contribution to the project costs (BL, 2007). Furthermore, the UK government has also set a target of increasing expenditure on R&D in the UK from 1.9% of gross domestic product (GDP) in 2001 to 2.5% by 2014 (DTI, 2004).

Types of Grant	Grant Description
Micro projects	A simple low-cost development project lasting no longer than 12 months. A grant of up to £20,000 is available to businesses with fewer than ten employees.
Research projects	Aim to investigate the technical and commercial feasibility of innovative technology and last 6-18 months. A grant of up to £75,000 is available to businesses with fewer than 50 employees.
Development projects	Aim to develop a pre-production prototype of a new product or process that involves a significant technological advance. Projects take 6-36 months. A grant of up to £200,000 is available to businesses with fewer than 250 employees.
Exceptional development projects	Involve a significant technological advance and are strategically important for a particular technology or industrial sector. Projects take 6-36 months. A negotiable grant of up to £500,000 is available to businesses with a qualifying project.

Table 3.15 DTI Grant for Research & Development. *Source: BL 2007*

3.2.4 The Importance of Design in Promoting the UK Brands

Most UK designs or UK brands are not new in the world market. As mentioned in this chapter, Britain led the Industrial Revolution in the 1800s. Since then, the country has designed and invented thousands of products that are used everyday. There are many designs and renowned brands that have been produced by British designers and inventors – some examples are listed in table 3.16. Although the UK has extensive experience in the design field, the importance of design in promoting UK brands has not been neglected. UK government has consistently encouraged SMEs to be more competitive as the uncertainties of today’s global economies demand greater competitiveness. According to the DTI (2005a), the effective use of design activity by firms will enhance competitiveness, marketing, company image and create brand loyalty. Brown (2005) also added that British

business could compete with China’s low cost economies only by adding value through design and innovation. He stressed the need to;

“Make the difference between prosperity and falling behind” (Chancellor of the Exchequer, Gordon Brown, 2005).

Product	Brand Name	Year Produced
Bicycle	Raleigh Chopper	1970
High Speed Train	Virgin Train	1997
Moulded Polypropylene Chair	Hille International	1960
Vacuum Cleaner	Dyson DC01	1993
Sport Shoe	Reebok	1958
Headwear	Kangol	1938
Tableware & Collectables	Royal Doulton	1815
Outdoor Kit	Karrimor	1946

Table 3.16. ‘Example of the UK established Design & Brands’

Leonhardt and Faust, (2001) stated that as brands include many intangible elements, therefore design exists to create a new form of meaningful and tangible “brand touch-points”. For this reason, they claimed that design becomes an insignificant tool in building a brand. However, in today’s challenging market, creating a dynamic and well-known brand requires a thoughtful combination of design and strategy (Press and Cooper; 2003, Bruce and Bessant, 2002 and Roy *et al.* 1992). Siemens UK brand marketing manager also claimed that the most essential tools in today’s mobile phone competition for 2.5G and 3G-market share are design and brand (Robinson, 2005). Similarly, studies that have been undertaken on the mobile phone market in Korea also noted that mobile phone users look at design rather than price when purchasing a new handset (SK Teletech, 2004). If we look at James Dyson’s invention of the bagless vacuum

cleaner, its superior design and technology explains its popularity over other brands, even though the Dyson vacuum cleaner costs more than twice as much as most rival models and brands (Carney, 2005). Stompff (2003) claims that products and brands have an irrational, emotional appeal and it is possible to manipulate this appeal to design products that will contribute toward a desired brand image.

The importance of design in promoting an individual brand is clear, since design is a key element in determining the brand. For some, brands are products that serve a functional purpose for example, Dr. Martens boots were designed to be durable, functional, and tough. The footwear was originally developed for British workers such as dockers, police and postal workers, but Dr. Martens has developed into an expensive shoe brand today (UK Superbrands, 2006). Nevertheless, not all products are brands (Jones & Slater, 2003).

According to British Design Innovation (BDI, 2003), The Identica Partnership commissioned research among British industry's leaders with regard to the brand and design, and published 'The Power of The Brand' report. Almost two hundred UK industry leaders across the country participated in interviews conducted by MORI (a research company). Despite being the pioneer in industrialization and now moving towards post-industrialisation, British industry leaders, whilst realising the importance of branding seem unprepared to make the necessary investment in design (BDI, 2003). In addition, the industry leaders admitted that

quality of management is essential to the company's success, but only some say the same about their brand. It would seem that many businesses simply under invest in design initiatives and fail to reap the rewards (New Sector, 2003; Anon., 2003/04). The statistical result of the report is summarised below (see Fig. 3.4).

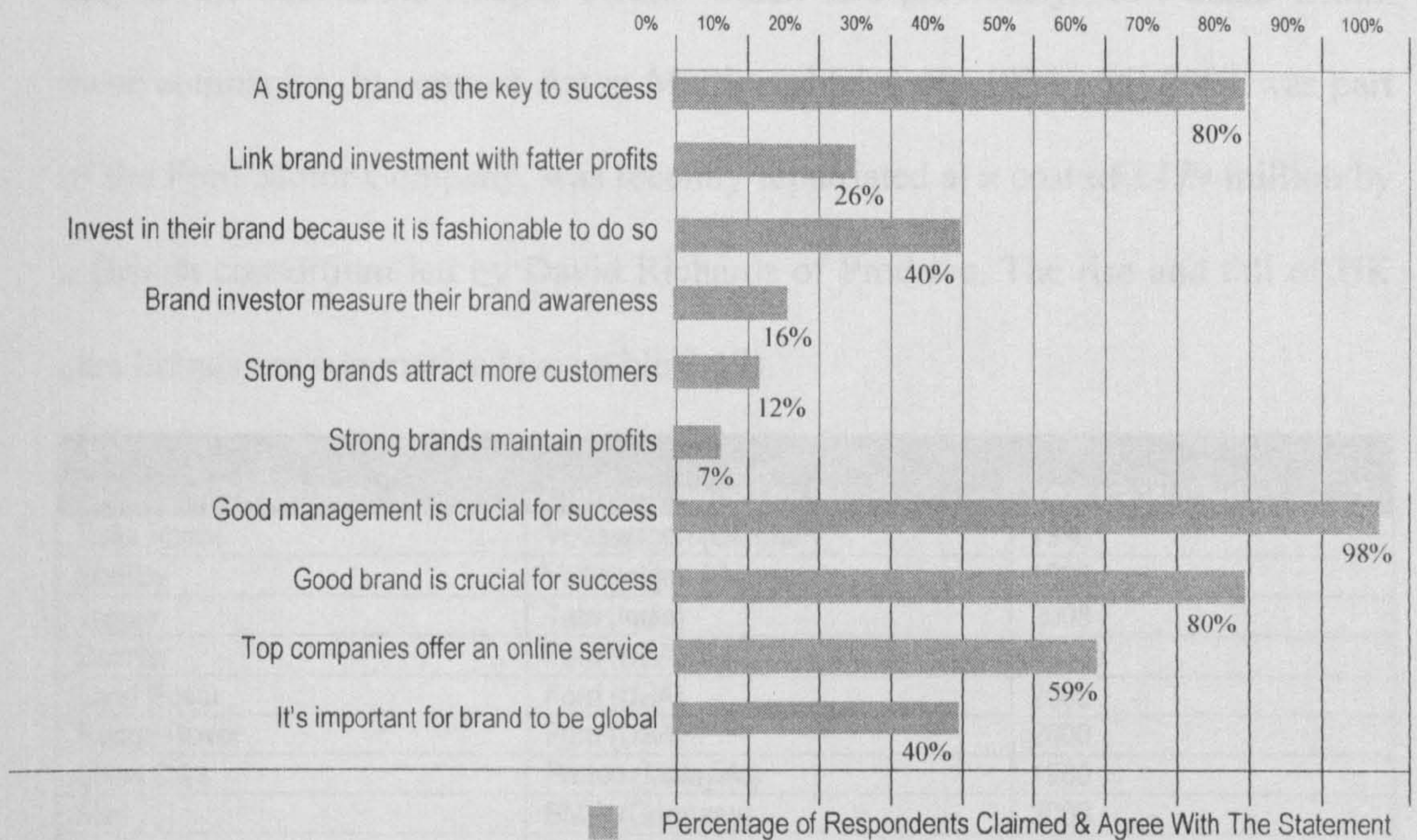


Figure 3.4. 'The Power of The Brand'. Identica Partnership Commissions Research 2003.

Source: MORI, 2003/BDI, 2003

3.2.5 UK Brands

In today's modern world, branding has a significant impact on consumer lifestyle. Future brands will evolve from complex interactions among consumers, culture, and technology. Companies are aware of the need to go global. BDI (2003) claimed that less than half of the top one hundred UK brands is currently British-based and the rest of the top UK brands are managed or owned by foreign

companies. Since UK SME brands are not generally known internationally, reference is made below to larger UK company brands enjoying global recognition. For example, the downturn in the UK-owned automotive industry has led to a major battle for survival. Unfortunately, UK automotive brands such as Rolls-Royce, Jaguar, Rover and Bentley fell into the hands of foreign owners despite the substantial merger efforts which had previously been made within these companies. In contrast Aston Martin, which from 1994 until 2007 was part of the Ford Motor Company, was recently repatriated at a cost of £479 million by a British consortium led by David Richards of Prodrive. The rise and fall of UK cars brands are summarized (see table 3.17).

UK Automotive Brands	Currently owned by (origin)	Year transferred
Rolls-Royce	Volkswagen (Germany)	1998
Bentley	Volkswagen (Germany)	1998
Jaguar	Tata (India)	2008
Daimler	Ford (USA)	1990s
Land Rover	Ford (USA)	2000
Range Rover	Ford (USA)	2000
Lotus Cars	Proton (Malaysia)	1960
Mini	BMW (Germany)	2000
Rover	Ford (USA)	2000
MG Rover	Chinese Nanjing (China)	2005
Triumph	BMW (Germany)	2000
TVR	Remain UK brand but own by a Russian	2004
Aston Martin	Ford (USA)	1994-2007 (recently purchased by British)
Lanchester	-	1955 (ended)
Morris	-	1984 (ended)
Austin	-	1994 (ended)

Table 3.17. The Fall of The UK Automotive Brands.
Source: BLMC, 2006, TVR 2007 Roll-Royce 2007& Bentley 2007

A similar situation has also happened to other established UK brands such as Reebok sports shoes which since January 2006 has been owned by Adidas Group

(German origin), The Body Shop was taken over by L'Oreal (French origin) in July 2006 and Laura Ashley has been owned by Mui Asia Limited (Malaysian origin) since 1998.

As mentioned earlier in this chapter, the shift of manufacturing plants from the UK to other parts of the world such as the Far East, caused a major drop in employment opportunities for Britain. Some top UK brands that have moved their manufacturing plants include Clark's shoes to Thailand, Raleigh bicycles to China and Taiwan, Royal Doulton tableware to Indonesia and Dyson vacuum cleaners to Malaysia. The positive outcome of Dyson's move to Malaysia has been a remarkable increase in turnover as the cost of production has been drastically reduced. This revenue has allowed Dyson to employ an extra hundred people in the UK for more rewarding and valuable work developing new products in his R&D centre. Furthermore, Dyson has been able to offset higher Corporation Tax liabilities by setting up a lower cost production centre in Malmesbury.

Going global appears highly attractive and is perceived as an excellent result in a company. Nevertheless, the challenges are great: companies could embrace global brand scale and the same time appeal to a local market. A strong brand could be an extremely powerful influence in customer purchasing decisions (Interbrand, 2007). In the recent 'Best Global Brands 2006' award, a brand value ranking by Interbrand and BusinessWeek, only five UK brands were nominated for the top

one hundred brands in the world. 'HSBC' was number 28 in the financial services sectors, 'BP' ranked number 76 in the energy sector, 'Reuters' was placed number 78 in the media/entertainment sector, 'Smirnoff' reached number 93 in the alcohol sector and lastly 'Burberry' at number 98 in luxury fashion & accessories (Interbrand, 2007). From the results it can be seen that two out of five are manufacturing products and beverages, the rest are in the service sector. It is a much bigger challenge for the UK industry to create and sustain strong brands in today's competitive market. When it comes to brand value, it would appear that UK brands have failed to compete with European brands in countries such as Germany, France, Switzerland and Finland.

Today's trend has been the migration of prosperous businesses from industrialised nations like the US or the UK as they move towards a post-industrial society. Evidence of this is the movement of manufacturing to more economical locations through a process of off-shoring to the Far East in countries like China, Taiwan, Thailand, Malaysia, and Indonesia. The main issue now is whether UK products will continue to be designed in the UK or whether this part of manufacturing will also move overseas. Will UK design remain competitive as greater challenges come from many smaller European nations as well as Asian countries such as China, South Korea, Taiwan and India? The power of design to differentiate products in crowded markets, combined with consistent high quality, could inspire genuine customer loyalty.

3.3 Cultural Differences in Design Practice within the Two Countries

The history of design in Malaysia is relatively brief compared with other developing countries that have longer experience. In the earlier discussions, Malaysia first became exposed to design during the British occupation. The appreciation of art values among Malaysian is very much more on ‘art and crafts’ rather than ‘art and design’. In comparison, design awareness has been embedded into British society for over two hundred years (Walker, 1989). The British people tend to appreciate and value ‘art and design’ at a different level.

One of the major cultural differences appears to be the Malaysian lack of public design awareness, particularly amongst manufacturers. Despite its lack of exposure to design, Malaysia can be proud of its industrial achievement. It is assumed that an increase in design awareness and knowledge would further enhance Malaysian products and brands in the global market. Specific exposure to design through the design and technology (D&T) module was only embedded as a design curriculum in 1996 (MOE, 2000). This was originally only intended for the secondary school level. The primary level only benefited from this module in 2003 (MOE, 2005). A drawing module had been long established in the National Curriculum, but a modification was required to meet the needs of the country’s Vision 2020 to be an industrialised nation. The revamp of the education system was to make certain that the emphasis was on technical and vocational systems to

establish specialised industrial training. Future generations need to be equipped, not only with visualisation skills, but also with creativity and competitive knowledge in design and technology.

Lack of design awareness meant that many Malaysian business people are not willing to invest in design. Many Asian/Malaysian business people instead focus on short-term profit (Temporal, 2001) and are not able to embrace design possibilities, even though they can represent a business imperative. It is human nature; no one likes spending money if they don't have to and therefore many companies are reluctant to invest in design as they feel it is unnecessary. Lack of design awareness also drives Malaysian SMEs to perceive design as being only about product aesthetics and appearance. In contrast, UK people are well exposed to, and knowledgeable about, design. The creativity and design capability of the British people is well established all over the world. Design started in England with the Industrial Revolution in the mid 1800's (Papanek, 1985). Blair (2002) commented that,

“Good design is not simply about aesthetics or making a product easier to use. It's a central part of the business process, adding value to products and services and creating new markets”.

It follows from the above that good design may have a direct effect on how consumer needs are fulfilled. In fact, design not only serves the consumer, but also communicates design philosophy and differences. Through design therefore,

designer may broaden their ideas and take decisions on how to project future products as well the company itself. Crowley (2002) stated that;

“Design is not an add-on, but ground level, base station thinking”. (Peter Crowley-Palmer, Principal Designer, Land Rover Group).

However, even with such experience, Britain has still been negatively compared to smaller European countries such as Holland and Sweden, which are renowned for their well-known international products: companies such as Philips, Electrolux, SKF, Volvo and Saab (Owen in Gorb, 1990).

Malaysian manufacturers are expected to make efforts to ensure the effective use of design for their industries. This needs to start with senior management. The realisation of the significance of design and the benefits it can bring to companies and the nation is vital. Moreover, with the pressure from the government to design and produce home-grown high quality consumer products, manufacturers, particularly SMEs, have to act extremely quickly. At a very fundamental level, the Malaysian education curriculum, as mentioned in this chapter, also requires a major revision. This could be done in various ways to ensure that creative ability is nurtured throughout the entire curriculum in the most effective way. With changes taking place from the ground level, it is hoped that in the near future, appreciation of art and design amongst the Malaysian public and manufacturers will be much improved. This may also provide a positive impact on the social aspects of environment and lifestyle.

3.4 Chapter Summary

This chapter reviewed the position and role of SMEs in Malaysia and the UK. It is clear that in comparison with Britain, the design capability of Malaysian SMEs is in its infancy. However, with the rapid development that Malaysia is currently experiencing, there are many aspects of SMEs and their design practice that can be improved to meet government expectations. The support and incentives provided by the two governments have been discussed. The way forward to improve design capabilities in manufacturing in Malaysia will require participation from government, industry, the education institutions and the community itself. The SMEs' barriers to progress highlighted earlier are worth reviewing and overcoming.

The importance of design in promoting brands and their country of the origin was also discussed. It is important for Malaysia to be recognized in the world market as a competitive player today. Without the branding positioning that was masterminded by the former Prime Minister, Mahathir Mohamed when he initiated major projects in Malaysia, the country of origins probably would not be known to the world for what it is today (Lim, 2003). As for the UK, the use of design in promoting British design and invention has been known to the world for centuries. However, concern over declining investment in design by British manufacturing industries has become a major consideration for the UK government.

Established Malaysian brands are mainly those products that have been initiated by the government and larger companies. SMEs are capable of developing and widely promoting their own brands in the area of food and beverages, agriculture or agro-based products, fabrics and textiles. However there are some SMEs that produce unfinished products as suppliers to larger companies. For instance the Malaysian furniture industry has mass-produced items for the export market but the furniture has nevertheless been marketed as a foreign brand. The UK brands highlighted in this chapter have revealed the rise and fall of the UK automotive industry amongst others. In addition, the shift towards a post-industrial economy appears to lead manufacturing industries into decline due to economic factors, which include the development of replacement technology or the loss of competitive advantage.

Lastly, the aspect of cultural differences in design has also been considered in this chapter. Comparisons in this section related mainly to design awareness. As the history of design in Malaysia is rather short it is perhaps not possible to debate the advantages the UK people have acquired by having design as part of their culture. Nevertheless, to ensure that Malaysia continues to compete in today's global market, the government will certainly have to enforce policy implementation to raise design awareness and recommended to make every effort to ensure Malaysian industry embraces design. Malaysia can also learn from the neighbouring country of Singapore, where economic restructuring has not been so much market-driven, as largely government-directed (Chia, 2005) and forcefully

led by strong willed, top quality government leaders (Batey, 2002). If the Malaysian government plays a predominant role and is transparent with its implementation of policies, a positive improvement in Malaysia's overall development could be seen in the near future.

Chapter 4

Research Design and Methodology

4 Research Design and Methodology

4.1 Introduction

This chapter describes the research design and methodology used in this study. The approach chosen was intended to expand and achieve the research activities and objectives. The discussion starts with the introduction, followed by clarification of the research aims.

The research questions are established and examined on the issues that contributed to each question. Throughout this research, three phases of data collection were used. These phases provide guidelines to establish the methods for data collections. Therefore, a mixture of methods was implemented, namely quantitative (via questionnaires) and qualitative (via interviews). The rationale for the use of both methods is also discussed. Since the Voice over Internet Protocol - Stunt (VoIP-Stunt) programme used for the interviews is relatively new, it is examined for its advantages, disadvantages and appropriateness in data collection. The discussions also look into the issues raised from the pilot study to improve the development of the final questionnaires.

Perceptions expressed by participants contributed the most in providing data for this research. The chapter continues with a discussion on ethical issues and procedures before concluding with the summary.

4.2 The Research Aims

The aims of this research are fourfold;

- To identify factors that can be taken as a basis for explaining the success of brand development in selected SMEs in the UK.
- To investigate within the selected SMEs, the specific role of design in the development of brands in Malaysia, and the use of design by SMEs.
- To develop case studies in selected SMEs in relation to the role of design in creating Malaysian brands.
- To propose a model that can be used as a reference for best design practice in the selected SME manufacturing sector.

The overall objectives of this study are to examine, compare and contrast design practices between selected UK and Malaysian SMEs in the manufacturing sector.

4.3 The Research Questions

This research was designed to gather information and perceptions of design practice within the two countries to allow comparisons to be made as to how design has been utilised in selected manufacturing SMEs. It was necessary to elaborate further the research questions and follow up the progress made during the initial MPhil study and literature reviews. Five major questions were addressed in this research; these were placed in five sub-sections in the questionnaire design (refer Appendix 1), as follows.

Firstly, *what identifies design best practice in successful brands in Malaysia?*

This question was intended to establish an understanding of the extent to which manufacturing industry embraces design in producing individual products. In addition, the creation of successful brands requires the total customer experience of design to be taken into account by the company. Cuffaro, Vogel and Matt stated that;

“Although the company may have enabled a good industrial design and engineering process, it may have failed to consider the total customer experience” (Cuffaro, Vogel & Matt, 2002).

The above statement indicates that although a company may have a well-thought out design and a well-engineered product, nevertheless customer views on final usefulness of the product, quality, performance and value were not considered as priority. Therefore, further information is needed, such as customer awareness, ownership and their communication with the products that may contribute to such best practice in design. This question may provide information and identification of factors concerning best practice in design, particularly in Malaysian manufacturing industry.

Secondly, it was important to know *what was the level of understanding among corporate managers who were surveyed of the role of design in their company growth?* According to Roy *et. al* (1986), managers who understood design benefits, recognised design as a valuable advantage contributing to future company performance. However, as design in Malaysia has only recently been recognised, it was important to discover to what extent senior management

understands and is committed to give design a high profile in their company. Understanding this is an important element in this research as senior managers are key strategic decision makers in SMEs. The answers would establish the positive and negative perspectives that contribute to a company's understanding and commitment towards the role of design. This will be compared with results of the survey conducted by the UK Design Council (2003), in which 90% of UK SMEs said that design was integral to their operation and had a significant role to play.

Thirdly, *how does design play a role in modelling the future of the company?*

Walsh (1995) stated that design has demonstrated its impact on companies' and nations' performance. She suggests that design plays a major role in improving a company's achievement. For example, Malaysian government support for business and industry in Research and Development (R&D) has resulted in some companies having their own R&D facility. It is important to know whether the participants' perception was either parallel to, or in contrast with, the government's approach in promoting the role of design in within manufacturing companies. Therefore, the question may provide information concerning the factors that influenced the company's decision to have their own R&D. Furthermore, the extent to which the design consultant services are used and the existence of imitation and bad practices in companies may also be discovered.

Fourthly, the research intends to identify the influence of design in supporting the promotion of the brand rather than depending only on marketing strategies.

Further to this, the key question raised was, *how does design elevate a brand to evolve?* Walsh *et al.* (1992) stated that design is important to a company's success; it builds brand awareness, increases the perceived value of that brand's products and strengthens customer loyalty. One would expect participants to demonstrate differences in opinion and perception. The research is looking for the factors that influence those perceptions, which may include a participant's status in the company or his background experience in either business or design.

The last question addressed in this research was *how design capability influences Malaysian SME brands?* This question required an in-depth evaluation of the findings from Malaysian participants. In addressing this, the main concern was to encourage frank discussion of issues raised, even if this involved them revealing sensitive commercial information. Here, the intention was to seek differences in the way the managers of these SMEs perceived design in their management and business approach. Furthermore, the findings may reveal the factors influencing their views such as their position in the company or their past experiences in the manufacturing or design industry. Therefore the extensive literature review was conducted in order to establish a strong basis for achieving a critical analysis of the findings in this research.

4.4 The Research Hypotheses

Five hypotheses are postulated and the research is structured in such a way as to enable the hypotheses to be tested. According to Weisberg *et.al.* (1996), a

hypothesis is a statement that may be debated and is necessary in research to help understand how statements can be investigated. The need for hypotheses is to highlight the important issues or points that are worth investigating. Holt (1997) suggested that the hypothesis can be a phenomenon either accepted as a basis for further verification or, accepted as likely to be true or may be rejected.

In relation to this study, the hypotheses were developed based on personal experiences, literature review and observations of designers and manufacturers discussions. In total, five hypotheses were developed as follows:

Hypothesis 1:

The understanding of design among corporate managers provides a valuable advantage, contributing to future company performance.

Hypothesis 2:

Design plays a role in modelling the future of the company in Malaysia.

Hypothesis 3:

Design elevates a brand to evolve, in particular among Malaysian SMEs manufacturing products.

Hypothesis 4:

Design has a capability in influencing the Malaysia SMEs brands.

Hypothesis 5:

A good design practice aids Malaysian SMEs in creating successful brands.

The main concern of this study therefore, is to understand the importance of design and its role in creating successful brands particularly among Malaysia SMEs. The method and activities undertaken in this study are expected to establish and extend the knowledge base for design practice in Malaysia SMEs.

4.6 The Research Approaches

Quantitative and qualitative methods provide two “distinctive clusters” of research strategy for social science research (Bryman, 2004). The quantitative approach is used as a research strategy that emphasizes quantification whereas qualitative methods usually emphasise the views rather than quantifications (Bryman, 2004; Creswell, 2003; Oppenheim, 1992). The approach was divided into three phases according to the aims; each phase determined the data collection techniques and methods employed as they have its own strengths and appropriate in different situations. For this reason, both quantitative and qualitative methods were used.

Quantitative methods were adopted in this study since the data obtained tend to be systematic, standardised and easily presented. In addition the quantitative approach has the advantage of being concise, ‘parsimonious’ and easily aggregated for analysis purposes (Creswell 2003). The survey questionnaires employed in the first two phases investigated the use and specific role of design in the development of brands in the selected Malaysian SMEs. They also aimed to identify factors that can be taken as a basis for explaining the success of brand development in selected SMEs in the UK. Further explanation is made in the Data Collection Methods (section 4.7).

Qualitative methods were employed as it can reveal what may lie behind a phenomenon that is difficult to articulate quantitatively. According to Bryman

(2004), the qualitative method is based on participants' understanding of the social world and the researcher's assessment of the interpretation of that world. It also looks at outcomes of interactions between individuals (*ibid.*). Oppenheim (2003) stated that there is an advantage in terms of the research objectives if the interviewer can convincingly explain the purpose of the study in a structured verbal manner rather than in a letter. In addition, the qualitative method can prevent many misunderstandings as the interviewer can provide an explanation of certain problems or points which may arise.

Robson (2000) explained that interviews offer the opportunity to modify a line of enquiry, follow up interesting responses and explore fundamental motives in a way that postal and other self-administered questionnaires cannot. Rich descriptive reports are unlikely to result from quantitative methods. Miles and Huberman (1994) say that qualitative data has a strong capability to reveal complexity. This can provide substantial descriptions, well grounded in an actual situation and the possibility of a truth that may lead to some significant impact on the reader. Perhaps most importantly to the processes of study and future research, qualitative data may be used to supplement, validate, explain, illuminate or reinterpret quantitative data gathered from the same setting.

Therefore, for the third phase of data collection, a series of in-depth interviews was used to investigate further the role of design in creating Malaysian brands in the selected Malaysia manufacturing industries. The data obtained is needed to

determine the perception and view held within individual firms of the roles of design and practice which are the subject of this research and discussed further in the next chapter.

4.7 Sampling

Before the activities of data collection (questionnaire survey and interviewing) and data analysis (quantitative statistical data and qualitative data coding) can be discussed, the focus needs to turn to the sampling methods used in this study. Denscombe (2007) claimed that for social science research, the researcher can use two kinds of sampling, namely; 1) Probability sampling and 2) Non-probability sampling. Where the sample chosen is sufficiently large in number that it can be used to represent a cross-section of people or events, or where the whole population is being studied, it is known as probability sampling. The sample for probability sampling can be selected randomly from the population. For non-probability sampling, the sample chosen may not represent the overall population and is definitely not a random selection but may represent a group of people or events (*ibid.*).

In this study both sampling methods were used but at different stages. Probability sampling was considered appropriate and adopted as a basis for selecting the sample in the initial stage of the questionnaire survey (Phase one and two). The selections were randomly made based on the related directory (BDI, SBS, SMIDEC) that allowed the resulting sample to provide a “representative cross-

section and generalization of the whole participant views and perceptions” (Robson, 1993). For phase three of this study, non-probability sampling was used to ensure the effectiveness of data collection. Using this sampling method made it possible to concentrate on the specific issues that were also investigated within the case studies. In addition, an overview of the design practice population and potential issues were identified for use in this study. The chosen sample was then closely examined in order to eliminate any potential sources of bias.

4.7.1 Population overview

For the purposes of this study it was decided to focus on design practices in the SME manufacturing sector. Design consultancies providing services to manufacturers were added to complement the investigation. The main population group was manufacturers equipped with in-house design facilities who were undertaking design activities within organisations which are mostly responsible for potential brands excluding those manufacturers that are OEM companies. Design consultancies specialising in providing industrial and engineering design services to manufacturers were also included in the population for this study.

4.7.2 Purposive Sampling for In-depth Interviews and Case Studies

Purposive sampling was adopted for this study in order to select participants for in-depth interviews and case studies. According to Denscombe (2007), using this sampling method, the sample is ‘hand picked’ with a view to eliciting data that is

the most valuable for the research, particularly on the specific instances or issues. Further explanation by Robson (2000) stated that the sample chosen should include as wide a variety of participants as possible and may even need to focus on extreme cases in order for the researcher to satisfy the specific needs of the research.

Therefore for the interviews and case studies in this research, the selection of particular individuals, designated groups and SME sectors are expected to provide a broad insight into design practice. The samples selected for both countries, Malaysia and the UK can not only be described as depicting participant perception, but can also be used to suggest design best practice for Malaysian SMEs.

4.8 Data Collection Methods

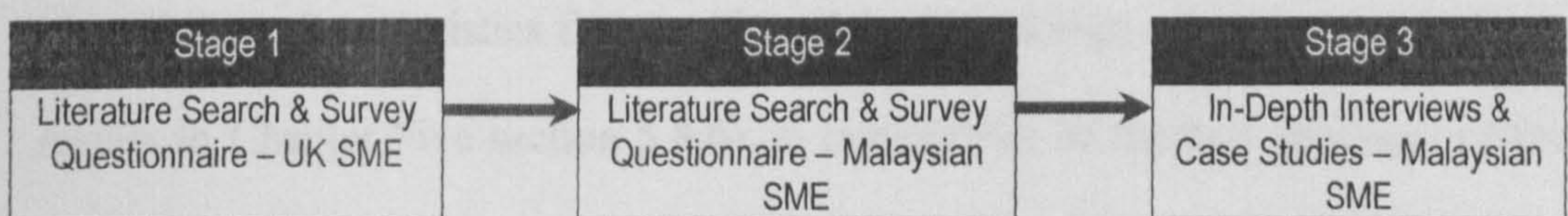


Figure 4.2: Stages of Data Collection

To accomplish the targeted four research aims stated in section 4.2 of this chapter, each of the procedures was used to compare and contrast design practice between the selected UK and Malaysian SME manufacturing sectors. These procedures were adopted in three stages of data collection (see figure 4.2):

- Stage 1: Literature and Survey questionnaire – UK SME

- Stage 2: Literature and Survey questionnaire – Malaysian SME
- Stage 3: In depth interviews and case studies – Malaysian SME

Stage I: Literature Review And Survey Questionnaire (The UK SMEs)

In the first stage of data collection, literature reviews were carried out in order to obtain information regarding design practice and brand development in the UK SME manufacturing sector. The large amount of literature on UK SMEs provided sufficient information for the initial analysis. Following this, survey questionnaires were distributed to selected UK SMEs. This survey was conducted to corroborate the knowledge gained concerning design and its related roles, practices and implementation.

The aim is to identify factors that can be taken as a basis for explaining the success of brand development in selected SMEs in the UK. The study looked at current best practices in participating UK SMEs and analysed these companies to identify key characteristics that could explain their design achievements (refer to results in Chapter Five section 5.8.6). A comparison of the best practices of the selected SMEs in the two countries was then made and an investigation was undertaken into how their business strategy affected their design practices.

Stage II: Literature Review and Survey Questionnaires (Malaysian SMEs)

The second stage of data collection involved an additional review focusing primarily on Malaysian literature, alongside the distribution of survey

questionnaires to selected Malaysian SMEs. The research questions raised in phase one were included and tested in both of the survey questionnaires for UK and Malaysian SMEs. The questionnaire aimed to discover the use of design and designers by selected SMEs and the specific role of design in the development of brands in Malaysia. The survey was conducted to gain information regarding Malaysian SMEs manufacturers' perception on the role of design, its influences and current design practices. This survey also looked into the relationship between SMEs and design consultancies in respect of brand development. This survey involved managing directors, marketing managers, design managers, and designers in selected SMEs.

Stage III: In-depth Interviews and Case Studies (Malaysian SMEs)

In the third stage, in-depth interviews were conducted with representative staff from several selected manufacturing SMEs and design consultants in Malaysia. Some of these were subsequently used for the later case studies. There were nine SMEs in three categories: three medium, three small, and three micro size companies. For comparative purposes, interviews were also held with three SMEs that were not involved in the Malaysia Good Design Mark awards. This allowed comparison of design usage within the corresponding firms. The in-depth interviews formed the basis for case studies in relation to the role of design in creating Malaysian brands. The study looked for similarities and differences in design practices that might affect brand development. For this reason, criteria were set in selecting the manufacturing SMEs for the case studies. Four

manufacturing SMEs were selected, two of which had been awarded the Malaysia GDM whilst the other two had not been involved in the award process. Based on these criteria, useful information concerning design was obtained from the different approaches to the management of design in those companies.

4.8.1 Literature Review

The literature search forms an important part of the interdisciplinary research strategy to create a focus for the study. According to Bryman (2004), the literature search and review allows the work of previous authors to be evaluated. Walsh *et. al.* (1992), Press and Cooper, (1995 & 2003), Jones and Slater (2003) and Trueman and Jaaffa (1998, 1999, 2003) dealt with the issues of design, design practice and branding in SMEs. The literature was used to monitor previous and latest developments and to re-evaluate current issues in these fields, both in Malaysia and the UK. The literature was reviewed with the emphasis on design and innovation in manufacturing sectors - including design management focused on branding and marketing - as well as on design and engineering.

The study of the above topics revealed that published literature regarding design and design practice in Malaysia is very limited compared with that available in the UK. As described by Hart (2001), the literature search will assist the researcher to identify, monitor, administer and strengthen the understanding of issues related to the research topic as shown in Table 4.1.

Purpose of Literature
Help in identifying relevant work that has been published or is in progress.
Avoid any research duplication.
Previous researchers' weaknesses could be minimised or further enhance.
Strengthen the research methodology to enable the best technique and most suitable data collection to be adopted.

Table 4.1; The need for literature in the research. *Source: Adaptation from Hart (2001).*

In addition to the benefits detailed above, Mc Neill (1990) indicates that these reviews make a useful contribution to the main body of knowledge in any published research. As the literature review continued throughout the research process, it enriched the data collection, assisted in the identification of the issues, contributed to the case studies and to the researcher's evaluation of the materials.

4.8.2 Questionnaire Design and Survey

In the first two phases of this research, quantitative methods were used and considered to be the most appropriate for obtaining the necessary data. A substantial amount of pre-specification preparation, involving the research design, was needed before a survey is finalised (Robson 2002). A questionnaire was designed employing both closed and open questions that required further refining following a pilot study. The survey questionnaire themes were identified from the literature, and subsequently refined in discussion with both supervisors and peers

before a final format was decided on. The first set of questions was sent to ten participants from each country to test the questionnaire items. The feedback received showed that the questions needed to be modified to suit both the SMEs and the design consultants. This modification was to enable the questions to focus on the individual industry (SME and design consultant), which eventually would produce the same outcome. The final selection of questions was adapted for use by both Malaysian and the UK participants.

Closed questions were used in the questionnaires to get participants' perceptions of the role of design, the level of understanding, different design cultures as well information on the management approach and awareness. However, one weakness of closed questions is that there may be an element of bias in persuading participants to choose a structured answer rather than to provide their own answers. Questions were structured to avoid ambiguity and to eliminate bias that might make the survey results unbalanced or incomplete. Open questions were used to obtain participants' views on the role played by the Malaysian Government and its agencies in expanding design awareness and the extent to which design capability influences Malaysian SME brands. Initial contact with potential participants was made by telephone to introduce the research and to determine the appropriate individuals to approach to take part in this survey. Many of the participants were from senior management who were keen to participate.

Advantages of email or online methods
low cost of data collection; there is evidence that email surveys are cheaper than postal questionnaires.
faster response; online or email surveys tend to be returned considerably faster than postal questionnaires.
attractive formats; there is the opportunity to use a wider variety of stylistic formats for presenting questionnaires.
mixed administration; respondents have the option of replying by post or online.
unrestricted compass; no limitation in terms of geographical coverage.
fewer unanswered questions; there is evidence that online questionnaires are completed with fewer unanswered questions than postal questionnaires, resulting in less missing data.
better response to open questions; these are more likely to be answered online and to result in more detailed replies.

Table 4.2; Advantages of email or online methods. *Source: Adaptation from Bryman (2004).*

Email was used as these questionnaire surveys were mainly conducted at a distance, with the participants in Malaysia and the researcher in the UK. Although there are many methods of data collection in social research (Oppenheim, 2003), the main advantages of this email or online method as described by Bryman (2004) are shown in Table 4.2. Bryman (2004) also raised the disadvantages or drawbacks of email or online surveys as detailed in Table 4.3

Disadvantages of email or online methods

low response rate; response rates to online surveys are lower than those for comparable postal questionnaire surveys. Whilst the author's view in this respect was accurate the time of his research, email has become more widespread in recent years and is frequently a first choice in communication.

restricted to online population; only people who are available online can reasonably be expected to participate in an online/email survey. This issue was overcome by asking participants to choose whether to receive the questionnaire via email or via surface mail.

requires motivation; if the respondents are having to pay for the connection and perhaps are tying up their telephone lines, they may need a higher level of motivation than postal questionnaire respondents. However, currently among UK SMEs, the introduction of fixed cost, unlimited use, broadband connection has largely resolved this issue. On the other hand, in Malaysia there is a minority of participants that still use a dial up connection instead of broadband. However this issue does not prevent them from accessing the email survey attachment, as it was compressed to reduce file size.

confidentiality and anonymity issues; with email surveys, since the recipient must return the questionnaire either embedded within the message or as an attachment, respondents may find it difficult to believe that their replies really are confidential and are to be treated anonymously. Bryman (2004) also claimed that web surveys may have an advantage over email surveys. However, assurances were given to participants in respect of these ethical issues.

multiple replies; there is a risk that some people may mischievously complete the questionnaire more than once but there is much less risk of this with an email survey.

Table 4.3; Disadvantages of email or online methods. *Source: Adaptation from Bryman (2004).*

In conclusion, these disadvantages associated with the email survey method have mainly been overcome by the use of more modern technology such as high-speed broadband connection, supported by guarantees regarding confidentiality. The data gained from this survey contributed to the formation of in-depth interview questions for the case study.

4.8.2.1 Pilot Study for Questionnaire Surveys

Pilot studies were carried out in order to ensure consistency in the research procedure. Graziano & Raulin (1997) and Robson (2000) make the point that such pilot studies help to reduce any errors or weaknesses in the research methods. Furthermore, pilot studies aim to substantiate the relevance and feasibility of the methods chosen. To assist in the refinement of questions and procedure in the survey, pilot studies were carried out on a small scale and distributed to ten UK and ten Malaysian participants. The pilot study helped to narrow down particular areas that were unclear and provide information for the final shape of the survey questionnaire.

Pilot's Feedback Consideration	The length of time taken to complete the questionnaire
	Clarity of the instructions/questions
	Unclear or confused questions
	Any hesitation in answering any questions
	Has there been any omission of any major issue
	The suitability of the layout
	Other comments

Table 4.4; Pilot Study Feedback consideration from the pilot study. *Source: Adaptation from Oppenheim (2003).*

According to Bryman (2004), Oppenheim (2003), Creswell (2003), Fink (2003) and Graziano & Raulin (1997) there is no fixed criteria for the selection of a pilot. Nevertheless, it was generally recommended that the pilot study participants

should be drawn from the same industrial group as those in the main enquiry. In this pilot study, each participant was given a copy of the draft survey questionnaire and was asked to provide feedback and comments. Consideration was given to the feedback received from the pilot as suggested by Oppenheim (2003) in Table 4.4.

The participants identified that certain questions were difficult to answer and took rather a long time to complete. In addition, some UK participants drew attention to unclear language and phrases used in the questionnaire items. There were also comments from design companies in both countries to the effect that some questions were inappropriate for them to answer, as they were really designed for manufacturing SMEs rather than for design consultants. There were generally few comments over the layout and design of the questionnaire. The presence of bias in the questionnaire items was noted and addressed. Each comment from the pilot study was considered and appropriate modification implemented in developing the final set of survey questions.

A second consideration for the pilot study was to ensure its compatibility with potential recipients' computer operating systems (Microsoft Windows XP and 2000, Mac OS X and Linux) and Internet browsers (Microsoft Internet Explorer version 6.5, Safari version 3.0.4 and Mozilla Firefox version 1.5.2.). This was to be certain that the participants selected to receive the questionnaires would be able to download and open the file as it was originally designed. The responses from

the pilot study confirmed the compatibility of the questionnaire design thereby eliminating any concerns over the issue.

4.8.2.2 Final Questionnaires

Pilot testing played a large part in forming the final survey questionnaire, which was thoroughly evaluated by peers and supervisors. Acting on feedback from the pilot, the number of questionnaire items was reduced from 30 to 24, of which 20 were closed and 4 were open questions. It was estimated that 15 to 20 minutes would be required to complete the questionnaire. The closed questions offered participants multiple-choice responses (Oppenheim, 2003).

In the open questions, the participants were requested to answer in full as the questions were structured without any suggested choice of reply. Inevitably, this gives participants the freedom to respond. The majority of the 20 closed questions were designed based around the use of 5 point Likert scales. Fink (2003) and Sekaran (2005) recommended that an odd number of response options worked best with self-administered questionnaires. In addition, Oppenheim (2003) stated that closed questions have advantages and disadvantages as shown in Table 4.5.

Advantages of closed ended questions	Disadvantages of closed ended questions
<ul style="list-style-type: none">▪ less time required▪ no extended writing required; however space was added for the participants to add comments▪ low cost▪ easy to process.▪ easier for group comparison▪ useful for specific hypotheses testing▪ less interviewer training	<ul style="list-style-type: none">▪ loss of spontaneous responses. However space was provided if participants opted to respond▪ bias in answer categories. To overcome this shortcoming, the questionnaire had been designed to minimize any bias in the questions listed▪ sometime too crude in the actual questionnaire design. This can be avoided if the layout of the survey can be refined▪ may also irritate the participants if the question items are too much structured in a repetitive way

Table 4.5; The advantages and disadvantages of closed ended questions. *Souce: Adaptation from Oppenheim (2003).*

Open questions were reduced to 4 from the original 10 in the pilot, which might have limited the input from participants, so it was important to make a careful evaluation of these so as not to reduce the value of the responses. Bryman (2003) and Oppenheim (2003) listed the benefits and weaknesses of open-ended questions (Table 4.6). The final questionnaire was divided into five sub-sections that corresponded with the research questions raised earlier in this chapter (4.3) regarding the effectiveness of the data collection. The final questionnaire was also modified to suit the two different participant groups, namely, manufacturing SMEs and design consultants.

The benefits of open questions.	The weaknesses of open questions.
<ul style="list-style-type: none"> ▪ freedom and spontaneity of the answers ▪ opportunity to probe or further investigate ▪ useful for testing hypotheses about ideas or awareness 	<ul style="list-style-type: none"> ▪ time consuming. ▪ in interviews: costly in term of interviewer time. ▪ coding: very costly and slow to process, and may be unreliable. ▪ demands more effort from respondents.

Table 4.6; The benefits and weaknesses of open question. *Souce: Adaptation from Oppenheim (2003) and Bryman (2003).*

In contending with the distance barrier (researcher in the UK, participants in Malaysia), it was decided that the questionnaire survey would be distributed via both email and conventional letter post including a self-addressed return envelope. Nevertheless, where possible, the researcher would personally contact the potential participants by telephone before the survey questionnaire was distributed. This communication was intended to ensure that the questionnaires had been addressed directly to the correct participants with the right designation.

4.8.3 In-Depth Interviews and Case Studies

In the third phase of data collection, interviews were used to obtain information from the Malaysian participants. The interviews were conducted with participants selected from those who had responded to the survey questionnaires (phase 2) and as a continuation of these, the case studies were developed. As stated by Yin (2003),

“Case studies are the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context”.

The research identified examples of where and how design has played a role in influencing success in development of brands from two selected Malaysian SMEs. The final choice of SMEs was made from the list of Malaysian SMEs that had previously received The MDC/MRM, Malaysia GDM Awards. According to the MDC/MRM (2005), the award celebrates companies who practice or emphasise design as a priority within creative business strategies and brand development.

The third phase of this research also involved interviews and the development of case studies. These interviews were conducted individually with executives drawn from selected SMEs, design consultants, non-government organisations (NGO) and semi-government organisations. The criteria for the selection of individuals were based on their related background, position and their involvement in design and brand development. The resulting data were compared with the UK data gained from the first phase in order to identify the similarities and differences between design practices. The findings from the UK and Malaysian SMEs were analysed and in-depth comparisons were made on how the companies approach design practice. The results in both countries were synthesised into a proposed model of design best practice for Malaysian SMEs (refer to Chapter Seven section 7.4). This was followed by an assessment of transferability of UK best design practices into selected Malaysian SMEs.

As distance between the two countries created a barrier to conducting face-to-face interviews, communication technology such as telephone, video conferencing and VoIP were considered as alternatives. It was decided to use VoIP-Stunt (web-based software) as a tool to conduct the interviews to gather data for this study. The uses of VoIP are further explained in the next section 4.7.3.1.

4.8.3.1 VoIP-Stunt as an Interview Tool in Data Collection

In today's world, much of the technology we use is digitally based (computers, digital voice recorders, digital cameras, digital TV etc). This digitisation applies to our telephone systems as much as to any other piece of technology. VoIP, is a robust technology that allows people to communicate via voice using the Internet Protocol (IP) instead of telephone lines. IP is a method by which data is sent from one computer to another on the Internet (see Fig.4.3). Roberts (2005) stated that VoIP, also known as Internet Telephony and IP Telephony is the ability to make voice telephone calls, send faxes and to videoconference over IP based data networks. These days VoIP is quite popular as it is a cost effective way to reduce telephony costs using the Internet. Deri (2004) also added that VoIP is the provision of IP telephony by commercial enterprises and the traffic is expected to be carried over circuits and channels provided and managed by telecommunications organisations.

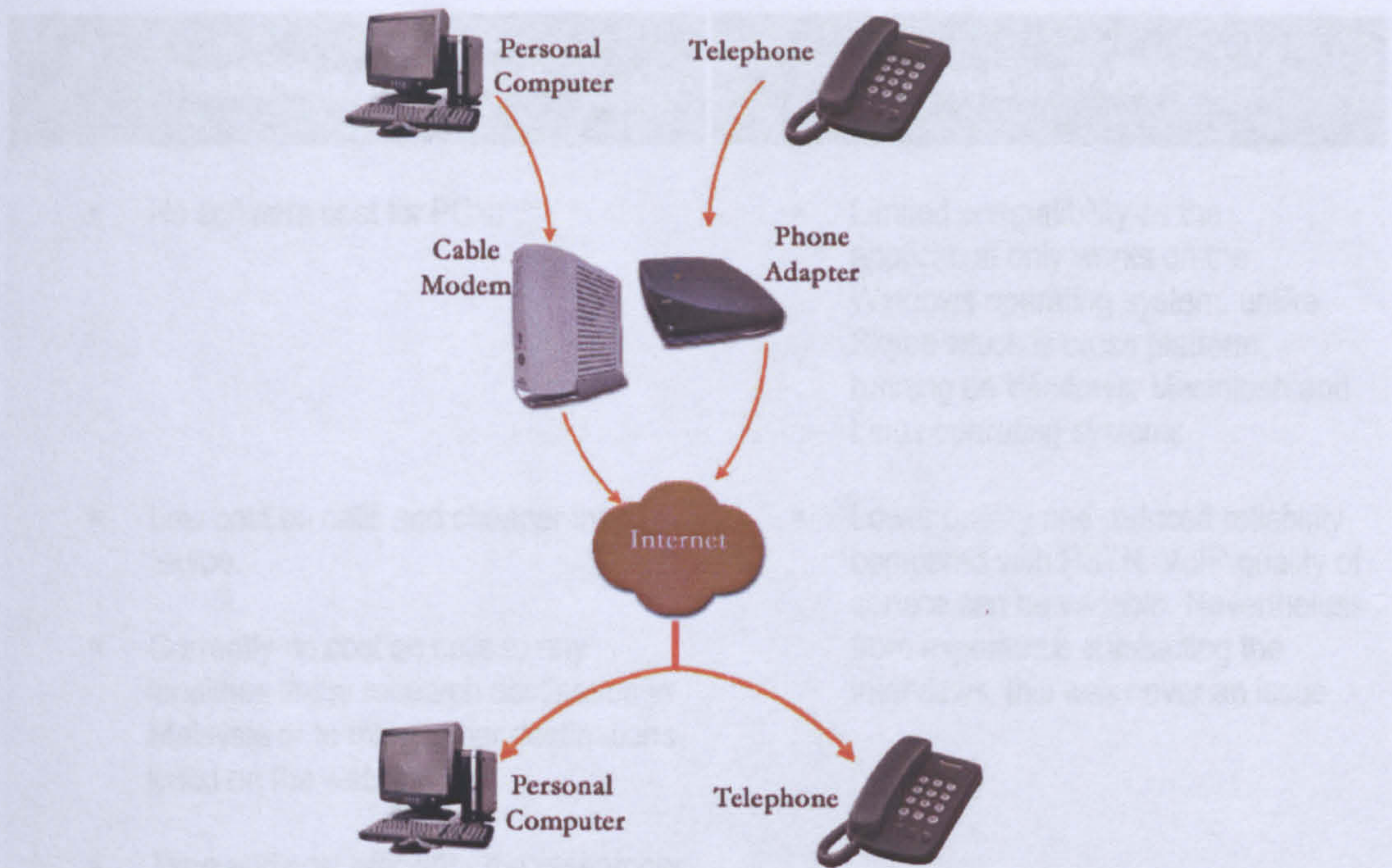


Figure 4.3: Simple VoIP system. *Source: Federal Communications Commission (FCC), (2007).*

VOIP-Stunt is one of the applications similar to Skype that is available and can be downloaded online via <http://www.voipstunt.com/en/download.html>. Currently the application is only compatible with a minimum system requirement of Windows 2000 or XP (with Service Pack 2 (SP2)) operating system. It requires a minimum of 300 MHz speed processor and 128 MB RAM. To this is added a sound card with headset microphone and an Internet Broadband Connection with minimum 64kbit/s up/downstream capability.

Some of the factors that have promoted the use of VoIP-Stunt, as well as the drawbacks for data collection in this research, include (Table 4.7):

The benefits of VOIPStunt.	The drawbacks of VOIPStunt..
<ul style="list-style-type: none">▪ No software cost for PC's.▪ Low cost on calls and cheaper than Skype.▪ Currently no cost on calls to any landlines in the research destination in Malaysia or to many other destinations listed on the website.▪ Time and cost efficient - the researcher was able to access the participants without needing to visit in person.▪ Wide availability of analogue telephone adapters.▪ Growing availability of broadband, wireless "hot spots" and other forms of broadband access.▪ Comparatively high cost of PSTN (public switched telephone network) calls.	<ul style="list-style-type: none">▪ Limited compatibility as the application only works on the Windows operating system, unlike Skype which is cross platform, running on Windows, Macintosh and Linux operating systems.▪ Lower quality and reduced reliability compared with PSTN. VoIP quality of service can be variable. Nevertheless from experience conducting the interviews, this was never an issue.

Table 4.7; The benefits and drawbacks of VoipStunt

Based on the above factors, it is likely that in the near future this new medium for data collection will become the preferred tool to replace PSTN telephone or face-to-face interviews. This would particularly apply to research involving distance or geographical issues.

4.9 Participants

The participants' responses contributed the most essential data in this research. They were divided into two groups, related directly or indirectly to the promotion of design for industry (see Table. 4.8). The survey questionnaire was conducted with participants from the UK and Malaysia, to elicit the differences in perception, particularly with regard to design practices in SMEs as well as design businesses from the two countries.

The first group of participants were from selected product manufacturers who in the main have their own in-house design department. The participants were chosen from senior executives including managing directors, marketing and business development managers, design managers or designers who contributed directly to design decisions for the company. The second group of participants consisted of design and branding practitioners, who were directly involved in expanding ideas and providing creative solutions for their SME clients. They were the managers and designers employed in design consultancies. Their knowledge and experience helped in identifying current design practices.

In the in-depth interviews for the case study, the participants were selected from manufacturing, design and branding consultants, as well as from influential government groups such as MDC/MRM, MITI, MATRADE, SMIDEC. Representatives from design institutions also provided informal views in respect of this research.

4.9.1 The UK Company Selection

RESEARCH PARTICIPANTS	
QUESTIONNAIRE SURVEY <i>(The UK & Malaysia)</i>	IN-DEPTH INTERVIEW & CASE STUDIES <i>(Malaysia)</i>
<ul style="list-style-type: none">• MANUFACTURER<ul style="list-style-type: none">○ Management/ Brand Executive/ Marketing○ Design Manager/ Designer• DESIGN/BRANDING CONSULTANT<ul style="list-style-type: none">○ Management○ Design Manager/ Designer	<ul style="list-style-type: none">• MANUFACTURER<ul style="list-style-type: none">○ Management/ Brand Executive/ Marketing○ Design Manager/ Designer• DESIGN/BRANDING CONSULTANT<ul style="list-style-type: none">○ Management○ Design Manager/ Designer• AUTHORITATIVE<ul style="list-style-type: none">○ Malaysia Design Council○ MITI/ MATRADE/ SMIDEC○ Academics

Table 4.8: Research participants were divided into two groups for 1st & 2nd phases and were divided into three groups for the 3rd phase of data collection.

4.9.1 Company Selection Criteria in the UK and Malaysia

As noted earlier, the SME participants were selected from the manufacturing sector. The selections were made from a range of manufacturers to provide a diversity of perceptions in different contexts and to establish their approach to design, particularly as it relates to current design practice in their own company. In identifying suitable companies for this study, reference was made to the UK DTI SBS directory, as well as to MITI SMIDEC sources in the Malaysian context.

4.9.1.1 The UK Company Selection

The SME participants from the UK manufacturing sector were obtained from various directories. Initially, The Small Business Directory (2005) was used. The choice was then narrowed to the individual regional Chamber of Commerce and Industry member's directories. Finally, 50 companies were identified and initially 27 (54%) companies agreed over the phone to participate in a survey questionnaire.

The UK design businesses or design consultants were selected from the list of companies provided by the BDI (2005) directory that covers all regions of the UK. For this business sector, 50 companies were identified; 22 (44 %) companies agreed over the phone to participate in the survey questionnaire. Specific personnel and designations were identified during the initial telephone conversation. When their names or designations were provided, the survey was despatched either by email or conventional letter post based on their personal preferences. This was followed up by email or post a week later to find out whether the document had been received. Some agreed to respond and some claimed that it was inappropriate for their company to respond or gave no reasons for not participating. In total, 44 questionnaires were sent via email and 5 by conventional letter post to all UK participants.

4.9.1.2 Malaysian Company Selection

The Malaysian participants were divided into two groups; manufacturing and design consultants. The manufacturing participants were then identified from the list of companies provided by the SMIDEC directory, an agency under MITI. This directory is divided into two business categories: manufacturing and manufacturing related businesses, followed by the service sector and ICT businesses. For the manufacturing related sector, the selection was made by focussing on types of manufacturing that related to the use of design such as furniture, electrical products, toys and playground accessories. For the geographical consideration, the selection was made within Peninsular Malaysia, where the majority of manufacturing SMEs are located.

Following this, the company directory was compared to the list of companies receiving the Malaysia GDM award. This award was given by MDC/MRM to companies that promote or embrace design in their products. There are approximately 4,000 companies with design related manufacturing capabilities (MDC/MRM, 2006) within Peninsular Malaysia. Initially, participants for this study were randomly chosen from three sizes of company; micro, small and medium. As the Malaysian participants generally preferred to receive the survey questionnaire online, emails were sent to the 50 companies that had been identified and agreed to participate during the initial telephone conversations. This was a further advantage to the researcher, who conducted the research from the UK.

Design Business / Consultants in Malaysia	
Design Business/Consultants	Number identified
Website Hosting	182
Interior Designers / Planners	892
Consulting Engineers / Designers	402
Packaging Design / Consultancy	22
Furniture Design / Consultancy	455
Printed Circuit Consultancy / Design	16
Lighting Consultancy / Design	8
Electronic Consultancy / Design	2
Product Design / Development Consultancy	1
Acoustic Consultancy / Design	9
Machinery Consultancy / Design	9
Industrial Design Consultancy	25
Prototype Consultancy / Design	1
Catering Kitchen Planning / Consultancy / Design	1
Process Engineering Consultancy / Design	1
Communication Systems Consultancy / Design	21
Textile Consultancy / Design	5
Architectural Sign Consultancy / Design	1
Refrigeration Consultancy / Design	6
Audio Systems Consultancy / Design	2
Plastic Consultancy / Design	2
Theatre Consultancy / Design	5
Electronic Prototype Consultancy / Design	1
Interior Design Consultancy	887
Town Planning Consultancy / Design	43
Total	2989

Table 4.9 Design Business / Consultants in Malaysia. *Source: Malaysia Design Council, (2006).*

MDC/MRM identified 2,989 companies engaged in design consultancies or businesses (see Table 4.9). Of these, 949 companies were listed as design businesses servicing manufacturing sectors such as furniture, electronics, prototypes, textiles, plastics, industrial products and packaging (MDC/MRM, 2006). Twenty-five companies in this category were contacted, however the number of design consultants specialising mainly in industrial design is low.

Despite the small number of companies, a lot of time was needed to establish a relationship. Communication started with initial telephone conversations where the research topic was explained. This then identified recommended personnel who would participate in the research. However, their reactions were less enthusiastic than those of the manufacturing companies, possibly because of the time pressures involved in the design industry. In the end, 10 participants from the original 25 companies approached agreed to take part in the survey. Some claimed that their companies were inappropriate to participate.

4.10 Ethical Considerations

It is essential that before any research is undertaken, the individual potential participant should clearly understand the purpose and scope of the study. Bell (2005) suggests that whatever the size of the study, an in-depth explanation is expected, together with a description of what the research would expect to achieve. In addition, the reason for choosing particular participants should be indicated, and also how the information obtained might be used. Indeed transparency, informed consent, privacy, confidentiality, the right to discontinue and obligations of the experimenter are to be issues of consideration in any research undertaking. The stated ethical considerations were in place as part of the practice and implementation in this study. The research participants were acknowledge prior to the study been established.

According to Burns (2000), it is common to face ethical problems in any social science research as it involves human subjects. For instance, in conducting research that involves the process of interview the conversation between the interviewer (researcher) and the interviewee (participant) may include personal information. The researcher therefore has a responsibility to keep all information confidential. The principle of anonymity was emphasised throughout the data collection process and the participants will remain anonymous in this study. Bell (2005) also added that ethical research involves getting informed consent from those involved in an interview directly or indirectly. Therefore, the use of the data obtained and how the analysis will be reported and disseminated were explained to and agreed with the selected participants prior to the interview process.

Apart from the data collection in this study, the in-depth interviews involved the use of a voice-transcribing instrument. This equipment was used to record all verbal communications that were carried out. The data obtained from this recorder were regulated with the same ethic of confidentiality and remain concealed only for the use of this study. Despite the verbal and written consents given by the participants in this research, as a research student, the researcher has an obligations to the university's Research Ethic Framework (refer to Appendix 6).

4.11 Analysis

The data from the survey, the interviews and case studies were used to provide the foundation for an inductive data analysis; this involved collecting participants' responses. Subsequently, the questionnaires were correlated, analysed and examined in relation to the interview questions. This was carried out for both the UK and Malaysian participants - SME manufacturing sectors as well as design consultancies.

The transcribed data from the interviews were thoroughly analysed to establish a clear view of the current design practice in the Malaysian SME companies represented. This enabled a comparison to be made with UK data gained from the survey questionnaires, published literature from UK researchers and government agencies or NGO published reports. Further to this, a greater understanding of the key influences on design capability in Malaysia was expected to result from interviews with senior management in SME manufacturing, design consultants and government agencies directly involved in design and promotion of the country.

The data from the in-depth interviews were used to develop the four case studies. Close examination was essential before comparing the design practice in companies that were awarded the Malaysia GDM award with those companies not involved in the award. This process was intended to develop an understanding of the use of design by SME manufacturers in Malaysia. Furthermore, the analysis

was expected not only to highlight the strengths and weaknesses of current design practice in selected manufacturing SMEs, but also the value of the Malaysia GDM award and the effect of political influence within the context of this research. It was intended to use the knowledge gained to propose a new model for best design practice in Malaysia and which can also be used as a reference for the MDC/MRM, manufacturing SME and design consultancies serving Malaysian SMEs.

4.12 Chapter Summary

This chapter has presented the approach taken in the research process. A critical discussion on the definitions and concepts of the research study leading to the identification of the research questions is also presented. The rationale for the survey approach to data collection and pilot studies undertaken is also discussed. The methodology employed for this study was chosen in order to achieve the intended results and satisfy the stated aims. Chapters five and six follow with a discussion on the collection, analysis and findings of the quantitative and qualitative data obtained.

Chapter 5

Analysis Process and Stage One Findings

Chapter 5

5. Analysis Process and Stage One Findings

5.1 Introduction

This chapter reports on the first stage of the analysis. It also presents the discussion on the data collection from phase one and two of this research. Following the findings, the procedure of analysing the data is further discussed. The descriptive nature of the research questions in regards to design practice and brand development in selected manufacturing SMEs encouraged the use of mixed methods. Thus the resulting datasets have given a greater understanding of the research questions.

The process of extrapolating data from the survey questionnaires was mainly conducted using Statistical Package for the Social Sciences (SPSS) version 12. The findings from the qualitative research will be examined in the following chapter and will further explain the interpretations based on the personal in-depth interviews. As initial findings, the information provided in this chapter would help in developing the semi-structured questionnaires for later in-depth interview. The initial findings are derived from the data gathered in phases one and two of the research; where the survey questionnaires were distributed to two groups of participants from two countries. This evidence formed the basis for further interpretation and in-depth interviews with Malaysian participants. According to Denscombe (2007) quantitative research is usually linked to analysis whereas

qualitative research is more inclined towards description. Ultimately all analysis was correlated with research questions.

5.2 Survey Data Analysis

The questionnaire survey was conducted in order to gain insights in the areas of design practice and brand development in selected manufacturing SMEs and design consultancies in both countries. These results provide initial findings; the interviews that followed sought in-depth views and perceptions. According to Robson (1993) once data has been collected and recorded in 'raw' form, the researcher usually has to process it into a form that describes a group performance. It is suggested that the compilation of such data generally involves the use of descriptive and inferential statistics.

The term 'descriptive statistics' refers to a group of techniques used to organise, summarise and describe data. There are no predictions or inferences yet made in this analysis regarding the process by which the data are generated (Bryman, 2004). However it is a basis for more advanced techniques (Fink, 1985), whereby descriptive statistics that include 'the frequency', 'the mean', 'the median' and 'the mode' are used. On the other hand, inferential or inductive statistics are used to infer or predict population parameters which relate to quantified number of participants from the samples. The process carried by inductive reasoning is based on probability theory. According to Sekaran (2003), inferential statistics include 'the Pearson correlation', 'the χ^2 test' (relation between two nominal variables),

‘the *t*- Test’ (significant mean differences between two group), ‘the ANOVA’ (among multiple groups) and ‘regression analysis’.

5.3 Analysis Procedures

The analysis of research data tends towards a process comprising five stages in relation to quantitative and qualitative data (Denscombe, 2007) (see Table 5.1). He also stated that there are differences between the two methodologies of data analysis. The quantitative methods generally give “more explicit” and more purposeful data than the qualitative method (*ibid.*). Thus for more objective analysis of quantitative research data, descriptive statistics (subjected to frequency distributions and means) and inferential statistics (cross-tabulation) were employed to analyse the data in this study. In the initial stage of the statistical analysis, all variables were subjected to the frequency distribution analysis. This procedure allows the organisation of the data into a more readable, comprehensive form and enables the data to be cleaned up for further investigation (Bryman and Cramer, 2005). The statistical mean procedure used in this study revealed the degree of preference given by the participants in identifying, establishing the relationships, comparing and contrasting between each group in relation to design practice and brand development in the two countries. The use of the mean procedure helped to test the differences in each group or differences in the whole population. Inferential statistics were use to identify and establish the relationships between the two countries, and to compare and contrast the participant views. According to Sekaran (2003) cross tabulation is one of the

simplest and the most frequently used ways to demonstrate the presence or absence of such relationships. Cross tabulation is a joint frequency distribution of cases according to two or more classificatory variables.

The five main stages of data analysis		
1) Data preparation	Quantitative data Coding (which normally takes place before data collection) Categorizing the data Checking the data	Qualitative data Transcribing the text Cataloguing the text or visual data Preparation of data and loading to software (if applicable)
2) Initial exploration of the data	Look for obvious trends or correlations	Look for obvious recurrent themes or issues Add notes to the data Write memos to capture ideas
3) Analysis of the data	Use of statistical test, e.g. descriptive statistics, factor analysis, cluster analysis Link to research questions or hypotheses	Code the data Group the codes into categories or themes Comparison of categories and themes Quest for concepts (or fewer, more abstract categories) that encapsulate the categories
4) Representation and display of the data	Table Figures Written interpretation of the statistical findings	Written interpretation of the findings Illustration of points by quotes and pictures Use of visual models, figures and tables
5) Validation of the data	External benchmarks Internal consistency Comparison with alternative explanations	Data and method triangulation Member validation Comparison with alternative explanations

Table 5.1 The five main stages of data analysis. *Source: Denscombe (2007)*
This table has been adapted from Creswell and Plano Clark (2007)

Bryman and Cramer (2005), Creswell (2003), Sekaran (2003), Bryman (2004) and Robson (1993) stated that SPSS is one of the most commonly used computer

application to analyse data gathered from quantitative surveys in social science research besides Minitab and Microsoft Excel. As stated earlier, SPSS version 12 was used to assist the understanding, interpretation of data, and the description and presentation of the analysed results.

5.4 Preparing Data

The first stage of the analysis involves observing, sorting and grouping the data. To enable this, all data obtained from the online email survey and postal questionnaires were transferred into SPSS. During this process four responses from the online email survey (two from Malaysia and two from the UK participants) and two from postal questionnaires (UK participants) were rejected. In these cases, the participants had either failed to complete the key questions which would enable data to be classified into key variables or there were critical missing values within their replies. Two different sets of questionnaires were used as these were designed to tailor for the two participant groups (manufacturing companies and design consultancies). Each of the questionnaires contained the same amount of questions (closed and open ended questions).

As stated in chapter four; *Research Design and Methodology* the data for Malaysia and the UK were gathered from two different groups of participants related to manufacturing service sector; from SMEs and design consultants. To ensure meaningful and readable format questions, they were categorised into several 'variables' based on the questionnaire designed (see Figure 5.1 Computer

Screen). Once the data were ready, a detailed analysis was carried out. Univariate analysis (one variable at a time) was used throughout the analysis process. However, bivariate (two variables at a time) and multivariate (more than two variable at a time) analysis was used for the follow up stage of this analysis.

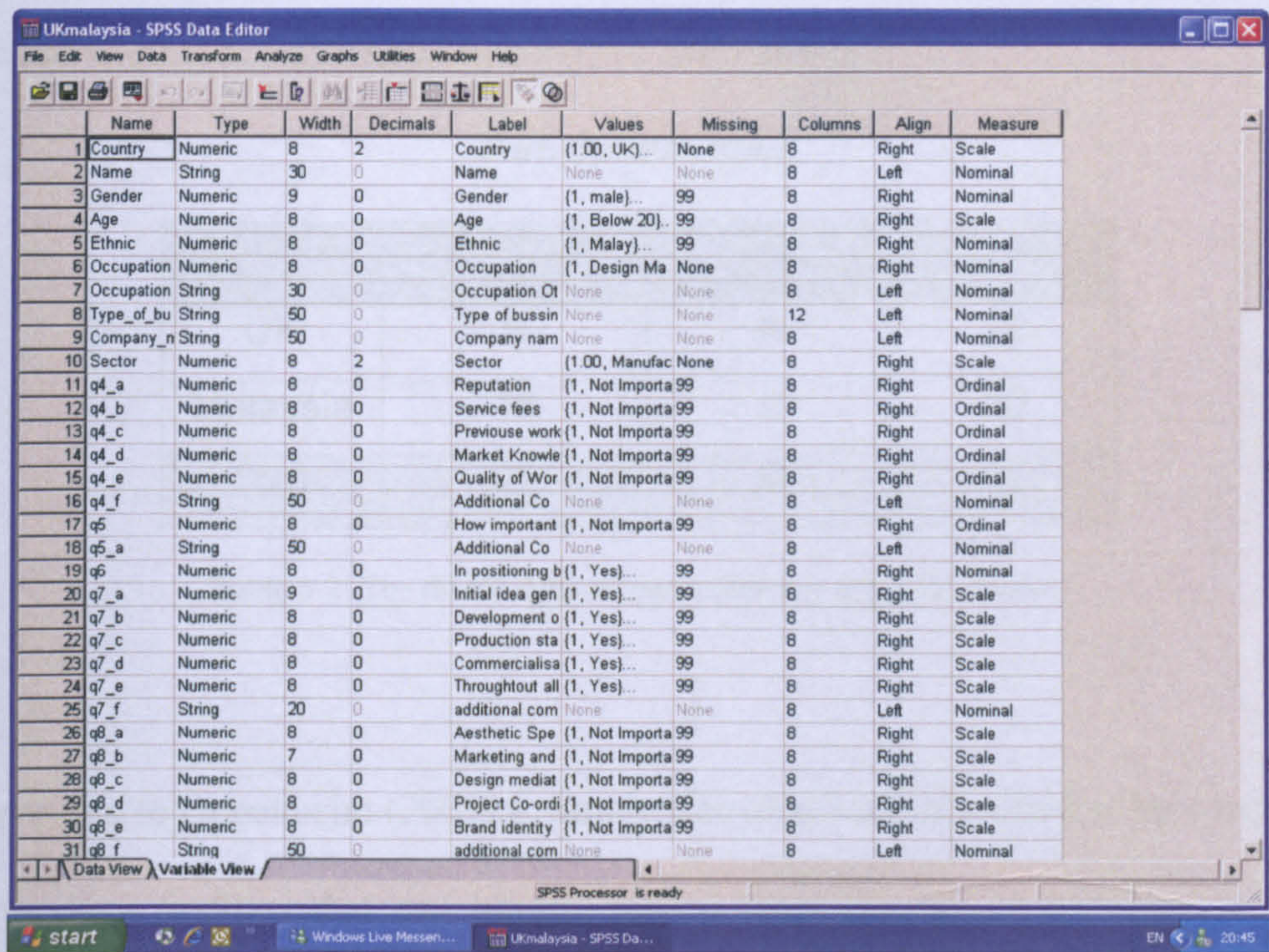


Figure 5.1: SPSS Computer Screen on the variable's value view.

5.5 Exploring the Data

The answers, trends, patterns and distribution shape were identified and examined through the process of entering the raw data into the database (SPSS). At this stage also the initial reading of the data, enabled a preliminary understanding of the database set. While the data exploration seemed to demonstrate a normal

distribution, initial broad themes were identified for further discussion in the following chapter six, ‘In-Depth Findings’.

5.6 Analysis of the Data

As explained, the participants were gathered from two industry sectors; manufacturers in selected SMEs and design consultants from Malaysia and the UK. Before the analysis took place, the 32 usable questionnaires received were divided within the sectors and the origins. See Table 5.2.

Participants Group			
Country	Manufacturer SMEs	Design Consultants	Total
UK	6	6	12
Malaysia	16	4	20
Total	22	10	32

Table 5.2: The distribution of participants groups and origins.

According to Oppenheim (2003) a sample size of at least 30 is held to be adequate to produce findings that can be generalised from the survey participants to a bigger population. Ideally, the minimum sample size applies to each category. However, difficulties in getting the target sample size have led the researcher to focus on the generalization of design and brand perception. Although the total response rate was low from the initial agreement over the phone, it was considered indicative and satisfactory for comparative purposes. Out of 109 survey questionnaires that were sent, 38 participants responded but finally 32

participants were considered; 22 Malaysian participants and 12 UK participants (see table 5.3). This is due to 6 participants, (4 UK participants and 2 Malaysian participants submitting) partially completed questionnaires.

Participants Sample Groups

		UK			MALAYSIA			Total	
		Identified sample companies	Agreed Companies	Responses	Identified sample	Agreed Companies	Responses	Total Sent	Total Responses
Manufacturer SMEs	Frequency	50	27	6 (-4)	50	50	16 (-2)	77	22
	(%)			22.2%			32.0%		28.5%
Design Consultants	Frequency	50	22	6	25	10	4	32	10
	(%)			27.2%			40.0%		31.2%
Total	Frequency	100	49	12	75	60	20	109	32
	(%)			24.4%			33.3%		29.3%

Table 5.3: Participants statistics between the sectors group and origins.

5.6.1 Descriptive Statistics

Frequency analysis was used to describe the result pattern of responses. Tables were employed to summarise and present the data providing a basic understanding of the data, and the relationships between the variables. This was immensely important as it provided a reasoned perspective for the interpretation of the results. Furthermore it aided the refinement and specification of the analysis of data that followed to be succinct where possible.

5.7 Representation and Display of the Data

The data were subjected to frequency and descriptive analysis procedures enabling the researcher to examine the data in a more condensed form. Besides showing the frequency results from each variable, all Likert scale questions were subjected to an additional mean procedure. From this means output, the researcher was able to compare the degree of importance given to variables by the participants. Cohen and Holliday (1996) also stressed that the mean reflects the value of each score in a distribution and allows other advanced statistical techniques to be considered.

Participants’ views and opinions for open-ended questions for variables Q21 to Q24 were treated as qualitative data. However the majority of closed-ended questions for variables Q4 to Q20 had a space for participants’ to write any additional comments. The coding indications were used to differentiate the participant groups as shown in the table below.

S = <i>SME Manufacturing Sectors</i>	M = <i>Malaysian</i>	A = <i>Participant A</i>	SMA
D = <i>Design Consultant Sectors</i>	M = <i>Malaysian</i>	B = <i>Participant B</i>	DMB
A = <i>Authoritative Organisation</i>	M = <i>Malaysian</i>	B = <i>Participant B</i>	AMB
S = <i>SME Manufacturing Sectors</i>	U = <i>UK</i>	D = <i>Participant D</i>	SUD
D = <i>Design Consultant Sectors</i>	U = <i>UK</i>	E = <i>Participant E</i>	DUE

Table 5.4: Participants’ Coding Indication.

Participants in this study were coded and given identification such as ‘SAM’ or ‘DBM’ for Malaysian participants. For UK participants they were coded and

indicated such as ‘SDU’ or ‘DEU’. (See Table 5.4 for coding explanation). The data gained were presented according to participants groups and countries. Further to this, the data from both countries were compared and displayed according to selected value labels.

5.7.1 Display of Data Options

Three options (option A, B and C) of data analysis and finding procedures were considered to gain the optimum output. Hence the chosen procedure was option A, Figure 5.2.

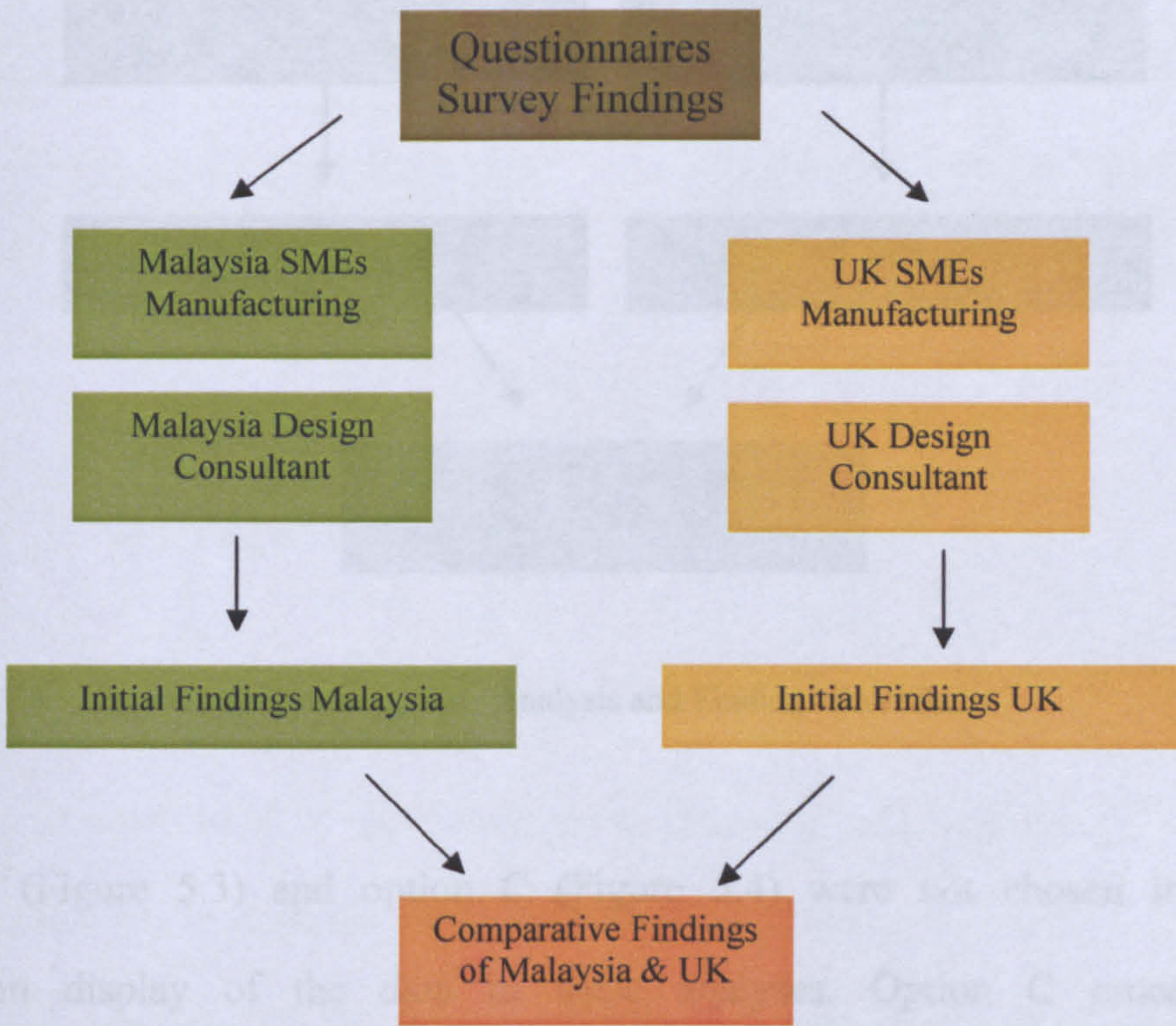


Figure 5.2: Option A, Data Analysis and Findings Procedure.

The advantages of option A procedure are as follows:

- The total data results from all the variables were presented.

- Data from the individual sectors and countries clearly highlighted.
- Readers will have the opportunity to reflect on the findings highlighted as the key findings come after the individual country's data.
- Readers can reflect upon comparative findings highlighted after the two countries' data have been presented.

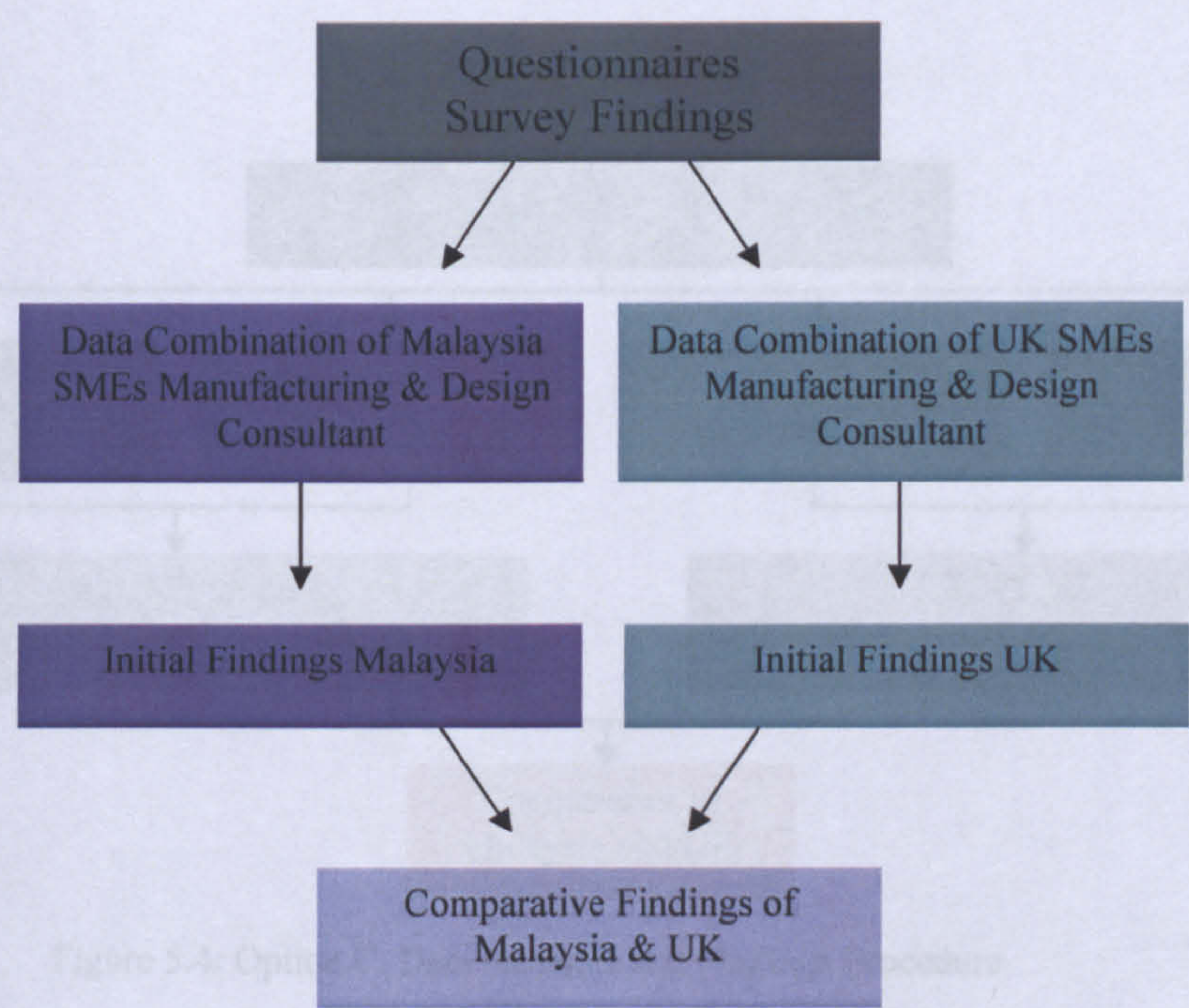


Figure 5.3: Option B, Data Analysis and Findings Procedure.

Option B (Figure 5.3) and option C (Figure 5.4) were not chosen in the presentation display of the data in these analyses. Option C procedure disadvantages are:

- The initial data from all the variables in the individual country will be combined within the two sectors (SME manufacturing data with design consultant data).
- The combination data may not highlight the actual results.
- It will complicate the reader's understanding because findings will be narrow to the individual themes rather than representing the whole.

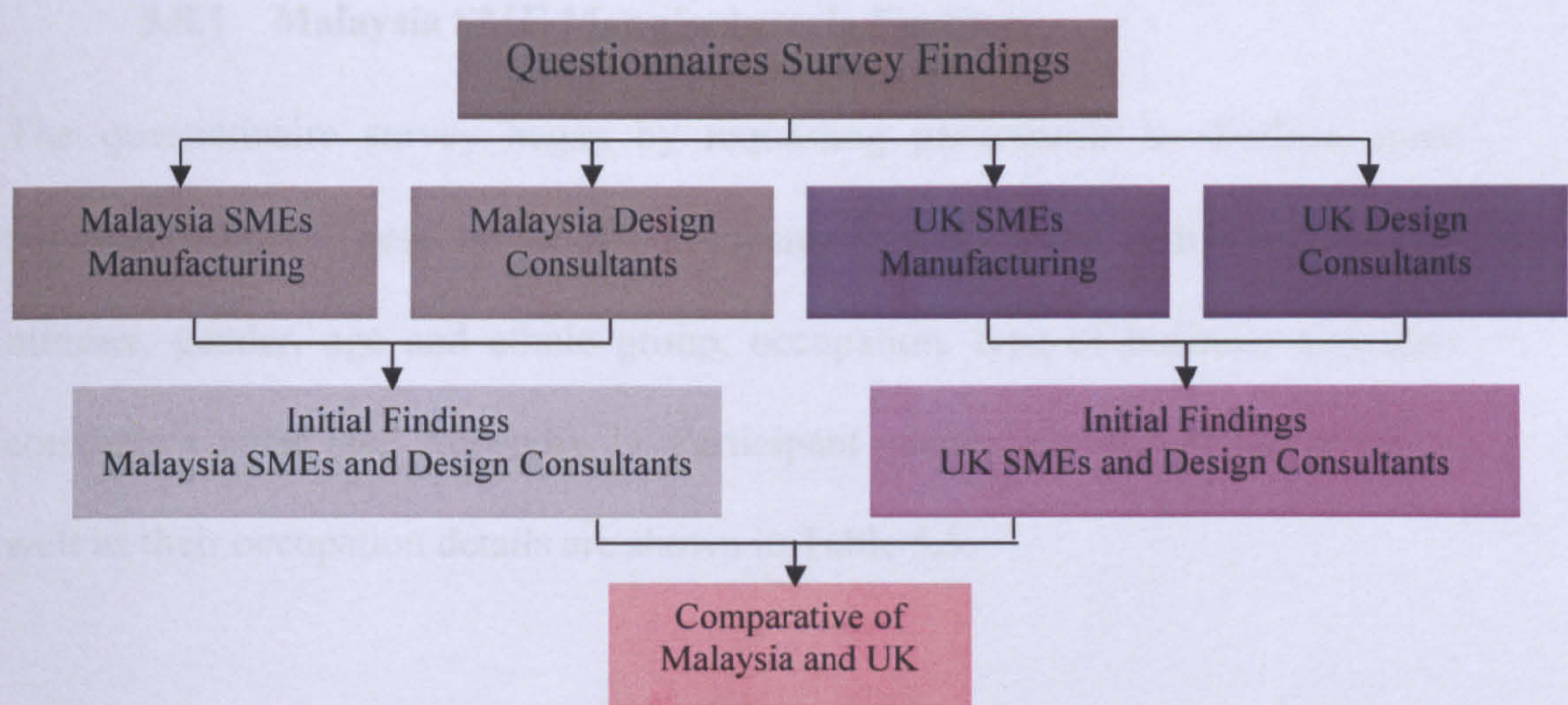


Figure 5.4: Option C, Data Analysis and Findings Procedure.

Option C procedure disadvantages are:

- The amount of data was considered immense and will be presented continuously in sequence of the individual countries and sectors.
- It was too lengthy to present horizontally. This may overwhelm the readers and disadvantage the presentation of the findings.

The readers might also be unable to reflect on the individual country's data provided, as they would have to read lengthy findings descriptions before they could reflect upon the results.

5.8 Overall Stage One Findings

5.8.1 Malaysia SME Manufacturer's Findings

The questionnaire survey began by requesting participants to disclose some personal details. These included participants' name, email address, telephone number, gender, age and ethnic group, occupation, type of business and their company's name (see Appendix 1). Participant gender, age and ethnic group as well as their occupation details are shown in Table 5.5.

It can be seen that the majority of Malaysian SME manufacturer's participants (81.3%) were male in the 31 – 40 years age group old, and mostly were among the Chinese ethnic group. Most of participants (62.5%) gave 'other' as their occupations besides Design Manager and Designer as also shown in Table 5.5.

Malaysia Participants' background

Ethnicity	Value Label	Frequency	Percentage (%)
Gender	Male	13	81.3
	Female	3	18.8
Age	21-30	3	18.8
	31-40	9	56.3
	41-50	4	25
Ethnic	Malay	4	25
	Chinese	12	75
Occupation	Design Manager	4	25
	Designer	2	12.5
	Other	10	62.5
Others Occupation	Executive Director	1	6.3
	Managing Director	4	25.1
	Business Development Director	1	6.3
	Business Development Manager	1	6.3
	General Manager	1	6.3
	Production Manager	1	6.3
	Head R&D	1	6.3

Table 5.5: Malaysia SME manufacturing Participants' background data.

Q1; Does your company have its own in house design department?

Question Q1 identifies whether a participant's company has an in-house design department. Finding in Table 5.6 shows that 93.8% of the participants claimed that their company has an in-house design department. Only one participant reported that the company doesn't have an in-house design department. Therefore, from question Q3; 'if no, does your company engage any design consultant', the result showed that the company out-sources their design services to an external design consultant.

Companies that own In-house Design Department

Value Label	Frequency	Percentage (%)
Yes	15	93.8
No	1	6.3
Total	16	100

Table 5.6: Question Q1 data

involved in NPD influences the SME in the selection of design consultants.

As indicated earlier (Chapter 4 Research Design and Methodology) the majority of participants in the survey had won the Good Design Mark Awards (GDM awards) and of these companies the majority do have an in-house design department. However, the majority of participants (10) were not involved in design directly as shown in Table 5.5 (other occupations). Therefore, the participant perception should not appear biased towards design,

Q2: If Yes, how many employees are there in that department?

From the frequency output of the question Q2, the results (Table 5.7) show that 60 % of the companies surveyed has less than five design employees compared to 40% which claim to employ between 6 – 15 design employees in a design department.

Numbers of Employees in Design Department

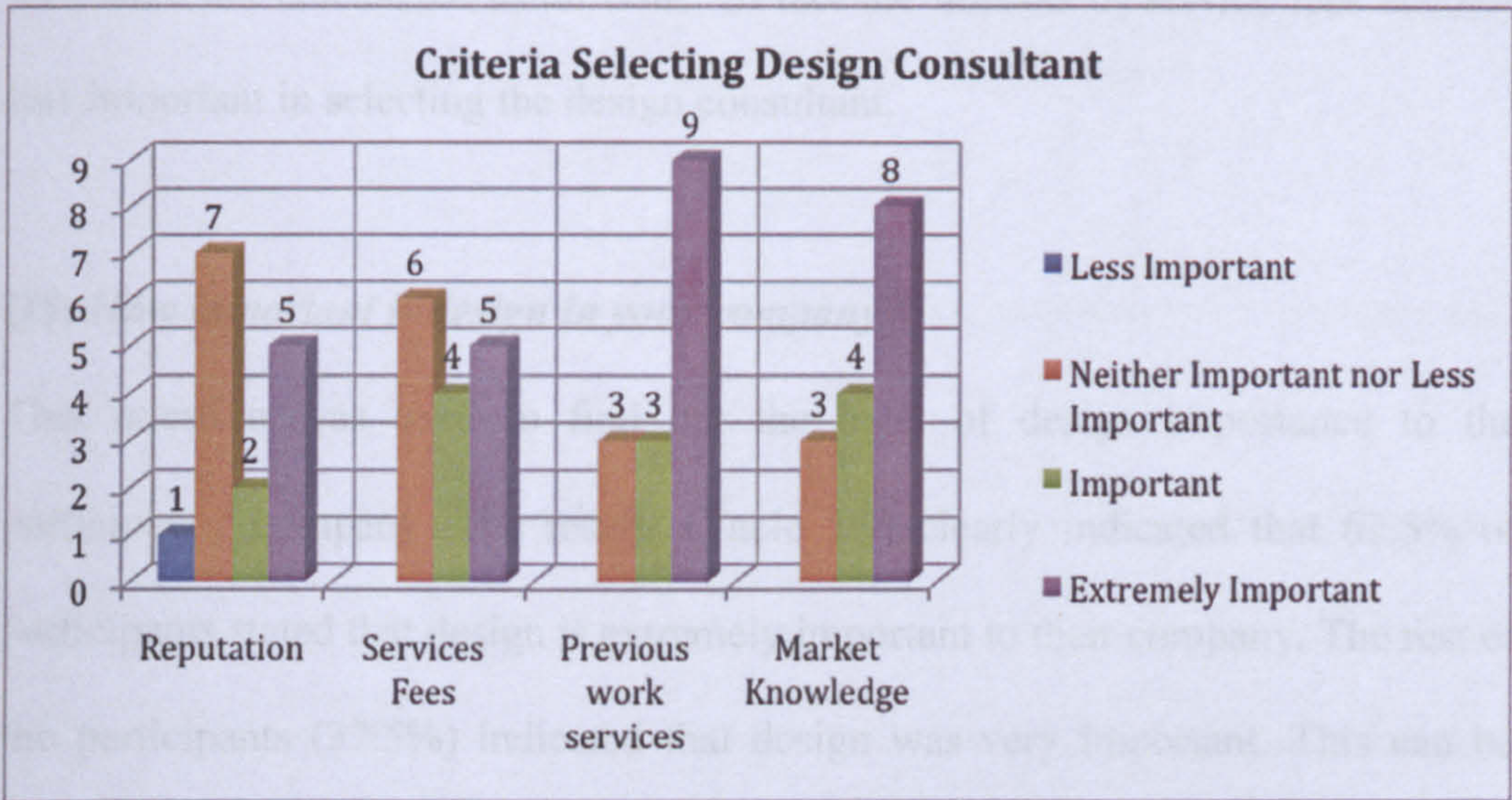
Value Label	Frequency	Percentage
Below 5	9	60.0
6 - 15	6	40.0
Total	15	100

Table 5.7: Question Q2 data

Q4; How do you rate the following criteria when selecting the design consultant?

In question Q4, participants were asked to rate five criteria for selecting a design consultant. Overall results appear to suggest that ‘quality of work’ was the main factor in selecting a design consultant with 92.9 % of respondents stating this preference (Table 5.8) as their highest priority. It was assumed that the process

involved in NPD influences the SME in the selection of design consultants. Therefore, ‘quality of work’, ‘previous work experience’ (60.0%) and ‘market knowledge’ (53.3%) enable the SME to predict the design consultant capability in planning the future of a new product for their company.



	Not Important	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Reputation*	0	1 [6.7]	7 [46.7]	2 [13.3]	5 [33.3]	3.73
Service Fees*	0	0	6 [40.0]	4 [26.7]	5 [33.3]	3.93
Previous Work Experience*	0	0	3 [20.0]	3 [20.0]	9 [60.0]	4.40
Market Knowledge*	0	0	3 [20.0]	4 [26.7]	8 [53.3]	4.33
Quality of Work**	0	0	0	1 [7.1]	13 [92.9]	4.93

*1 & **2 missing value

Table 5.8: Question Q4 data

From the literature discussion in Chapter 3 (Malaysian and UK SMEs), it appears that financial issues usually influence the management decision to invest in design

work. Interestingly, the results indicated that ‘service fees’ were not the most important factor in selection criteria. Possibly, because the result indicated that most of the SMEs surveyed have their own in-house design department. The participant company able to utilise their in-house capability and therefore, service fees were not considered as an issue. In fact the impacts of service fees become less important in selecting the design consultant.

Q5; How important is design in your company?

This question was used to find out the level of design importance to the participants’ company. The results (Table 5.9) clearly indicated that 62.5% of participants stated that design is extremely important to their company. The rest of the participants (37.5%) indicated that design was very important. This can be correlated with question Q1 (Table 5.6) in which the in-house design department may have a great influence on their perception toward the importance of design.

How Important is Design			
Value Label	Frequency	Percentage (%)	Mean
Very Important	6	37.5	
Extremely Important	10	62.5	
Total	16	100	4.63

Table 5.9: Question Q5 data

Q6: In positioning the brand image of your product or services, does your company outsource branding consultant expertise?

In positioning the brand image of the product and service in the company, participants’ were asked whether their company outsourced branding expertise. Looking at this, frequency results show (Table 5.10) that 62.5% claimed that they

do outsource to branding experts compared to 37.5% who claimed that they were not making use of such services.

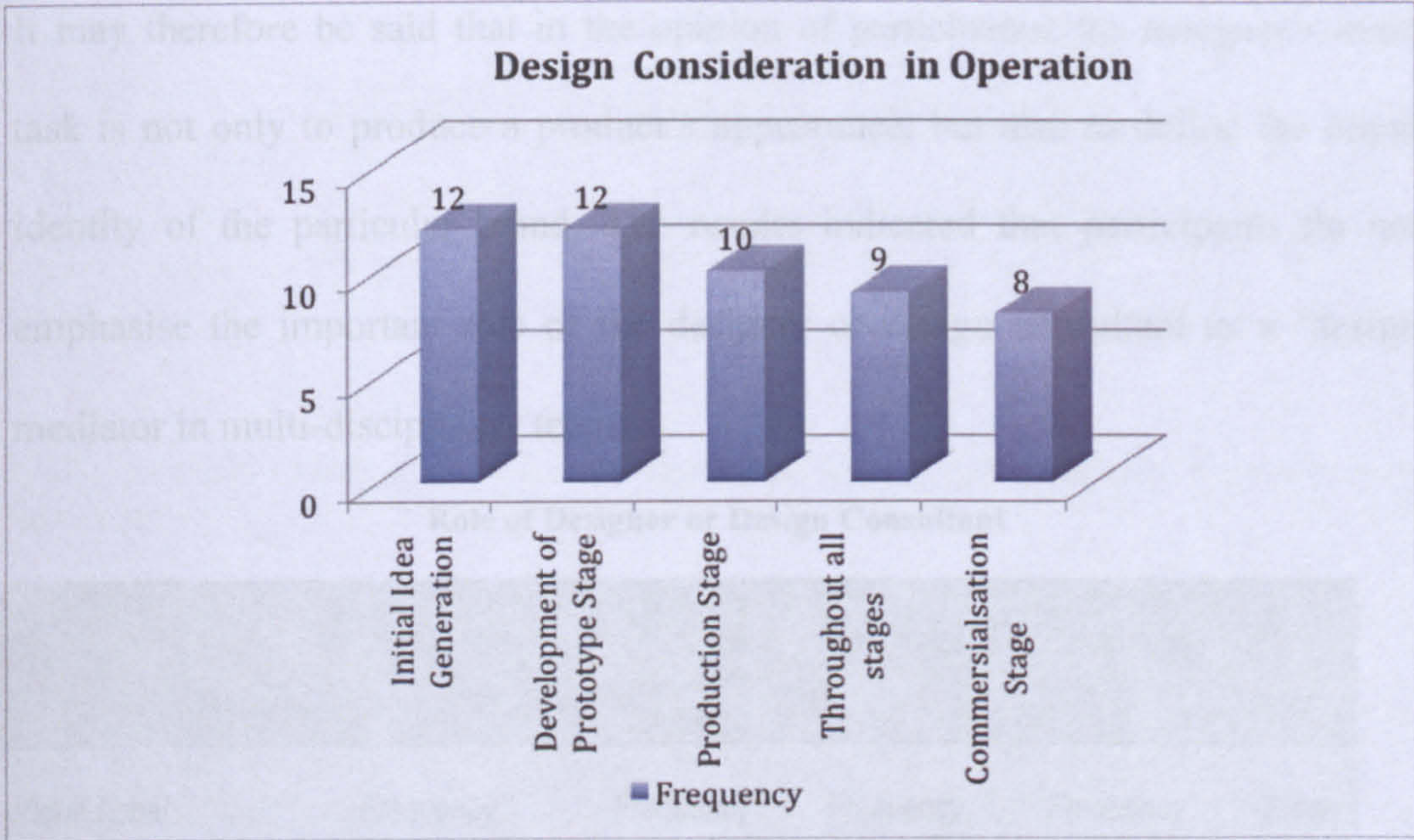
Outsource Branding Consultant

Value Label	Frequency	Percentage (%)
Yes	10	62.5
No	6	37.5
Total	16	100

Table 5.10: Question Q6 data

Q7: At what stage in your operation are design considerations brought into play?

The result of Question Q7 (Table 5.11) indicated that design involvement was considered by participants at almost all stages but varied depending on individual and specific projects. However the result revealed that 80.0% considered design at the ‘initial idea generation stage’ and ‘development of prototype stage’. From the results, the majority of the manufacturer companies put design into operation in the first three stages. These may be seen as the important stages in determine the viability of the project.



Value Label	Frequency	Percentage (%)	Mean
Initial idea generation stage	12	80.0	1.20
Development of prototype stage	12	80.0	1.20
Production stage	10	66.7	1.33
Commercialisation stage	8	53.3	1.47
Throughout all stages	9	56.3	1.44

Participants were allowed to provide more than one answer.

Table 5.11: Question Q7 data

Q8: How do you rate the role of the designer or design consultant in the process of new product development in your company?

Participants were asked to rate various aspects of the role of a designer or design consultant within a company in respect to new product development. Results (Table 5.12) show that item ‘aesthetic specialist’ was seen as extremely important, with a total of 43.8% both designer and design consultant roles were also seen as important with a result of 37.5% for ‘important’, 25.0% ‘very important’ and ‘extremely important’ 31%.

It may therefore be said that in the opinion of participants, the designer’s main task is not only to produce a product’s appearance, but also to define the brand identity of the particular brand. The results indicated that participants do not emphasise the important role of the designer or design consultant as a ‘design mediator in multi-disciplinary teams’.

Role of Designer or Design Consultant					
	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Aesthetic specialist	1 [6.3]	3 [18.8]	5 [31.3]	7 [43.8]	4.13
Marketing and sales	3 [18.8]	4 [25.0]	4 [25.0]	5 [31.3]	3.69
Design mediator in multi-disciplinary team	0	9 [56.3]	6 [37.5]	1 [6.3]	3.50
Project co-ordinator*	3 [20.0]	7 [46.7]	3 [20.0]	2 [13.3]	3.27
Brand identity creators	1 [6.3]	6 [37.5]	4 [25.0]	5 [31.3]	3.81

Table 5.12: Question Q8 data

Q9: Design has a significant role in modelling the future of your company?

In question Q9 participants were asked whether they agree or disagree that design has a significant role in modelling the company’s future. The overall frequency results in Table 5.13 appear to suggest that the participants strongly agreed (81.3%) on the significant role of design in modelling the company future. A further 18.8% of participants agreed that design has a very significant role. This could suggest that design may be used as an instrument or solution to strategise and modelling the company future.

Design has Significant Role in Company’s Future

Value Label	Frequency	Percentage (%)
Agree	3	18.8
Strongly Agree	13	81.3
Total	16	100.0

Table 5.13: Question Q9

Q10: To what extent do you feel design contributes your company’s products or services?

In question Q10 participants were asked to what extent design contributes to their company’s products or services. From Table 5.14 shows that 75% of participants considered that the contribution of design is extremely important in ‘improving the brand identity’. The majority of participants also believe that design contributions to their company’s products or services led to an increase in sales with 37.5 % rating this as important and another 56.3% rating as extremely important.

Design Contribution

	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Improving the brand identity	0	1 [6.3]	3 [18.8]	12 [75.0]	4.69
Increase sales	0	1 [6.3]	6 [37.5]	9 [56.3]	4.50
Recognisable to users	0	2 [12.5]	6 [37.5]	8 [50.0]	4.37
Cutting cost	1 [6.3]	7 [43.8]	2 [12.5]	6 [37.5]	3.81

Table 5.14: Question Q10 data

Q11: Which between brand and design is given the highest priority or investment by your company?

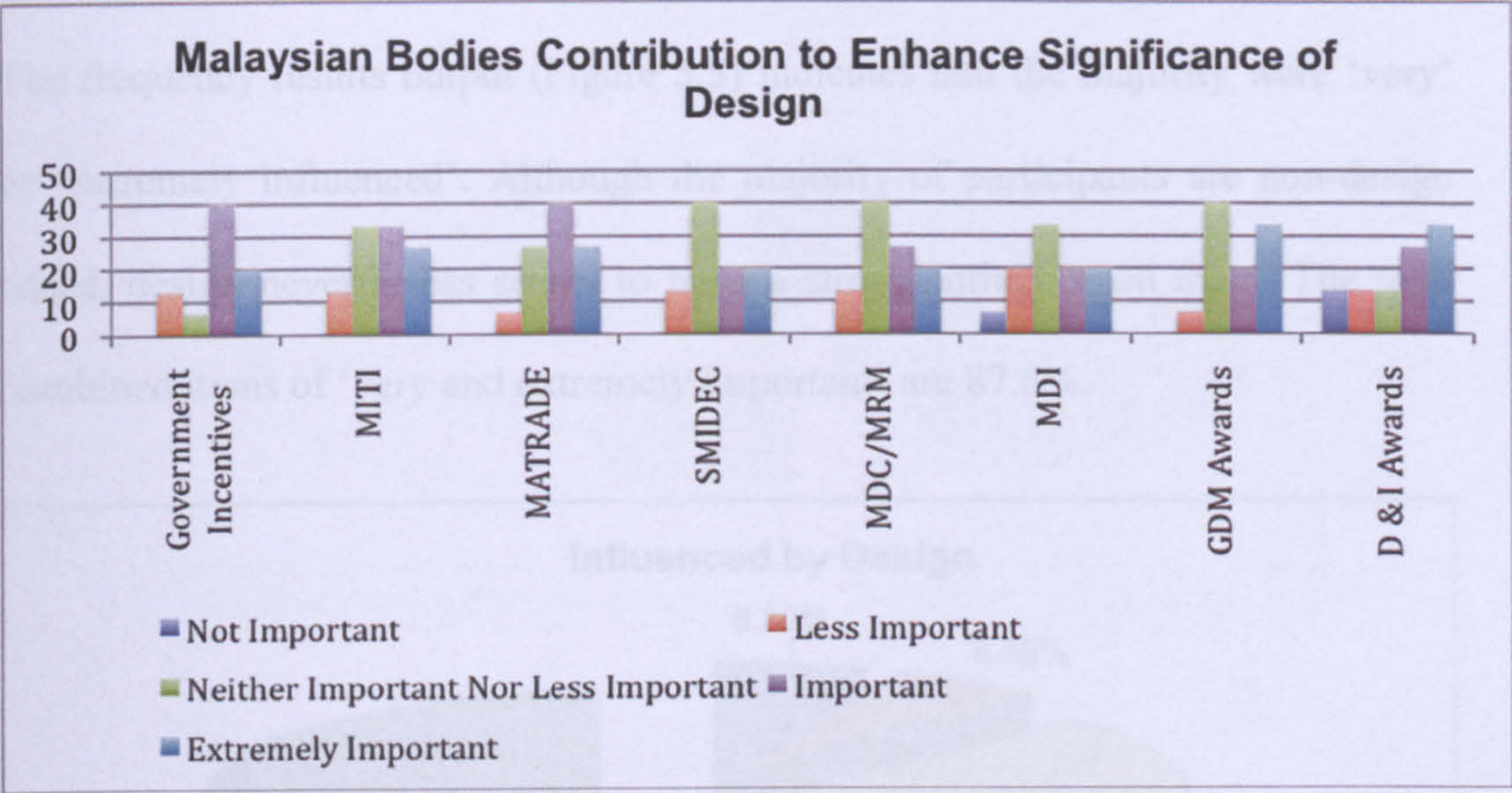
From the frequency, participants were further asked between brand and design for which area is given the highest priority or investment from their companies. From the frequency output, Table 5.15 indicates that item ‘design’ was given the highest priority or investment by manufacturer with 93.8% (high and very high) compared to item ‘brand’ with 62.5% (high and very high) in total.

Design and Brand Investment					
	Low	Average	High	Very High	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Brand	1 [6.3]	5 [31.3]	4 [25.0]	6 [37.5]	3.88
Design	0	1 [6.3]	9 [56.3]	6 [37.5]	4.31

Table 5.15: Question Q11 data.

Q12: To what extent do you think following organisations or awards contribute to enhance the significance of design to the SME/SMI?

Malaysian participants were asked through variable Q12 to rate the organisations or awards that contribute towards enhancing the significance of design within the SMEs. The results indicated that 80% of participants agreed that the ‘government incentives’ were ‘very’ and ‘extremely important’ in enhancing the design importance within the SME (Table 5.16). The participants’ perceptions appear to support the literature discussions on Malaysian and UK SMEs (Chapter 3) on how the ‘government incentives’ contribute to enhance the significance of design for both Malaysian SMEs as well as UK SMEs.



Malaysian Bodies Contribution to Enhance Significance of Design

	Not Important	Less Important	Not Important Neither Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Government Incentives *	0	2 [13.3]	1 [6.7]	6 [40.0]	6 [40.0]	4.07
MITI *	0	2 [13.3]	5 [33.3]	5 [33.3]	3 [20.0]	3.60
MATRADE *	0	1 [6.7]	4 [26.7]	6 [40.0]	4 [26.7]	3.87
SMIDEC *	0	2 [13.3]	6 [40.0]	3 [20.0]	4 [26.7]	3.60
MDC/MRM *	0	2 [13.3]	6 [40.0]	4 [26.7]	3 [20.0]	3.53
MDI *	1 [6.7]	3 [20.0]	5 [33.3]	3 [20.0]	3 [20.0]	3.27
GDM Awards *	0	1 [6.7]	6 [40.0]	2 [20.0]	5 [33.3]	3.80
D&I Awards *	2 [13.3]	2 [13.3]	2 [13.3]	4 [26.7]	5 [33.3]	3.53

* 1 missing value

Table 5.16: Question Q12 data

Q13: How much are you influenced by design?

The frequency results output (Figure 5.5) indicates that the majority were ‘very’ or ‘extremely influenced’. Although the majority of participants are non-design based, design nevertheless seems to have a strong influence on them. The total combined items of ‘very and extremely important’ are 87.6%.

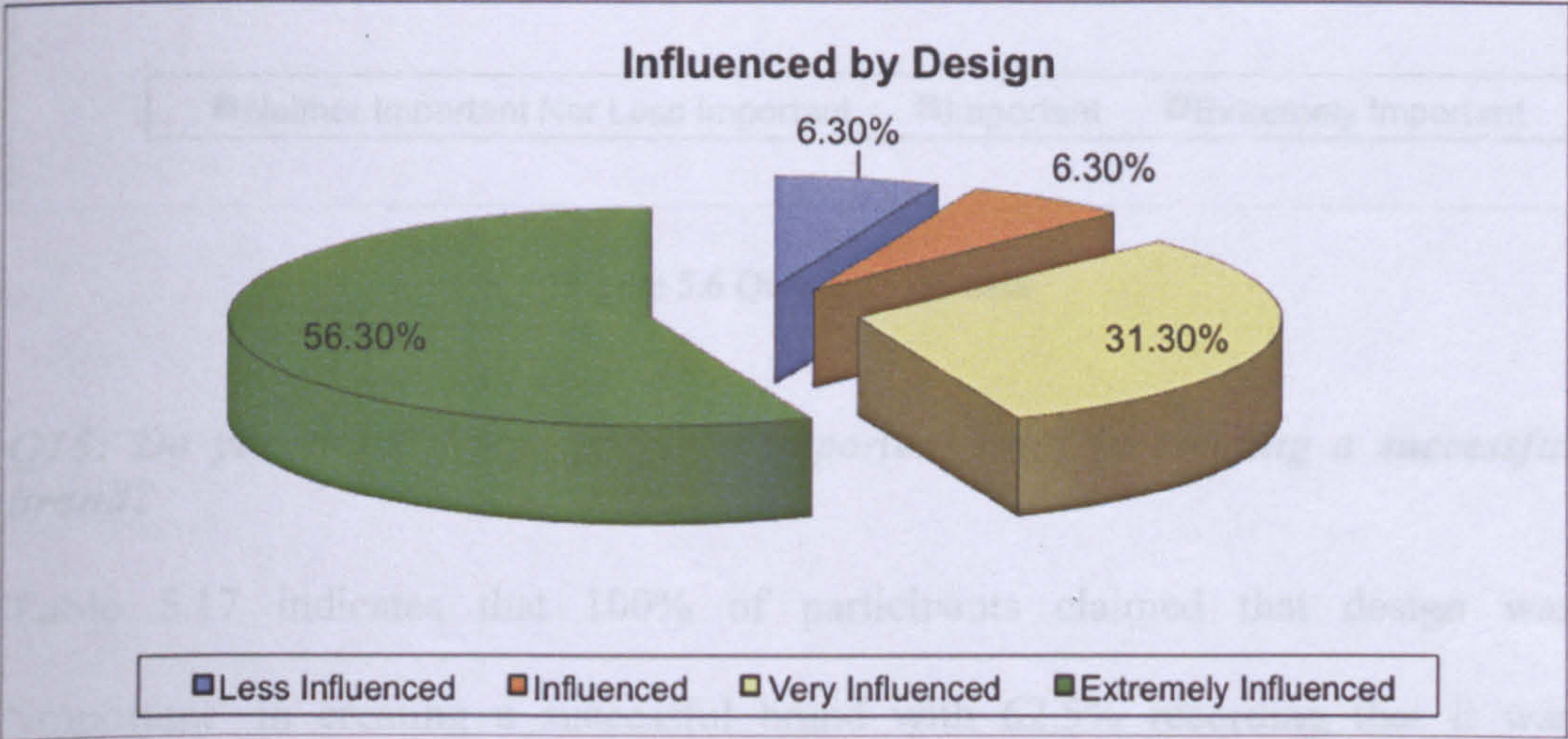


Figure 5.5: Question Q13 data

Q14: Do you think design is important in influencing the customers when they choose a product?

The participants were also asked in question Q14 if they think that design is an important factor in influencing customers when choosing a product. Recorded frequency data output (Figure 5.6) shows that overall participants think design is an important factor, and furthermore the majority of them (56.3%) think it was extremely important.

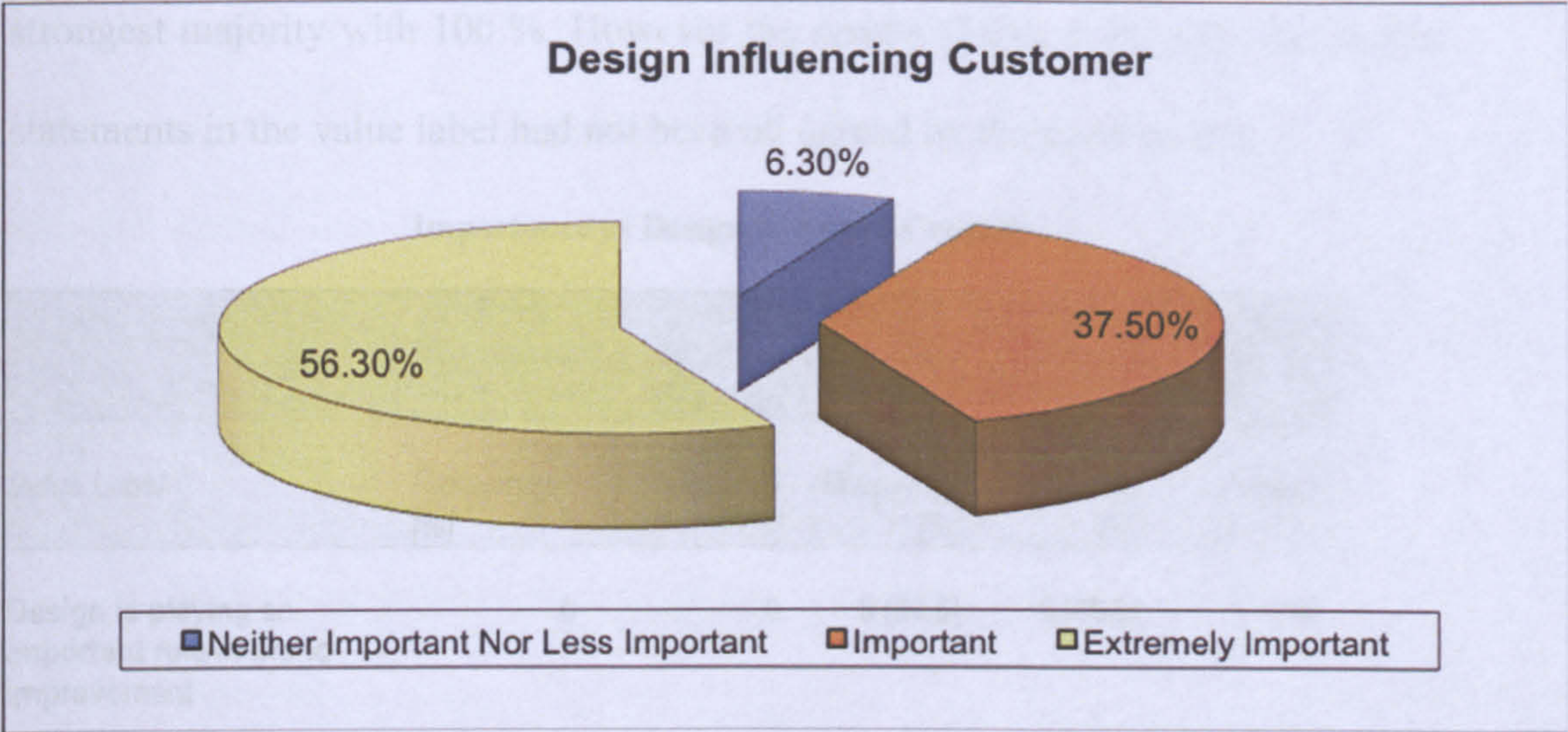


Figure 5.6 Question Q14 data

Q15: Do you think design plays an important roles in creating a successful brand?

Table 5.17 indicates that 100% of participants claimed that design was ‘important’ in creating a successful brand with 62.5% recording that it was ‘extremely important’.

Design Creating Successful Brand			
Value Label	Frequency	Percentage (%)	Mean
Important	6	37.5	
Extremely Important	10	62.5	
Total	16	100	4.63

Table 5.17: Question Q15 data

Q16: Do you agree or disagree with the statements below regarding the importance of design in brand creation?

For question Q16, participants were asked whether they agree or disagree with statements in relation to the importance of design in brand creation. The statement that ‘design was playing an important role in brand improvement’ had the

strongest majority with 100 %. However the results (Table 5.18) also shows that statements in the value label had not been all agreed by the participants.

Importance of Design in Brand Creation

	Strongly Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
<i>Value Label</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Mean</i>
Design is playing an important role in brand improvement	0	0	8 [50.0]	8 [50.0]	4.50
Design is playing an important role in brand management	0	4 [25.0]	8 [50.0]	4 [25.0]	4.00
Design present brand character for key consideration*	0	0	11 [73.3]	4 [26.7]	4.27
Design behaves like an extension of marketing promotion	1 [6.3]	0	7 [43.8]	8 [50.0]	4.31

* 1 missing value.

Table 5.18: Question Q16 data

It would appear that the importance of design in brand creation has been recognised by participants. In fact, participants' designation and involvement in company that was discussed earlier (Table 5.5) enables them to comment on the effectiveness of design as an extension of marketing promotion (93.8% agree and strongly agree; Table 5.18). All participants agreed that design present brand character for key consideration. Therefore most of participants (75%; agree and strongly agree) believed that design plays an important role in brand management.

Q17: Design helps a brand to evolve.

Overall results (Table 5.19) indicated that 73.3% of the participants agreed or strongly agreed that design does help a brand to evolve. However 26.7% of participants neither agree nor disagree or disagreed that design able to helps a brand to evolve.

Design Helps Brand to Evolve

Value Label	Frequency	Percentage (%)	Mean
Strongly Disagree	1	6.7	
Disagree	1	6.7	
Neither Agree nor Disagree	2	13.3	
Agree	3	20.0	
Strongly Agree	8	53.3	
Total	15 *	100.0	4.07

* 1 missing value.

Table 5.19: Question Q17 data

Q18: Do corporate executives think differently from designers in promoting good design values.

Table 5.20 shows participant perception of whether corporate executive think differently from designers in promoting good design values. Interestingly, most of participants (50% agree or 12.5% strongly agree) admitted to differences in opinion or thinking. Although this may be seen as a common phenomenon in most companies, 18.8% of participants neither agreed nor disagreed while 17.8% disagreed. It is assumed that the disagreement on this issue was because of their awareness on roles of design and design importance in the discussion earlier (Tables 5.9, 5.13, 5.14 and 5.15). These participants, therefore, able to value design and appreciate designer roles in their company.

Corporate Executive Think Differently from Designers

Value Label	Frequency	Percentage (%)	Mean
Strongly Disagree	1	6.3	
Disagree	2	12.5	
Neither Agree nor Disagree	3	18.8	
Agree	8	50.0	
Strongly Agree	2	12.5	
Total	16	100.0	3.50

Table: 5.20 Question Q18 data

Q19: Corporate managers overseeing design must have an artistic sense or creativity.

In question Q19, participants were asked whether they agree or disagree that corporate managers overseeing design must have an artistic sense or creativity. The result shows that 62.5% of participant agreed while only one participant disagreed. However, the remaining 5 participants (31.3%) neither agreed nor disagreed on the need of artistic sense or creativity in overseeing design.

Managers Overseeing Design must have Creativity

Value Label	Frequency	Percentage (%)	Mean
Disagree	1	6.3	
Neither Agree nor Disagree	5	31.3	
Agree	6	37.5	3.81
Strongly Agree	4	25.0	
Total	16	100.0	

Table 5.21: Questione Q19 data.

Q20: What is your perception on this view below in regards to design and brand?

Question Q20 was asked in order to identify participants' views in regards to design and brand. Frequency results in Table 5.22 indicates that 81.3% of participants 'agree with the statement' design makes a brand distinctive in a crowd. In relation to variable Q16 (Table 5.18) generally participants saw a

significant role for design in their company. Possibly their past experiences have demonstrated how design makes a brand distinctive in a crowd with 100% of participants agreeing. Therefore all participants seem to recognise design as a powerful instrument in establishing brand. The majority of participants 68% agreed that “design would determine a brand’s success”. Whereas the remaining 31.3%, neither agreed nor disagreed.

Perception on Design and Brand Views

	Strongly Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
<i>Value Label</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Frequency [%]</i>	<i>Mean</i>
Design is a powerful instrument in establishing a brand.	0	0	7 [43.8]	9 [56.3]	4.56
Design makes a brand distinctive in a crowd.	1 [6.3]	0	2 [12.5]	13 [81.3]	4.63
Design determines a brand’s success.	0	5 [31.3]	3 [18.8]	8 [50.0]	4.19

Table 5.22: Question Q20 data

From the above discussions, the results indicate the overall views of participants from the Malaysian SME manufacturing sector in the first stage of this analysis. The remaining data needing to be analysed from this questionnaire survey came from an open-ended questions for question Q21 to Q24. Accordingly, these data have been treated as qualitative data because of the nature of the questions and data outputs. Subsequently these data will be presented separately in the next stage of data analysis in the next chapter.

5.8.2 Malaysian Design Consultants Findings

The following descriptions are results from Malaysian design consultants involved with industrial and engineering design for the manufacturing sectors. As stated in Chapter Four (Research Design and Methodology) there were a very limited number of design companies in this area of services in Malaysia.

Malaysian Design Participants' background

Variable	Value Label	Frequency	Percentage (%)
Gender	Male	4	100
Age	31-40	3	75
	51-60	1	25
Ethnic	Malay	2	50
	Chinese	2	50
Occupation	Designer	1	25
	Other	3	75
Others	Managing Director	2	50
Occupation	Operation Manager	1	25

Table 5.23: Malaysia Design Participants' background data.

The Malaysia Design Council (MDC/MRM) (2006) stated that based on their random survey of Malaysian companies, the majority of the manufacturing companies do set up their own in-house design solution team. This is primarily based on cost and time effectiveness. These factors, as well as limited market demand have therefore failed to sustain the external industrial design service providers in Malaysia to a great extent.

These results are based on the frequency and descriptive (means) outputs which are similar to the earlier presentation of data findings from Malaysia manufacturing SMEs. The participants' personal background shows that all participants are male and the majority are 31 to 40 years old except one participant as shown in Table 5.23. There were equal percentages between Malay

and Chinese ethnic groups (50%) who occupied varied positions in their companies. However they are directly responsible for design decision-making in the company since they were formerly designers or had multi-tasking roles.

Q1; How many years has the company has been established?

From the frequency output of the variable Q1, the result (Table 5.24), shows that 75% of the consultant companies have been established for the past 16-20 years. The number of years of experience and establishment advantages this study where participants shared their experiences dealing with the clients.

Company’s Years of Establishment

Value Label	Frequency	Percentage (%)
4-9 years	1	25
16-20	3	75

Table 5.24: Question Q1 data

Q2: How many employees are there in the design department?

Question Q2 output (Table 5.25) indicated the number of design team staff in the company. 50% of the participants replied that most the companies surveyed have between 16 to 20 employees.

Numbers of Employees in Design Department

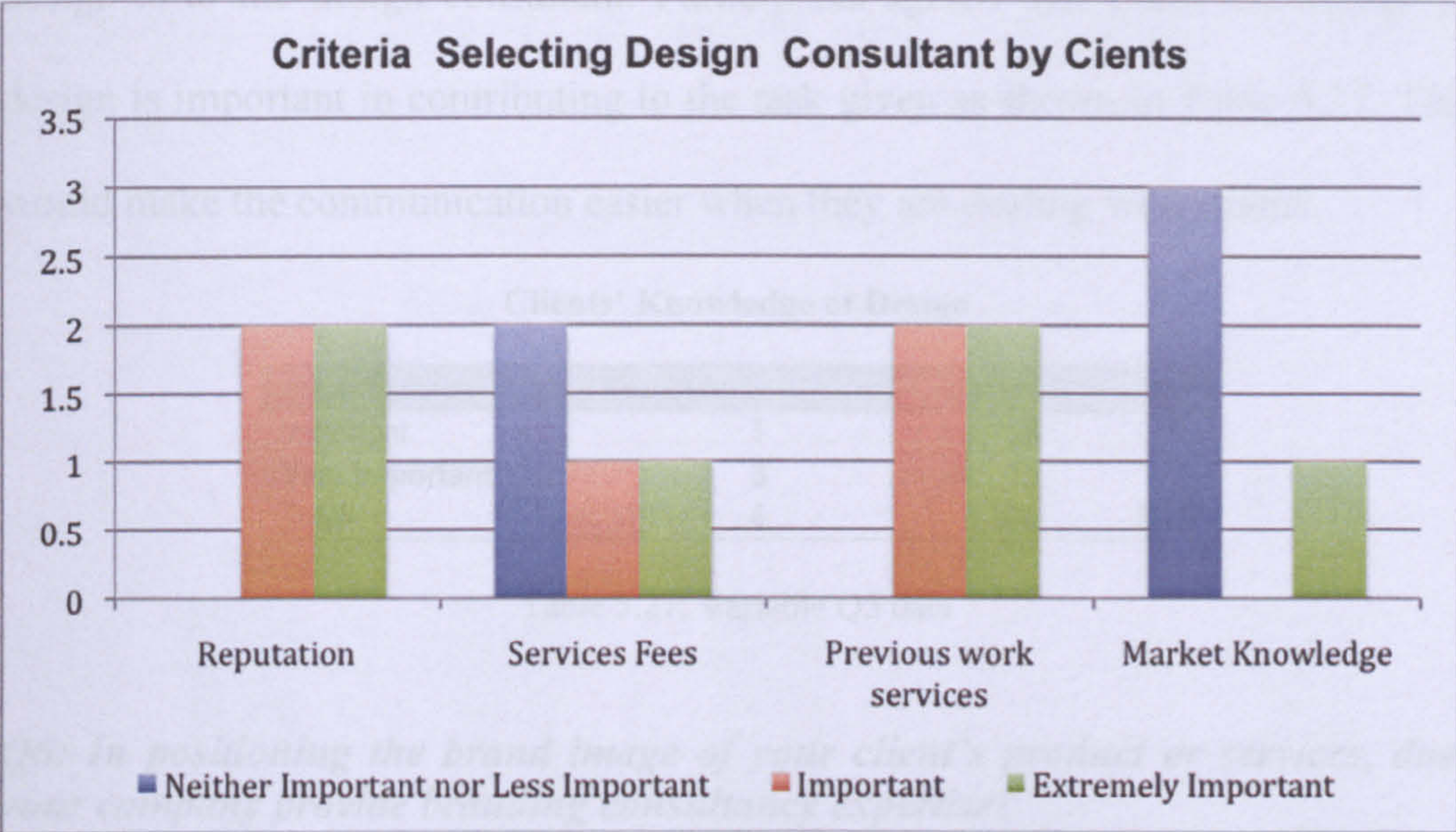
Value Label	Frequency	Percentage (%)
4 – 9	1	25
10 – 15	1	25
16 - 20	2	50

Table 5.25: Question Q2 data

Q4; How do your clients rate the following criteria when selecting the design consultant?

For question Q4, design participants indicated that ‘quality of work’ seems to be the main criteria for clients when selecting a design consultant (Table 5.26). One

can therefore assume that the work produced would influence the ‘reputation’ of a design consultant. ‘Previous work experience’ was also an important factor that influenced the clients in their selection.



Criteria Selecting Design Consultant by Clients				
	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Reputation	0	2 [50]	2 [50]	4.50
Service Fees	2 [50]	1 [25]	1 [25]	3.75
Previous Work Experience	0	2 [50]	2 [50]	4.50
Market Knowledge	3 [75]	0 [0]	1 [25]	3.50
Quality of Work	0	0 [0]	4 [100]	5.00

Table 5.26: Question Q4 data

Q5: Do you think that your clients knowledge in design is important and contribute in the task given ?

The Q5 question was used to find out how important the clients’ knowledge of design is to the design consultant. Participants agreed that client knowledge of design is important in contributing to the task given as shown in Table 5.27. This would make the communication easier when they are dealing with clients.

Clients’ Knowledge of Design			
Value Label	Frequency	Percent	Mean
Important	1	25	
Very Important	3	75	
Total	4	100	3.75

Table 5.27: Variable Q5 data

Q6: In positioning the brand image of your client’s product or services, does your company provide branding consultancy expertise?

Participants were asked whether they provide branding expertise or advice to their clients (Table 5.28). The result showed that the majority of the design consultants did provide these services to their clients. This would enhance clients understanding of design activity within their business and target market.

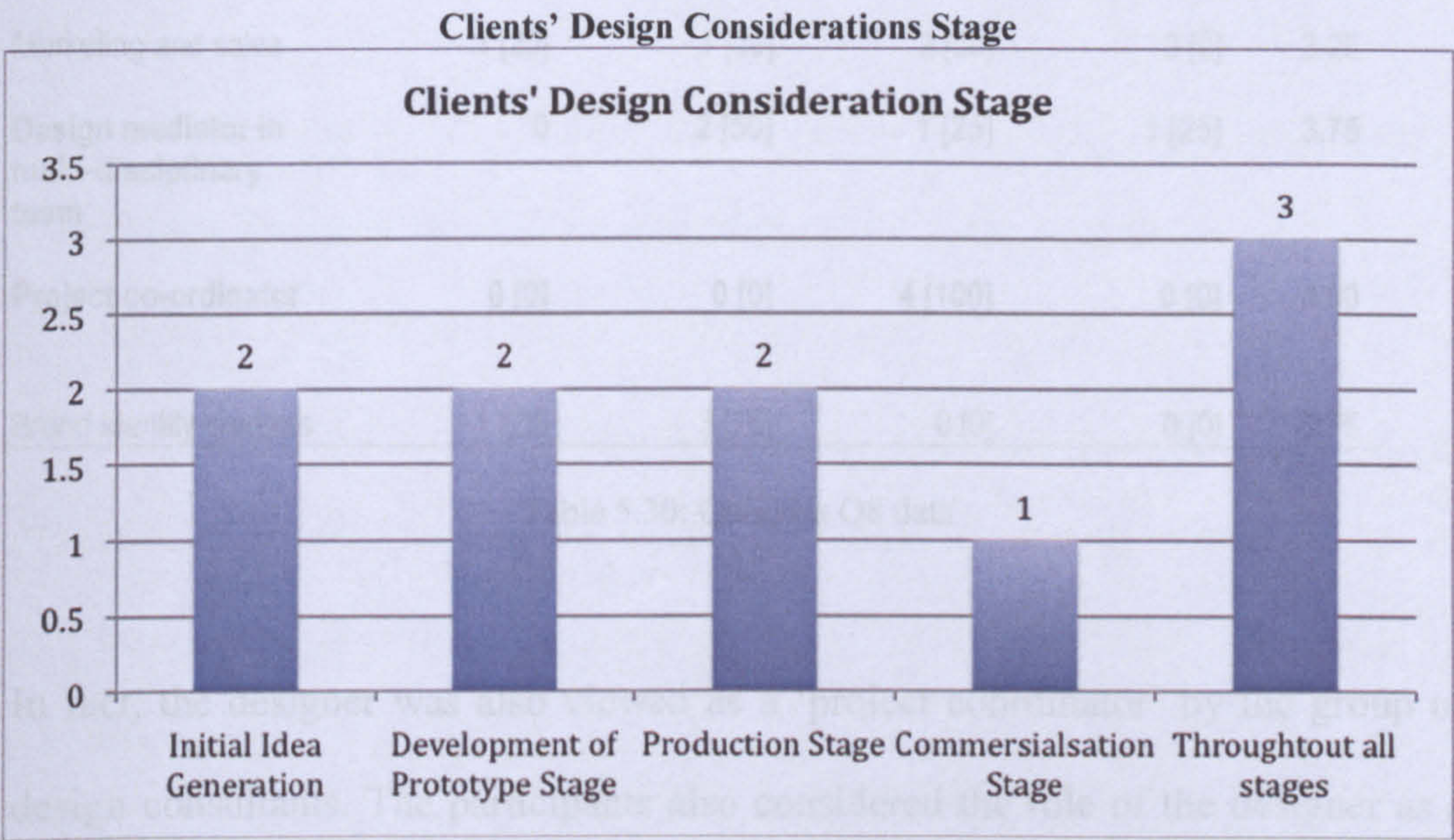
Branding Advice		
Value Label	Frequency	Percentage (%)
Yes	3	75
No	1	25
Total	4	100

Table 5.28: Question Q6 data

Q7: At what stage in the operation does the majority of your clients bring design considerations into play?

In the question Q7, the design consultant participants were asked about the stages of design usually considered in dealing with client projects. The result in Table

5.29 shows that a majority of participants stated that design was considered throughout all stages (75%). The results also show that design is usually considered at the first three stages. However, initial idea generation, development of prototype and production, are common stages where design was usually considered or involved.



Value Label	Frequency	Percentage (%)	Mean
Initial idea generation stage	2	50	1.50
Development of prototype stage	2	50	1.50
Production stage	2	50	1.50
Commercialisation stage	1	25	1.75
Throughout all stages	3	75	1.25

Participants were allowed to provide more than one answer.

Table 5.29: Question Q7 data

Q8: How do you rate the role of the designer in the process of the new product development in company?

For the Question Q8, participants were asked to rate the role of the designer in the process of new product development. The results indicate that 75% of design consultant sees designer as ‘an aesthetic specialist’ as shown in Table 5.30.

Role of Designer in NPD					
	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Aesthetic specialist	0	1 [25]	0 [0]	3 [75]	4.50
Marketing and sales	1 [25]	1 [25]	2 [50]	0 [0]	3.25
Design mediator in multi-disciplinary team	0	2 [50]	1 [25]	1 [25]	3.75
Project co-ordinator	0 [0]	0 [0]	4 [100]	0 [0]	4.00
Brand identity creators	1 [25]	3 [75]	0 [0]	0 [0]	2.75

Table 5.30: Question Q8 data

In fact, the designer was also viewed as a ‘project coordinator’ by the group of design consultants. The participants also considered the role of the designer as a ‘design mediator in a multi-disciplinary team’ where usually the designer needs to deal with engineering, marketing and production staff. The designer therefore is expected to be able to understand, integrate and communicate with engineer, marketing and production staff in ensuring the viability of the product future.

Q9: Does design have a significant role in modelling the future of your client’s company?

For the question Q9, participants were asked to comment on the significance of design in clients’ companies. The overall results in Table 5.31 appear to suggest that all design consultants believed that design have a significant role in modelling the future of their client company.

Design has Significant Role in Clients' Company

Value Label	Frequency	Valid Percent
Agree	1	25
Strongly Agree	3	75
Total	4	100

Table 5.31: Question Q9

Q10: To what extent do you feel design contribute to your client’s products or services?

Question Q10 were posted to search for the perceived level of design contribution to the client company future. The results shows in Table 5.32 revealed that 100% of participant thought that design contributed significantly to ‘increased sales’ for the client. Participants also agreed that through design, the client’s products or services are ‘recognisable to the users’. Therefore, in relation to this, it may be said that design recognition has improved the client’s brand identity as agreed by all participants.

Design Contribution

	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Improving the brand identity	0 [0]	4 [100]	0 [0]	4.00
Increase sales	1 [25]	0 [0]	3 [75]	4.50
Recognisable to users	0 [0]	3 [75]	1 [25]	4.25
Cutting cost	1 [25]	2 [50]	1 [25]	4.00

Table 5.32: Question Q10 data

Q11: Which between brand and design is given the highest priority or investment by your clients?

In question Q11, participants were asked which was given the highest priority by their clients - design or branding investment. All participants claimed that their clients placed their highest investment in design (Table 5.33).

Clients' Design and Brand Investment				
	Average	High	Very High	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Brand	2 [50]	1 [25]	1 [25]	3.75
Design	0 [0]	0 [0]	4 [100]	5.00

Table 5.33: Question Q11 data

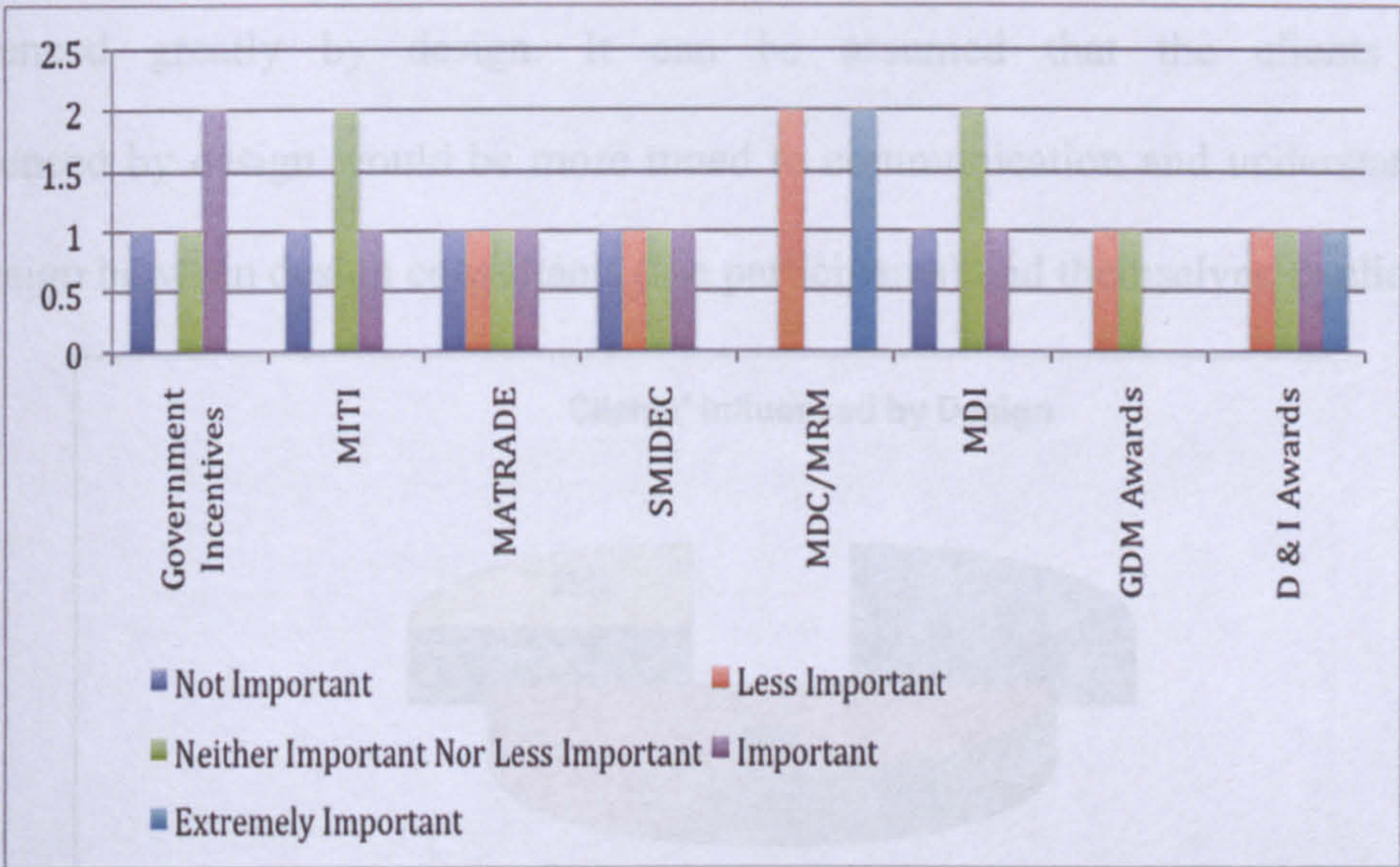
This phenomenon was influenced by factors such as market competition, product enhancement and understanding of the role-play by design. Better design investments by the clients were also influenced by the GDM awards and consumers design awareness. The participants are not aware whether their clients have sought elsewhere for other branding advice.

Q12: To what extent do you think the following organisation or awards contribute to enhance the significance of design to the SME/SMI?

In the output for question Q12 (Table 5.34), participants were asked ‘to what extent the Malaysian organisations or awards contribute to enhance the significance of design’ in SMEs. It appeared that GDM awards, contributed to design enhancement while the MDC/MRM as the organiser also have significant

roles in promoting design to SMEs. Design consultants believe that design awards will increase and promote greater design understanding to the SMEs.

Malaysian Bodies Contribution to Enhance Significance of Design

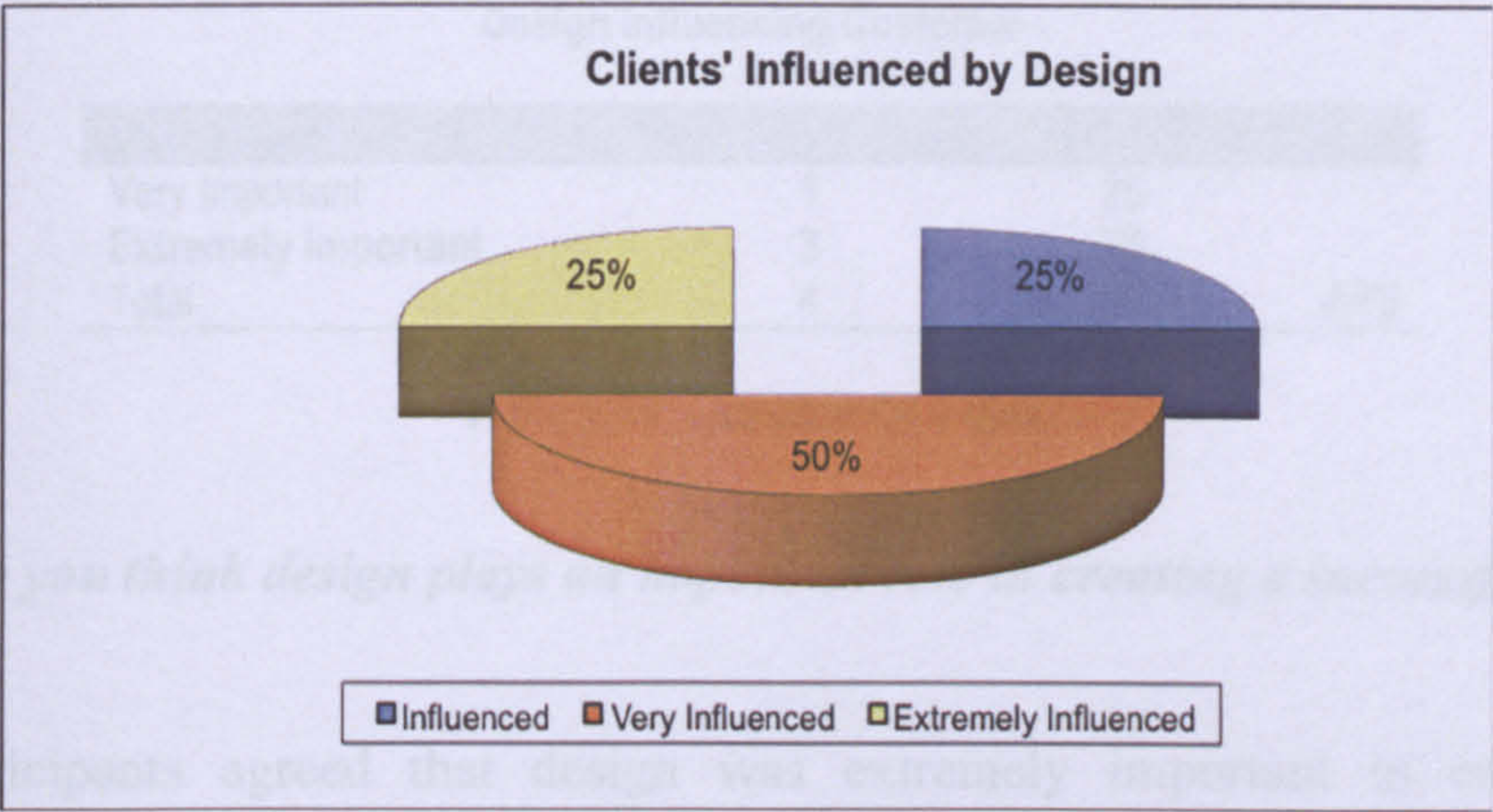


	Not Important	Less Important	Important	Very Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Government Incentives	1 [25]	0 [0]	1 [25]	2 [50]	0 [0]	3.00
MITI	1 [25]	0 [0]	2 [50]	1 [25]	0 [0]	2.75
MATRADE	1 [25]	1 [25]	1 [25]	1 [25]	0 [0]	2.50
SMIDEC	1 [25]	1 [25]	1 [25]	1 [25]	0 [0]	2.50
MDC/MRM	0	2 [50]	0 [0]	0 [0]	2 [50]	3.50
MDI	1 [25]	0 [0]	2 [50]	1 [25]	0 [0]	2.75
GDM Awards	0	1 [25]	1 [25]	0 [0]	2 [50]	3.75
D&I Awards	0 [0]	1 [25]	1 [25]	1 [25]	1 [25]	3.50

Table 5.34: Question Q12 data

Q13: How much are your clients influenced by design?

For question Q13 (Table 5.35), participants were asked how much their clients are influenced by design. The results clearly indicated that participants’ clients were influenced greatly by design. It can be assumed that the clients thus influenced by design would be more tuned to communication and understanding of design between design consultants (the participants) and themselves as clients.

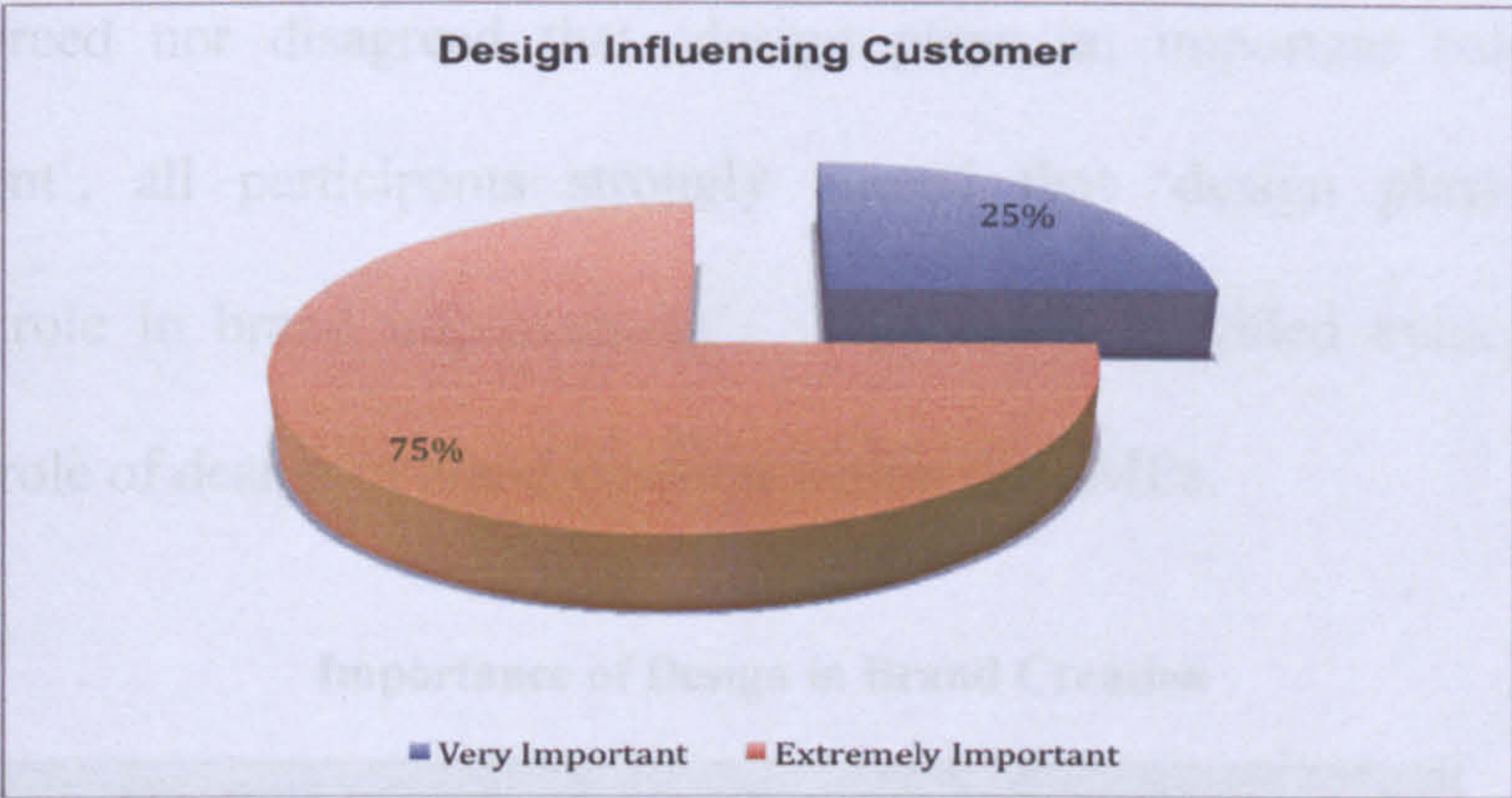


Clients' Influenced by Design			
Value Label	Frequency	Valid Percent	Mean
Influenced	1	25	
Very Influenced	2	50	
Extremely Influenced	1	25	
Total	4	100	4.00

Table 5.35: Question Q13 data

Q14: Do you think design is important in influencing the customers when they choose a product?

In question Q14, answers revealed that participants believed design is important in influencing customers when they choose a product (Table 5.36). Therefore, design may be assessed as a device for clients to understand and appreciate design.



Design Influencing Customer

Value Label	Frequency	Percentage (%)	Mean
Very Important	1	25	
Extremely Important	3	75	
Total	4	100	4.75

Table 5.36: Question Q14 data

Q15: Do you think design plays an important role in creating a successful brand?

All participants agreed that design was extremely important in creating a successful brand (question Q15, Table 5.37). It may be suggested that design is important to all participants companies and to the success of their product and brand.

Design Creating Successful Brand

Value Label	Frequency	Percentage (%)	Mean
Extremely Important	4	100	
Total	4	100	5.00

Table 5.37: Question Q15 data

Q16: Do you agree or disagree with the statements below regarding the importance of design in brand creation?

In assessing the question Q16 participants agreed that design makes an important contribution to brand creation as shown in Table 5.38. Although one participant

neither agreed nor disagreed that ‘design plays an important role in brand management’, all participants strongly agreed that ‘design plays the most important role in brand improvement’. This result provided evidence on the important role of design in brand creation within the SMEs.

Importance of Design in Brand Creation				
	Neither Agree nor Disagree	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Design is playing an important role in brand improvement	0	0 [0]	4 [100]	5.00
Design is playing an important role in brand management	1 [25]	2 [50]	1 [25]	4.00
Design present brand character for key consideration	0	1 [25]	3 [75]	4.75
Design behaves like an extension of marketing promotion	0	1 [25]	3 [75]	4.75

Table 5.38: Question Q16 data

Q17: Do design helps a brand to evolve.

For question Q17, the participants were asked whether design helps a brand to evolve. From the positive response to the previous question Q16, it was expected that participants would agreed with the statement that design does help a brand to evolve. The awareness of the importance of design in brand creation enables them to value the design functions.

Design Helps Brand to Evolve

Value Label	Frequency	Percentage (10%)t	Mean
Agree	1	25	
Strongly Agree	3	75	
Total	4	100	4.75

Table 5.39: Question Q17 data

Q18: Do clients think differently from designers in promoting good design values.

It is assumed that the participants’ experiences as design consultants in dealing with their clients may have influenced their perceptions. Therefore, the results for question Q18 show that a majority of participants ‘neither agreed nor disagreed’ that their clients often think differently from designers in promoting good design value. Presumably the greater design awareness among clients had improved this interaction.

Clients Think Differently from Designers

Value Label	Frequency	Percentage (%)	Mean
Neither Agree nor Disagree	3	75	
Agree	1	25	
Total	4	100	3.25

Table: 5.40: Question Q18 data

Q19: Do you think that clients overseeing design must have an artistic sense or creativity.

For frequency output question Q19, the majority of design consultants thought that clients overseeing design must have an artistic sense or creativity. It is assumed that for a design consultant, having a client thus advantaged would assist

in recognising and appreciating the designer’s task. This would provide advantage in assisting the clients to overseeing design in their company.

Clients Overseeing Design must have Creativity

Value Label	Frequency	Percentage (%)	Mean
Neither Agree nor Disagree	1	25	
Agree	2	40	
Strongly Agree	1	25	
Total	4	100	4.00

Table 5.41: Question Q19 data

Q20: What is your perception on the views below in regards to design and brand?

From the frequency output question Q20 shown in Table 5.44, participants clearly indicated that design is a powerful instrument in establishing a brand. The majority of participants also believe that design enables a brand to be distinctive in the crowd. Distinctive, original and unique design would make the specific product recognisable or attractive compared to competitors. The results demonstrate the participants understanding of the association of design and brand.

Perception on Design and Brand

	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Design is a powerful instrument in establishing a brand.	0	0	1 [25]	3 [75]	4.75
Design makes a brand distinctive in a crowd.	0	1 [25]	0	3 [75]	4.50
Design determines a brand's success.	1 [25]	0	2 [50]	1 [25]	3.75

Table 5.42: Question Q20 data

Similar to the first presentation of data findings (section 5.8.1) for the Malaysian SME manufacturing sector, the above results indicated the overall frequency for Malaysian design consultants focusing on manufacturing design services. As indicated earlier the remaining data from the questionnaire survey for variables Q21 to Q24 come from the open-ended questions. This has been treated as qualitative data and will be presented in the next chapter (In-depth Findings).

5.8.3 Stage One Findings of Malaysian SME Participants

According to the data analysis, the initial key findings for the Malaysian SME participants in both sectors (SME manufacturing and design consultant) can be summarised as follows:

- 1) From the findings, current design practice seems to be an important agenda in most of the SME companies surveyed. The majority of participants recognised design as extremely important to their business. The survey also shows that having in-house design or engaging a design consultant has grown to be a practice within Malaysian SMEs. Therefore, it is suggested that design is vital to the selected Malaysian SMEs particularly in product or services sectors. While design is often linked to brand and creative management, however design may be handled in different ways either utilising their in-house design or by outsourcing to design consultants.

- 2) Most of the Malaysian SME participants have their own in-house design unit located mainly within their R&D departments comprising a multi-disciplinary team. Commonly the R&D department consists of designers (industrial, product and furniture) alongside engineers (mechanical, electrical and production). The number of employees is between one and 16 people. For some companies, the design of a new product or the enhancement of the design of an existing product is developed by outsourcing to a design consultant.

- 3) The findings also suggested that there are very few design consultants that focus on providing design solutions for industry and manufacturing. However, the survey design consultant participants surprisingly stated that it was not possible for them to sustain their business. Low in market demand influences this situation despite their important roles in the development of new products. Therefore, there isn't sufficient call on their services. The preference for in-house design, either in the form of R&D or of employing a designer has contributed to this phenomenon. It is also indicated in the findings that a majority of the participating companies engage with external branding consultants to enhance their company's product or services brand image.

- 4) The finding from the Malaysian SMEs survey participants shows that senior management makes decisions even on design issues. For example, the Managing Director is the key person in making any decision on design work or is mainly responsible for the managing of product development in a company.
- 5) Design and brand success can be affected by a design consultant's strategic decisions and actions. Indeed, the decision to engage a design consultant can have a significant impact on the specific product and brand. Quality of work therefore appears to be the most significant criterion in the selection of design consultants by the Malaysian SME. In fact, design consultants surveyed also agree that quality of work represents a key criterion or benchmark for clients in their selection decision. Previous work experience provides a reference for the SME and usually is associated with design consultant reputation.

Another unexpected finding was that the service fees are not considered as an important issue to the SMEs and design consultant participants. These contrasts with the prevailing view seen in the literature which stated that investment in design typically becomes a finances constraint for the Malaysian company (refer Chapter Three, Malaysian and UK SMEs). This phenomenon was thought to be

influenced by two factors for the SME companies; having an in-house design team and an awareness of design importance.

- 5) Generally, design was considered at all stages in the product development process. However, the findings demonstrated that design was usually considered at three stages; initial idea generation, development of prototype and production. At these three stages, significant decisions were usually made to determine the direction of the project that would lead to the actual production and commercialisation of the product.
- 6) Malaysian SME participants believed that designers play an important part in forecasting for the company's future. A designer therefore must be aware of current design and trends and also of management of design in their company. Consumer perceptions of designer usually associated them with product appearance, therefore as expected, the designer's role is considered as 'aesthetic specialist' by the participants. The designer was also defined as a 'brand identity creator'. Therefore, it is suggested that the designer communicate and deliver the messages, functions and character of specific products and brands to consumers through design or form.

It appeared that designer's job is more than as an aesthetic specialist or to define the specific brand identity of a specific company. Therefore, designers should convincingly communicate their capability as a creative agent to those involved in the product development process. In fact, designers are closely linked to their environment or surrounding by creating the trusted interactions across 'multi disciplinary team' and as a 'project co-ordinator'.

- 7) Malaysian SMEs who participated in this initial survey appear to strongly agree that design has a significant role in modelling the company's future (see the research questions Chapter Four in section 4.3). Not only did the SME participants acknowledged the significant role of design, but also design consultants had similar views of their clients. The findings seem to support this acknowledgement where the investment given by SMEs and design consultant's clients to design is more than an investment in their brand.
- 8) Recognising the importance of design enables companies in Malaysia to make use of design in practice. The participants agreed that design contributes significantly to 'improving the brand identity'. It is suggested that design is a tool or solution to make a product and brand 'recognisable to users' and therefore able to 'increase sales'.

- 9) The Malaysian SME participants appear to hope for better or increased government incentives to enable them to greatly enhance the significance of design in companies. On the other hand, design consultants are looking at the other organisations such MDC/MRM to promote better design awareness and to organise greater awards in a way to enhance design in SMEs.
- 10) Overall results show that the selected SMEs and the design consultants' clients are strongly influenced by the existence of design. Presumably this could be the reason in-house design departments have been set up in companies and investment in design is now being considered as part of a company agenda. New products have been designed or re-designed in order to improve them. As suggested previously, a competitive market increases consumers' choice and purchasing power. Design ends up being a major influence and a vital factor when a consumer chooses a product and this has a significant impact on the success of brands.
- 11) The importance of design in brand creation is undoubted. The SMEs and design consultancy participants in Malaysia agreed that design has a positive impact on brand improvement and management. The findings revealed participants' perceptions on design; that it presents a brand's character and become an extension of marketing promotion.

Another important result from among these participants is their agreement that design helps brand to evolve.

- 12) Other factors in achieving good design practice in Malaysia appear to be the people involved within that discipline. It is felt necessary that both teams that are given design tasks (managers or clients) are recommended to have certain levels of design and creative understanding. This will enable the person coordinating the task (designer or design consultant) to provide a successful solution and design output. Basically both SMEs and design consultants agree that this positive relationship would create a special bond between the two groups (for example designer and marketer) of people in order to achieve good results.
- 13) The earlier findings discussed the importance of design and what can be achieved for a brand by embedding design into practice. Further to this, the SMEs and design consultants agreed that design is a powerful instrument in establishing a brand. In fact, participant agreed that design not only will make a brand distinctive in a crowd, but design also determines a brand's success.

5.8.4 UK SME Manufacturing Findings

As indicated earlier in Table 5.3, initially there were 50 companies identified for each of two sectors (UK SME manufacturing and design consultants). However after individual phone contact was made with each potential participant, 49 companies agreed to participate (27 SMEs and 22 design consultants). Out of that figure, 24.4% (both sectors) returned the questionnaires. Another 4 responses were excluded as they returned incomplete questionnaires. Similar sets of questionnaire were used for the UK participants, however the questionnaires were designed and customised for participants in both countries.

UK SME Manufacturing Participants' background

Variable	Value Label	Frequency	Percentage (%)
Gender	Male	3	50
	Female	3	50
Age	21-30	2	33.3
	31-40	2	33.3
	51-60	1	16.7
	Above 61	1	16.7
Ethnic	White	5	83.3
	Asian	1	16.7
Occupation	Design Manager	2	33.3
	Designer	3	50
	Other	1	16.7
Others Occupation	Medical Doctor/Inventor	1	16.7

Table 5.43: UK SME Participants' background data.

UK participants were also requested to disclose some personal details. Table 5.43 shows the participants' background. Results show an equal participation from both genders (male and female) of UK SME manufacturers. Their age group was between 21 – 40 years with two participants above 51 years. All were white

except one who was Asian (British Indian). The results also show that the majority of participants were design managers and designers in SME manufacturing companies except one participant who selected an ‘other’ occupation who was an inventor.

Q1; Does your company have its own in house design department?

The frequency output of question Q1, UK manufacturers’ participants indicates that 83.3% had their own in-house design department. One participant claimed his company doesn’t have its own in-house design department. This led towards question Q3 ‘if no, does your company engage any design consultant’. The result recorded that the company out-sourced design services from an external design consultant.

Companies that own In-house Design Department

Value Label	Frequency	Percentage (%)
Yes	5	83.3
No	1	6.3
Total	6	100

Table 5.44: Question Q1 data.

Q2: If Yes, how many employees are there in that department?

Findings from question Q2 showed that the five companies with an in-house design department have less than five design employees. The small numbers of design employees in these companies is possibly due to the company’s size.

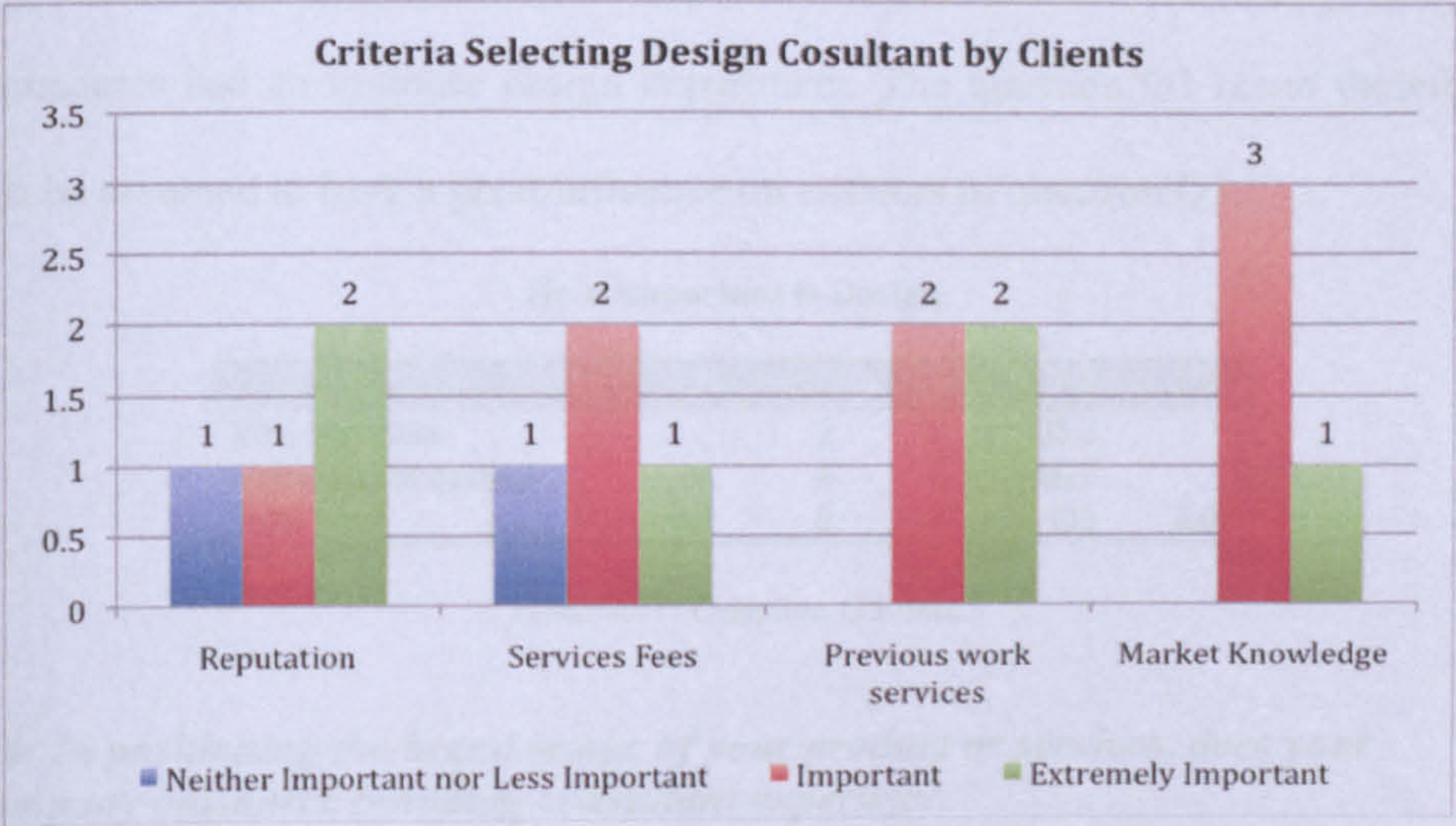
Numbers of Employees in Design Department

Value Label	Frequency	Percentage (%)
Below 5	5	100
Total	5*	100

Table 5.45: Question Q2 data

Q4; How do you rate the following criteria when selecting a design consultant?

In question Q4, it appears that ‘previous work experience’ is the main criterion in selecting a design consultant for UK SME as shown in Table 5.46. Because UK design consultants are more numerous, therefore ‘previous work experience’ has an important role in convincing the client about a consultant’s capability to assist in their product’s success. Further to this, ‘quality of work’ influences participant decision in selecting a design consultant. Participants also recorded that ‘reputation’ was an important factor in selecting a design consultant.



Criteria Selecting Design Consultant by Clients

	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Reputation*	1 [25]	1 [25]	2 [50]	4.25
Service Fees*	1 [25]	2 [50]	1 [25]	4.00
Previous Work Experience*	0	2 [50]	2 [50]	4.50
Market Knowledge*	2 [50]	2 [50]	0	3.50
Quality of Work*	0	3 [75]	1 [25]	4.25

* 2 missing value.

Table 5.46: Question Q4 data

Q5; How important is design in your company?

For question Q5, participants rated whether design had an important influence in their company, and 67% indicated ‘extremely important’. The remaining participants (33%) recorded that design was ‘very important’. This can be correlated with question Q1 which showed that most of the participants’ companies had an in-house design department. The question Q1 result therefore can be assumed to have a great influence on answers to question Q5.

How Important is Design

Value Label	Frequency	Percentage (%)	Mean
Very Important	2	33.3	
Extremely Important	4	66.7	
Total	6	100	4.67

Table 5.47: Question Q5 data

Q6: In positioning the brand image of your product or services, does your company outsource branding consultant expertise?

Participants were asked in question Q6 whether they outsource branding with consultants. Although most of the participants’ companies have an in-house

design department, 40 % also look outside for branding consultants. This approach would enable the evaluation of their brand from other design perception (design consultant). This will enable them to further enhance their product and their brand success.

Outsource Branding Consultant

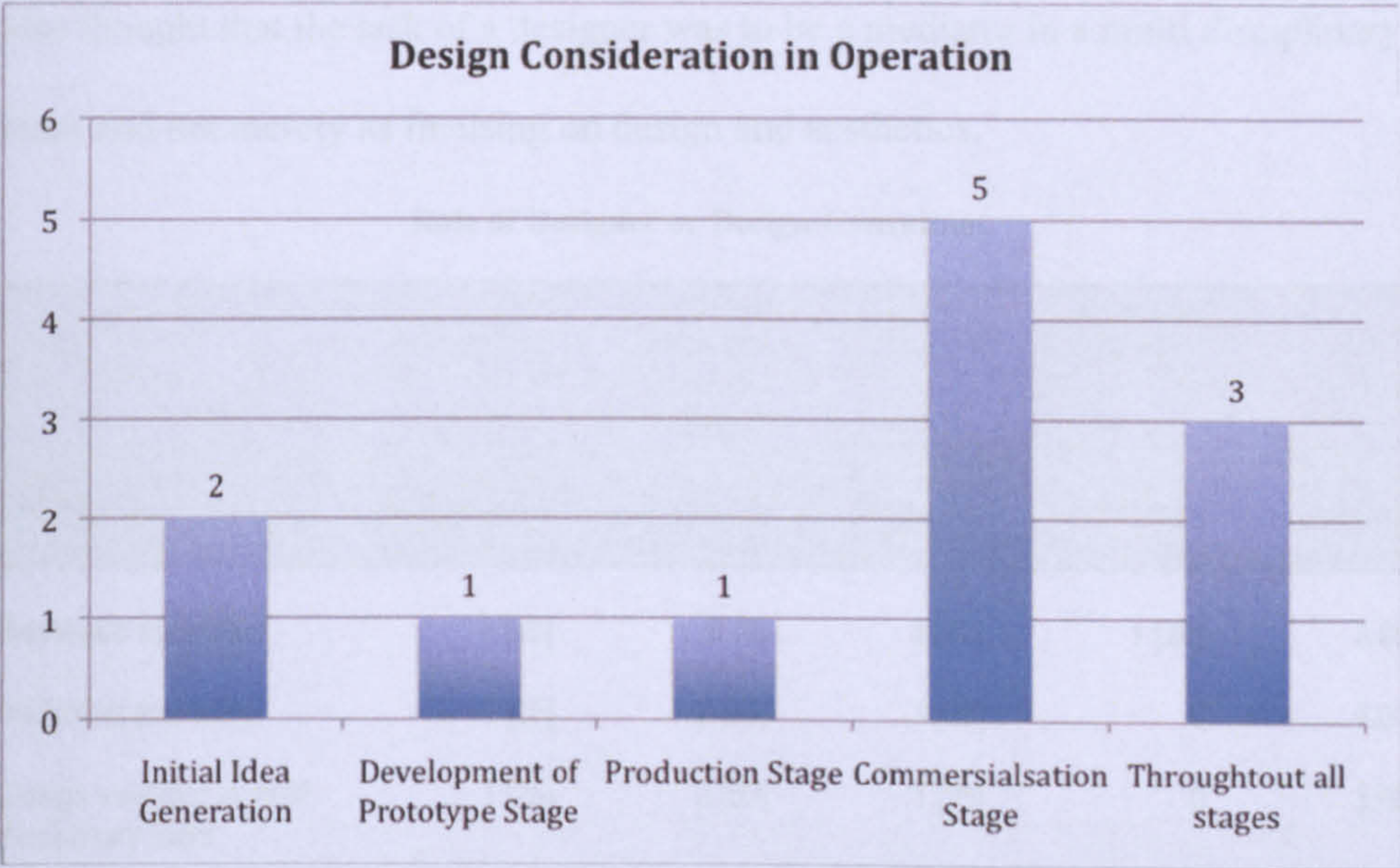
Value Label	Frequency	Percentage (%)
Yes	2	40
No	3	60
Total	5*	100

*1 missing value for this question

Table 5.48: Question Q6 data

Q7: At what stage in your operation are design consideration brought into play?

From the frequency output of question Q7 (Table 5.49), the result showed that design involvement is considered at almost all stages by UK participants (60 %) but varies depending on individual and specific projects. The results revealed that 100 % of participants agreed that design was usually considered at the ‘commercialisation stage’. In fact all the stages involved would determine the future success of the project.



Design Considerations in Operation

Value Label	Frequency	Valid Percent	Mean
Initial idea generation stage	2	40	1.60
Development of prototype stage	1	20	1.80
Production stage	1	20	1.80
Commercialisation stage	5	100	2.00
Throughout all stages	3	60	1.40

Participants were allowed to provide more than one answer and all stages with 1 missing value.

Table 5.49: Question Q7 data

Q8: How do you rate the role of the designer or design consultant in the process of new product development in your company?

In seeking to discover the role of a designer or a design consultant as perceived by UK SMEs (Table 5.50), it appears that all participants see a designer as an aesthetic specialist. One may assume, therefore that it is believed that their specialised aesthetic design skills are able to significantly influence or change consumer decisions. The result indicated that participants also recognise a designer or a design consultant as project co-ordinator. Further to this, participants

also thought that the task of a designer was to be a mediator in a multi disciplinary team and not merely as focusing on design and aesthetics.

Role of Designer or Design Consultant					
	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Aesthetic specialist	1 [20]	0 [0]	3 [60]	1 [20]	3.80
Marketing and sales	1 [25]	2 [50]	1 [25]	0	3.00
Design mediator in multi disciplinary team	1 [25]	2 [50]	1 [25]	0	3.00
Project co-ordinator	0 [0]	2 [50]	1 [25]	1 [25]	3.75
Brand identity creators	3 [75]	0	0	1 [25]	2.75
					All labels with 1 & 2 missing value.

Table 5.50: Question Q8 data

Q9: Design has a significant role in modelling the future of your company?

Question Q9 was intended to ascertain UK participants’ opinion regarding the role and significance of design in a company’s future. From Table 5.51 it can be seen that all participants agreed that design makes a significant contribution in modelling the company’s future. The long established design profession in the UK has no doubt influenced this issue and has therefore influenced participants’ perceptions.

Design has Significant Role in Company’s Future

Value Label	Frequency	Percentage (%)
Agree	2	33.3
Strongly Agree	4	66.7
Total	6	100

Table 5.51: Question Q9

Q10: To what extent do you feel design contributes to your company’s products or services?

In question Q10 participants shared their perception on the contribution of design to the company’s products or services. The results in Table 5.52 show that all participants believed that design contributed to ‘improving brand identity’. The results also show that design has potentially contributed to ‘product recognition by the users’. That design also will lead to ‘increase of sales’ was agreed by all participants.

Design Contribution					
	Not Important	Neither Important Nor less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Improving the brand identity	0	0	3 [50]	3 [50]	4.50
Increase sales	0	0	2 [33.3]	4 [66.7]	4.67
Recognisable to users	0	1 [16.7]	1 [16.7]	4 [66.7]	4.50
Cutting cost*	1 [20]	0	3 [60]	1 [20]	3.60

* 1 missing value.

Table 5.52: Question Q10 data

Q11: Which between brand and design is given the highest priority or investment by your company?

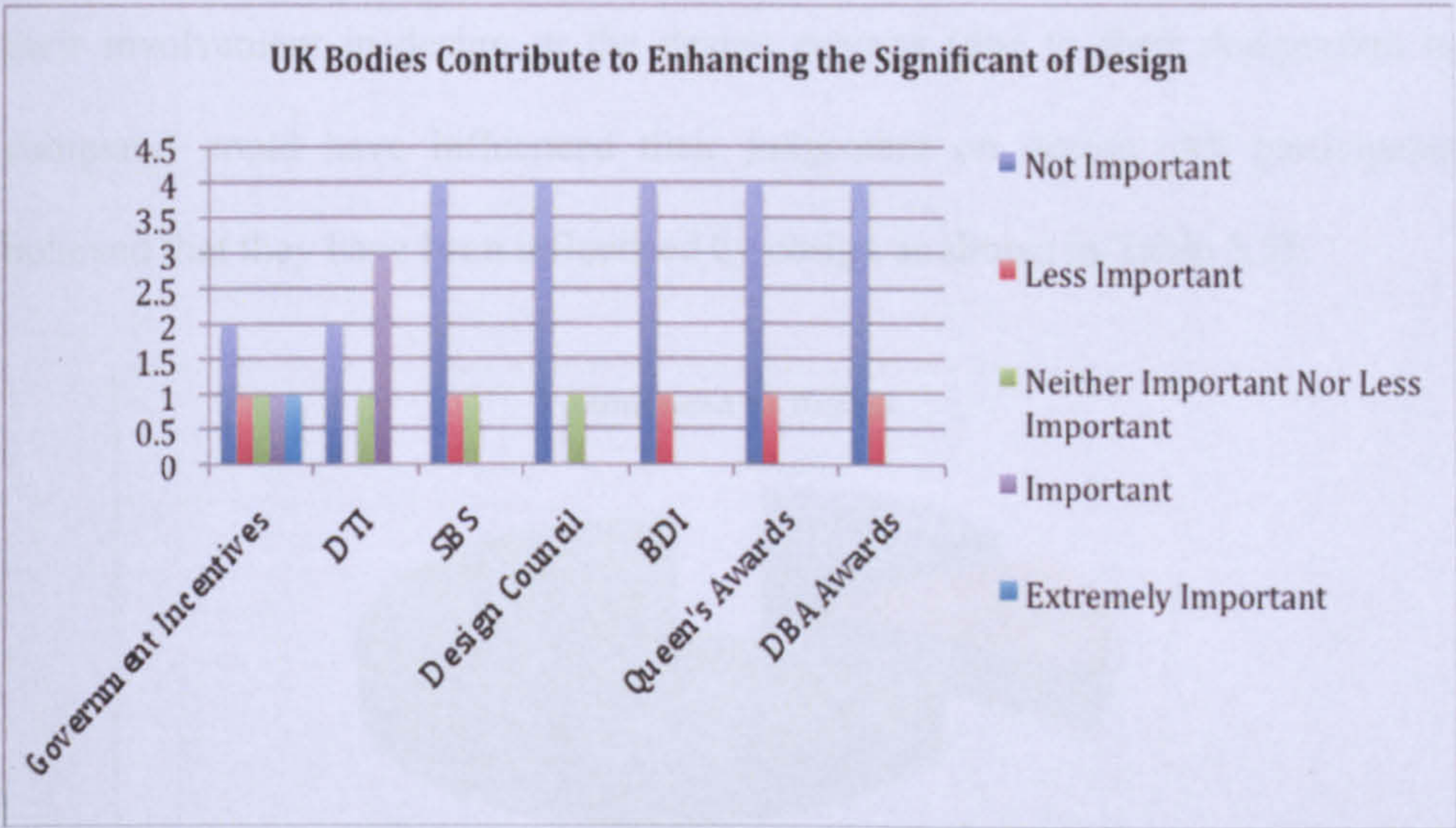
In question Q11, participants were asked which discipline (branding or design) received the highest priority in terms of company’s investment. Table 5.53 indicates that ‘design’ was given the highest priority or investment by SMEs than ‘branding’.

Design and Brand Investment					
	Low	Average	High	Very High	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Brand	1 [16.7]	1 [16.7]	1 [16.7]	3 [50]	4.00
Design	0	1 [16.7]	2 [33.3]	3 [50]	4.33

Table 5.53: Question Q11 data

Q12: To what extent do you think the following organisation or awards contribute to enhance the significance of design to the SME/SMI?

Interestingly, the level of significant contribution from outside bodies towards design awareness was considered to be very low as can be seen in Table 5.54. This finding is consistent with previously discussed literature where low recognition by participants was influenced by the maturity of design establishments, design competition and design awareness. Nevertheless, UK SME participants indicated that ‘DTI’ and ‘government incentives’ did contribute somewhat to enhancing the significance of design.



UK Bodies Contribute to Enhancing the Significant of Design

	Not Important	Less Important	Neither Important Nor Less Important	Very Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Government Incentives	2 [33.3]	1 [16.7]	1 [16.7]	1 [16.7]	1 [16.7]	2.67
DTI	2 [33.3]	0	1 [16.7]	3 [50]	0	2.83
SBS	4 [66.7]	1 [16.7]	1 [16.7]	0	0	1.50
Design Council*	4 [80]	0	1 [20]	0	0	1.40
BDI *	4 [80]	1 [20]	0	0	0	1.20
Queen's Awards*	4 [80]	1 [20]	0	0	0	1.20
DBA Awards *	4 [80]	1 [20]	0	0	0	1.20

* 1 missing value.

Table 5.54: Question Q12 data

Q13: How much are you influenced by design?

From the previous question (Q9, Q10, Q11 and Q12) UK SME participants showed their appreciation of the importance of design. It can be assumed that

their involvement in design or the design process (due to their designation in company) could have influenced their judgement on design. All participants believed that they have been influenced by design as shown in Table 5.55.

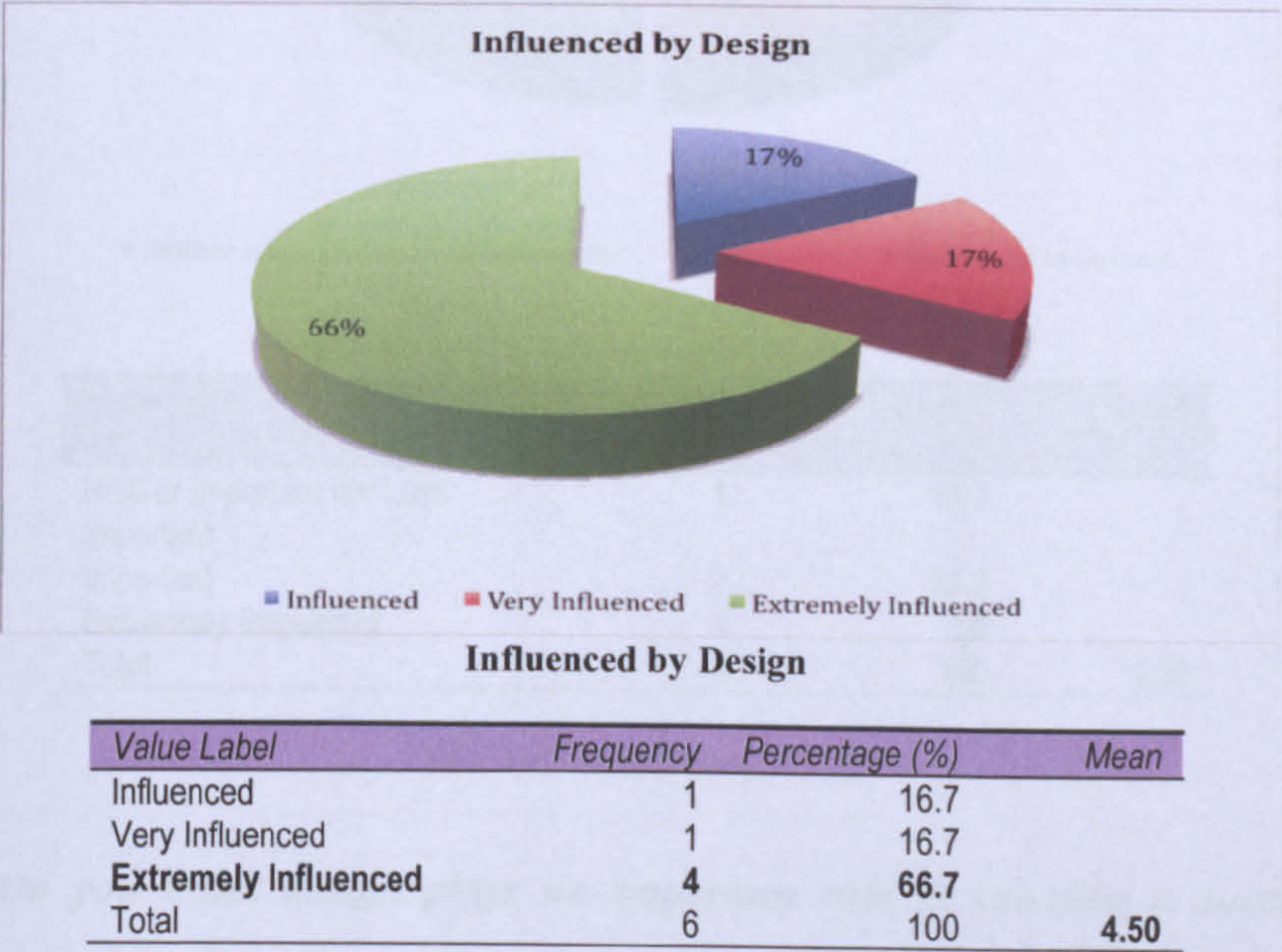
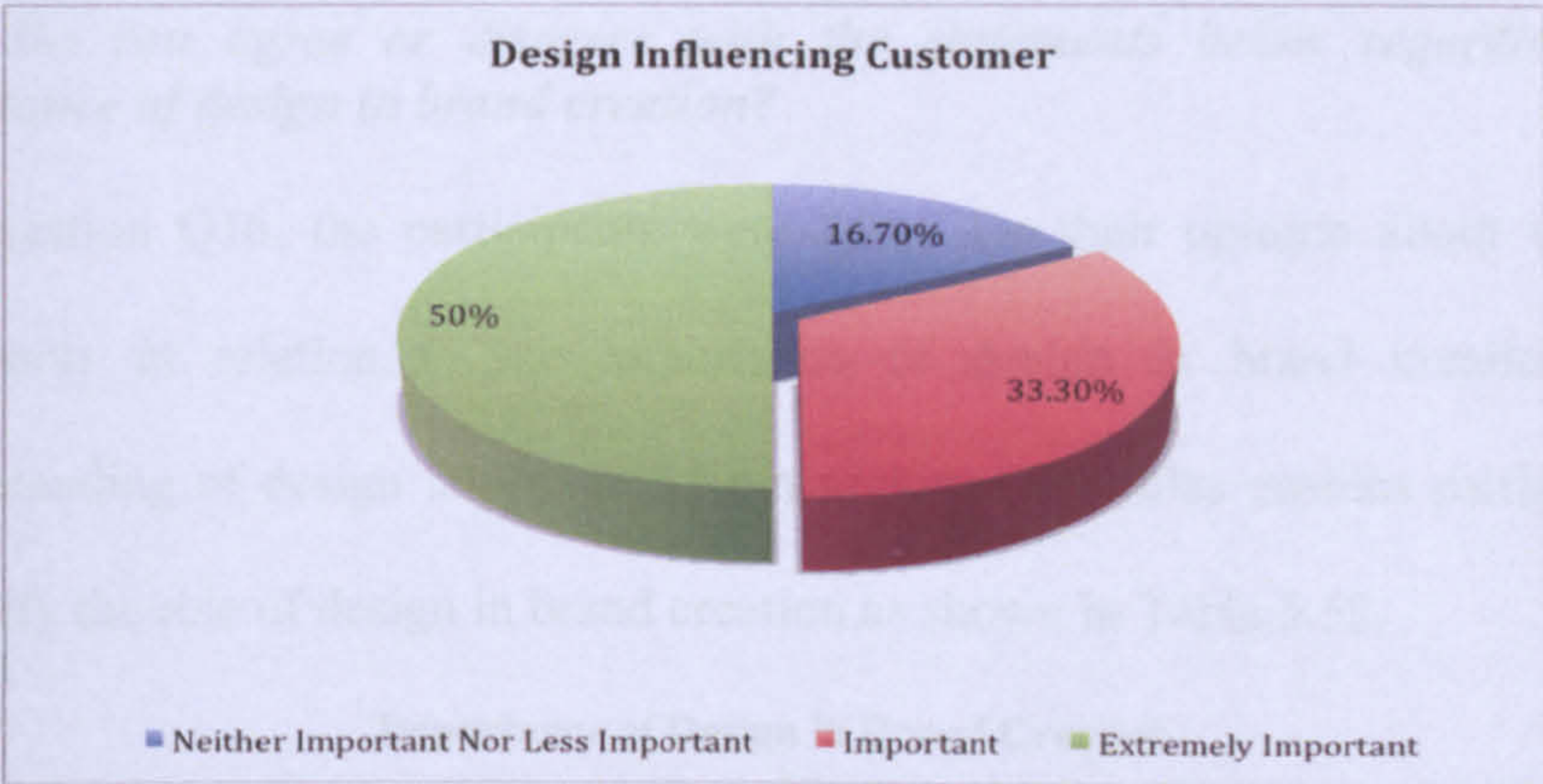


Table 5.55: Question Q13 data

Q14: Do you think design is important in influencing the customers when they choose a product?

In consideration of the importance of design in influencing customers (question Q14), the findings indicates that all participants rated design as having an important influence on the customer as shown in Table 5.56. Commonly design creates the physical image and this physical image can be used to project the specific brand image and identity which will attract the customer’s attention. Design may be seen as one of the decision-making criteria when a customer is considering a purchase.



Design Influencing Customer

Value Label	Frequency	Percentage (%)	Mean
Neither Important nor Less Important	1	16.7	
Important	2	33.3	
Extremely Important	3	50	
Total	6	100	4.33

Table 5.56: Question Q14 data

Q15: Do you think design plays an important role in creating a successful brand?

In question Q15, participants agreed that design is important in modelling the company’s future. Alongside this, participants think that design plays an important part in creating a successful brand. The results in Table 5.57 may suggest that emphasis on design would generate a brand with a strong reputation and would therefore, portray a specific personality and create a successful brand.

Design Creating Successful Brand

Value Label	Frequency	Percentage (%)	Mean
Very Important	3	50	
Extremely Important	3	50	
Total	6	100	4.50

Table 5.57: Question Q15 data

Q16: Do you agree or disagree with the statements below regarding the importance of design in brand creation?

For question Q16, the participants were asked for their opinion about various statements in relation to the importance of design in brand creation. An understanding of design importance from previous variables enables participants to justify the role of design in brand creation as shown in Table 5.58.

Importance of Design in Brand Creation					
	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Design is playing an important role in brand improvement	0	0	3 [50]	3 [50]	4.50
Design is playing an important role in brand management	0	1 [20]	2 [40]	2 [40]	4.20
Design present brand character for key consideration	1 [16.7]	1 [16.7]	3 [50]	1 [16.7]	3.67
Design behaves like an extension of marketing promotion	1 [16.7]	0	3 [50]	2 [33.3]	4.00

Table 5.58: Question Q16 data

The results clearly indicated that ‘design is playing an important role in brand improvement’ with 100% agreeing and strongly agreeing. The results show that the importance of design in brand creation has also been recognised by participants where design is playing an important role in brand management. It can perhaps be assumed that participants’ designation in the company enables

them to evaluate the effectiveness of ‘design as an extension of marketing promotion’ giving a combined majority agreement.

Q17: Design helps brand to evolve.

Since product and consumer expectations are linked, the company needs to be able to predict and understand consumers’ needs. Brands therefore need to evolve in relation to consumer preferences. The results in Table 5.59 represent the participants’ belief that designs does help a brand to evolve. In referring to the literature discussion on design establishment in the UK, design also helps in promoting the specific brand. The participant perceptions therefore can be seen as evidence on the effectiveness of design in assisting brand to evolve and success.

Design Helps Brand to Evolve			
Value Label	Frequency	Percentage (%)	Mean
Agree	3	50	
Strongly Agree	3	50	
Total	6	100	4.50

Table 5.59: Question Q17 data

Q18: Corporate executives think differently from designers in promoting good design values.

Q18 asked whether participant agree or disagree that corporate executives think differently from designers, in promoting good design values. The majority of participants agreed that executives think differently from designers however two participants neither agreed nor disagreed. This may be seen as a common phenomenon in companies. This issue may be resolved if corporate executives are able to understand and value the importance of design or if designers learned to communicate better with corporate executive.

Corporate Executive Think Differently from Designers

Value Label	Frequency	Percentage (%)	Mean
Neither Agree nor Disagree	2	40	
Agree	1	20	
Strongly Agree	2	40	
Total	5	100	4.00

Table: 5.60 Question Q18 data

Q19: Corporate managers overseeing design must have an artistic sense or creativity.

The participants were further asked whether they agree or disagree that the corporate managers overseeing design must have an artistic sense or creativity. Results in Table 5.61 shows that 67 % of participant agreed on this issue while another 33 % neither agreed nor disagreed. It is clear that majority of SME participants agreed that managers overseeing design are required to have creativity which may assist in a better understanding of design.

Managers Overseeing Design must have Creativity

Value Label	Frequency	Percentage (%)	Mean
Neither Agree nor Disagree	2	33.3	
Agree	3	50	
Strongly Agree	1	16.7	
Total	6	100	3.83

Table 5.61: Question Q19 data.

Q20: What is your perception on this view below in regards to design and brand?

In question Q20, opinion was sought on the participant perception of design and brand. The finding shows in Table 5.62 clearly indicated that design is able to make a brand distinctive in a crowd with 83 % strongly agree. 67 % participants strongly agreed that design is a powerful instrument in establishing a brand.

Following this, 50% strongly agreed that design could determine a brand’s success.

Perception on Design and Brand				
	Neither Agree nor Disagree	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Design is a powerful instrument in establishing a brand.	1 [16.7]	1 [16.7]	4 [66.7]	4.50
Design makes a brand distinctive in a crowd.	0	1 [16.7]	5 [83.3]	4.83
Design determines a brand's success.	2 [33.3]	1 [16.7]	3 [50]	4.17

Table 5.62: Question Q20 data

5.8.5 UK Design Consultant Findings

The following descriptions are results from UK design consultants that focus on industrial and engineering design services for the manufacturing sector. As indicated in Table 5.3, there were 22 UK design consultants who agreed to participate out of the initial 50 identified sample companies. However only 6 companies (27%) responded to the questionnaire survey.

There were six participants (5 male and 1 female) in the age group of 21 to 40 years old while two participants were between 51 to 60 years old. All of the UK design consultant participant’s were ‘white’ ethnicity with various specific designations in company as shown in Table 5.63.

UK Design Participants' background

Variable	Value Label	Frequency	Percentage (%)
Gender	Male	5	83.3
	Female	1	16.7
Age	21-30	1	16.7
	31-40	3	50
	51-60	2	33.3
Ethnic	White	6	100
Occupation	Designer	2	33.3
	Branding Manager	1	16.7
	Other	3	50
Others Occupation	Managing Director	1	16.7
	Marketing Executive Director	1	16.7
	Senior Product Designer	1	16.7

Table 5.63: UK Design Participants' background data.

Q1; How many years has the company been established?

Findings for question Q1 recorded that the UK participants company's years of establishment ranged from less than 3 years to more than 21 years of establishment.

Company's Years of Establishment

Value Label	Frequency	Percentage (%)
Below 3 years	1	16.7
4-9	1	16.7
10-15	1	16.7
16-20	1	16.7
Above 21	2	33.3

Table 5.64: Question Q1 data

Q2: How many employees are there in the design department?

The results for question Q2 as shown in Table 5.65, explain that 83 % of participating companies employed between 4 to 9 design staff in their company. There were 17 % who employed between 16 to 20 design staff. These numbers reflect their companies' size ranging from small to medium.

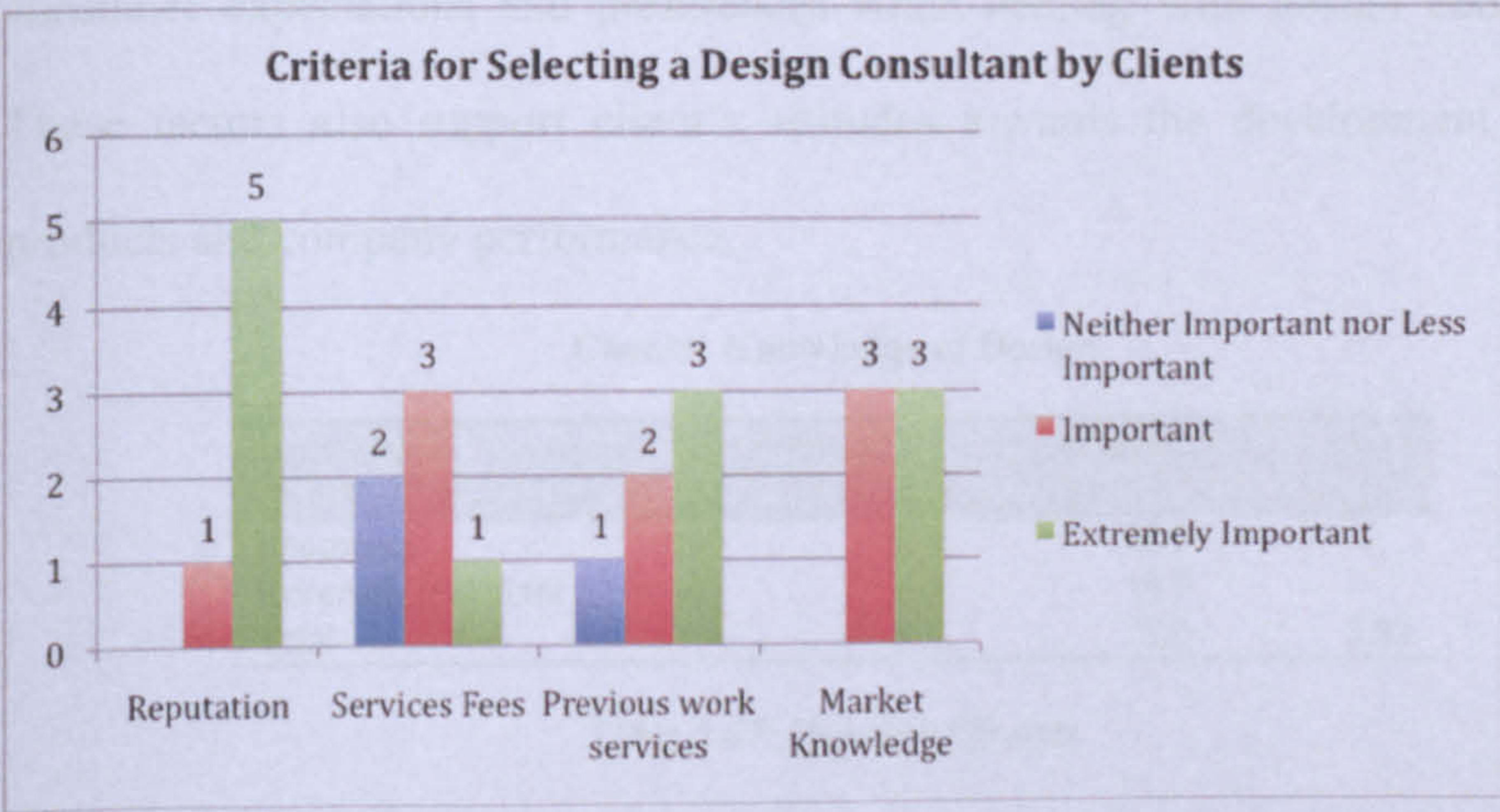
Numbers of Employees in Design Department

Value Label	Frequency	Valid Percent
4 - 9	5	83.3
16 - 20	1	16.7

Table 5.65: Question Q2 data

Q4; How do your clients rate the following criteria when selecting a design consultant?

In question Q4, participants were asked to rate the clients’ criteria when selecting a design consultant (Table 5.66). Interestingly, all UK design participants suggested that ‘quality of work’ became the main factor for clients in selecting their services, rating it as extremely important with the highest priority. The result shows that the quality of work usually would enhance the design consultant’s ‘reputation’. This was then followed by ‘market knowledge’ and ‘previous work experience’. It is apparent from this variable that design service fees appear not to be a very important factor for clients in their criteria for selection. Possibly, the other factors are sufficient to convince the clients, and therefore this may influence the responses on ‘service fees’ results.



Criteria for Selecting a Design Consultant by Clients

	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Reputation		1 [16.7]	5 [83.3]	4.83
Service Fees	2 [33.3]	3 [50]	1 [16.7]	3.83
Previous Work Experience	1 [16.7]	2 [33.3]	3 [50]	4.33
Market Knowledge		3 [50]	3 [50]	4.50
Quality of Work			6 [100]	5.00

Table 5.66: Question Q4 data

Q5; Do your you think that clients knowledge in design is important and contributes in the task given ?

The frequency results in Table 5.67 clearly indicated that all UK design consultants preferred clients to have knowledge of design. The clients’ knowledge of design, contributed to their understanding of aesthetics, market trends, consumer expectations and preferences when dealing with design consultants. These factors also support client’s attitudes towards the development of new products and company performance.

Clients’ Knowledge of Design

Value Label	Frequency	Percentage (%)	Mean
Important	5	83.3	
Extremely Important	1	16.7	
Total	4	100	3.33

Table 5.67: Question Q5 data

Q6: In positioning the brand image of your client’s product or services, does your company provide branding consultant expertise?

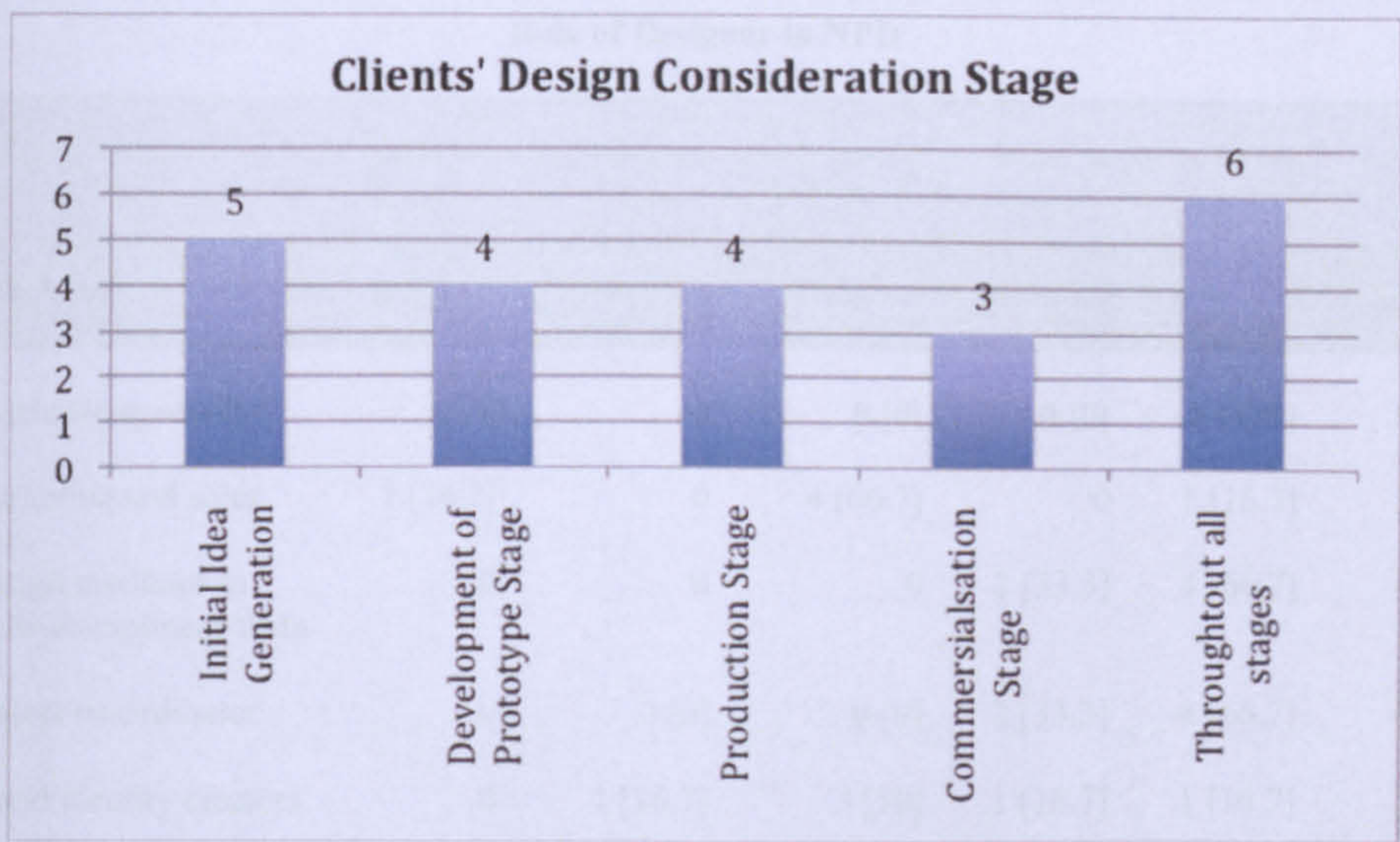
In Table 5.68, participants were asked whether they provide branding expertise or advice to their clients. The result shows that 50% of design consultants provide this service to their clients. It can be assumed that this would assist the client to a better understanding of design activity within their business and their target market.

Branding Advice		
Value Label	Frequency	Percentage (%)
Yes	3	50
No	3	50
Total	6	100

Table 5.68: Question Q6 data

Q7: At what stage in the operation do the majority of your clients bring design consideration into play?

The result for question Q7 revealed that the majority of clients brought design into the operation during the first three stages of design process that can be seen as important stages in which design is a main consideration. From Table 5.69, 83% of participants usually considered design at the ‘initial idea generation stage’. Following this, design is also considered at ‘development of prototype stage’ and ‘production stage’ (both 66 %). In fact these stages usually determine the viability of the project. However, the results also indicated that all participants thought design involvement was usually considered at all stages but this may vary depending on individual and specific projects.



Clients' Design Considerations Stage

Value Label	Frequency	Valid Percent	Mean
Initial idea generation stage	5	83.3	1.17
Development of prototype stage	4	66.7	1.33
Production stage	4	66.7	1.33
Commercialisation stage	3	50	1.50
Throughout all stages	6	100	1.00

Participants were allowed to provide more than one answer.

Table 5.69: Question Q7 data

Q8: How do you rate the role of the designer in the process of new product development in the company?

The question Q8 was posted to identify and rate the participants' perception of the designer or design consultant roles in the process of new product development (NPD) in the participants' company. All participants agreed that 'aesthetic specialist' was the main role of designer that was extremely important as shown in Table 5.70.

Role of Designer in NPD						
	Not Important	Less Important	Neither Important Nor Less Important	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Aesthetic specialist	0	0	0 [0]	0 [0]	6 [100]	5.00
Marketing and sales	1 [16.7]	0	4 [66.7]	0	1 [16.7]	3.00
Design mediator in multi-disciplinary team	0	0	0	2 [33.3]	4 [66.7]	4.67
Project co-ordinator	0	0 [0]	0 [0]	2 [33.3]	4 [66.7]	4.67
Brand identity creators	0	1 [16.7]	3 [50]	1 [16.7]	1 [16.7]	3.33

Table 5.70: Question Q8 data

Design participants also see designers role as ‘project co-ordinator’ (100% important and extremely important). Usually the designer needs to coordinate communication between the corporate executives, the marketing and the design team during the design process. Therefore, a designer appears to play an important role as a ‘design mediator in a multi-disciplinary team’ with recorded results of 67 %.

Q9: Does design have a significant role in modelling the future of your client’s company?

Participants were also asked in question Q9 whether they agree or disagree that design has a significant role in modelling the company future. The overall frequency results in Table 5.71 appear to suggest that the participants ‘strongly agreed’ with a total of 83%, added to the 17% who ‘agreed’ that design has a significant role in clients’ companies. Their previous experience dealing with

clients has provided evidence on the usefulness of design solutions in strategising and forecasting the company future.

Design has Significant Role in Clients' Company

Value Label	Frequency	Percentage (%)
Agree	1	16.7
Strongly Agree	5	83.3
Total	6	100

Table 5.71: Question Q9

Q10: To what extent do you feel design contributes to your client's products or services?

The design consultant participants' views were sought on the design contribution to the future of clients' company. As shown in Table 5.72, all participants agreed that design contribution is extremely important for 'improving the brand identity' to the client. The participants also believed that through design, clients' product or services are 'recognisable to users'. The study also revealed that design contributed to 'increased in sales' of the client's product or services.

Design Contribution

	Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Mean
Improving the brand identity	0	6 [100]	5.00
Increase sales	2 [33.3]	4 [66.7]	4.67
Recognisable to users	3 [50]	3 [50]	4.50
Cutting cost	2 [50]	1 [25]	4.50

Table 5.72: Question Q10 data

Q11: Which between brand and design is given the highest priority or investment by your clients?

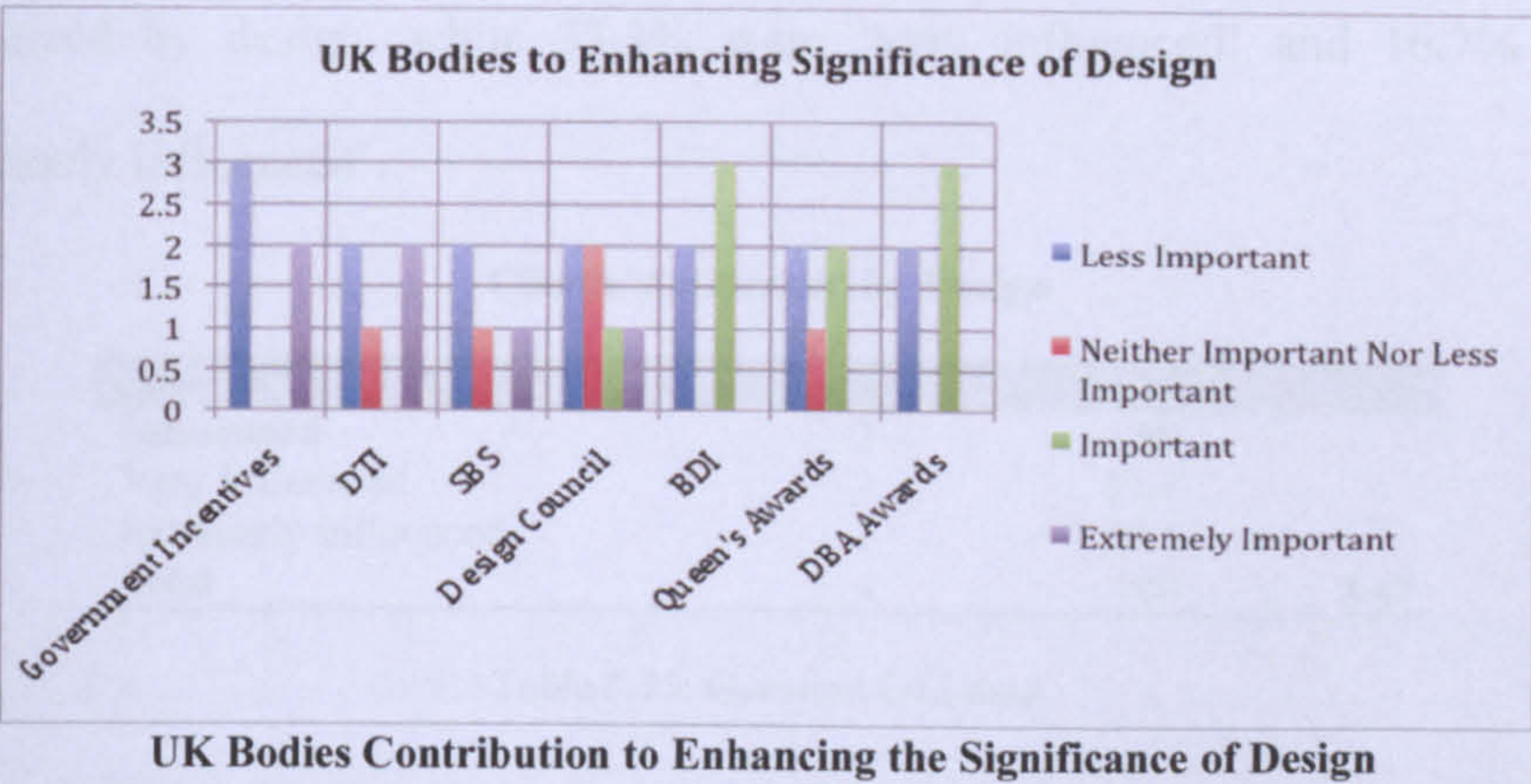
In question Q11, participants were further asked which between brand and design is given highest priority or investment. Frequency output in Table 5.75 indicates that the item ‘design’ was given the highest investment by manufacturers or clients compared to ‘brand’. This can be correlated with previous variable, Q9 in which it was assumed that clients believed that design has a significant role in modelling the company’s future.

Clients’ Design and Brand Investment				
	Low	High	Very High	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Brand	2 [33.3]	1 [16.7]	3 [50]	3.83
Design		5 [83.3]	1 [16.7]	4.17

Table 5.73: Question Q11 data

Q12: To what extent do you think the following organisations or awards contribute to enhance the significance of design to the SME/SMI?

From the Table 5.74 below, design consultant participants have rated almost equally each value label linked to the contribution of UK bodies to enhancing the significance of design. Their observation and experience dealing with these organisations does influence the answer provided by design consultant. Some of the participants rated less important of design contribution for all organisation. However as explained earlier that each organisation has their individual role in enhancing the design.



	Less Important	Important	Very Important	Extremely Important	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Government Incentives *	3 [60]			2 [40]	3.20
(DTI) *	2 [40]	1 [20]		2 [40]	3.40
SBS **	2 [50]	1 [25]		1 [25]	3.00
Design Council	2 [33.3]	2 [33.3]	1 [16.7]	1 [16.7]	3.17
BDI *	2 [40]	0 [0]	3 [60]		3.20
Queen's Awards*	2 [40]	1 [20]	2 [40]		3.00
DBA Awards *	2 [40]		3 [60]		3.20

* or ** 1 or 2 missing value.

Table 5.74: Question Q12 data.

Q13: How much are your clients influenced by design?

Question Q13 was used to identify how much the clients were influenced by design, as viewed by the design consultant participants. From the data shown in Table 5.77, all design participants agreed that their clients were influenced by design. Their experiences in dealing with clients may have influenced participant perceptions. Therefore, participants believed that 50% of their clients were

influenced by design, while 33.3% were ‘very influenced’ and 16.7% were ‘extremely influenced’.

Clients' Influenced by Design			
Value Label	Frequency	Valid Percent	Mean
Influenced	3	50	
Very Influenced	2	33.3	
Extremely Influenced	1	16.7	
Total	4	100	3.67

Table 5.75: Question Q13 data

Q14: Do you think design is important in influencing the customers when they choose a product?

For the question Q14, 83% of participants believed that design is extremely important in influencing customers when they choose a product (Table 5.76). It may be said that participants think that design is recognised by customers as an important element in influencing their purchasing decision.

Design Influencing Customer			
Value Label	Frequency	Valid Percent	Mean
Important	1	16.7	
Extremely Important	5	83.3	
Total	6	100	4.83

Table 5.76: Question Q14 data

Q15: Do you think design plays an important roles in creating a successful brand?

All participants agreed that design is extremely important and contributes greatly in creating a successful brand as shown in Table 5.77. Therefore, it may be suggested that design not only appear in form or aesthetic but also provides a value and market impact for a brand to succeed.

Design Creating Successful Brand

Value Label	Frequency	Valid Percent	Mean
Important	1	16.7	
Very Important	1	16.7	
Extremely Important	4	66.7	
Total	4	100	4.50

Table 5.77: Question Q15 data

Q16: Do you agree or disagree with the statements below regarding the importance of design in brand creation?

Participants have shown their awareness of the importance of design in brand creation in question Q16. It seem that all participants strongly agreed that design is playing the most important role in brand improvement. In fact, design has an important contribution to all value labels as displayed in Table 5.78 according to participants. It may be suggested that design activity has become the focus in brand creation for most SME companies according to design consultants.

Importance of Design in Brand Creation

	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Mean
Design is playing an important role in brand improvement	0 [0]	6 [100]	5.00
Design is playing an important role in brand management	2 [33.3]	4 [66.7]	4.67
Design present brand character for key consideration	2 [33.3]	4 [66.7]	4.67
Design behaves like an extension of marketing promotion	2 [33.3]	4 [66.7]	4.67

Table 5.78: Question Q16 data

Q17: Design helps a brand to evolve.

Following the importance of design in brand creation, therefore for question Q17, participants strongly agreed that design helps brand to evolve. Since design usually appears as a strong feature and is influenced by trends, it is suggested that brand would evolve through design.

Design Helps Brand to Evolve			
Value Label	Frequency	Percentage (%)	Mean
Strongly Agree	6	100	
Total	6	100	5.00

Table 5.79: Question Q17 data

Q18: Clients think differently from designers in promoting good design values.

The question Q18 was posted to discover whether clients think differently from designers. The majority of the UK design consultants (66.7%) appear to have common views regarding this issue as shown in Table 5.80, however 33.3% neither agree nor disagree. Participants generally agreed that there are boundaries in perception that may possibly affect decisions made in the design process.

Clients Think Differently from Designers			
Value Label	Frequency	Percentage (%)	Mean
Neither Agree nor Disagree	2	33.3	
Agree	1	16.7	
Strongly Agree	3	50	
Total	6	100	4.17

Table: 5.80 question Q18 data

Q19: Clients overseeing design must have an artistic sense or creativity.

From the responses to question Q19, it appears that differences in design perception and knowledge may affect the design process. Therefore, the statement that clients overseeing design must have creativity was posted for Q19.

Clients Overseeing Design must have Creativity

Value Label	Frequency	Percentage (%)	Mean
Disagree	2	33.3	
Neither Agree nor Disagree	3	50	
Agree	1	16.7	
Total	6	100	2.83

Table 5.81: Question Q19 data

Table 5.81 shows that the majority of participants thought that creativity is not necessary for clients to overseeing design. The participants experience in dealing with design activity may have influenced their answers. Although only 16.7% ‘agreed’ that the clients must have creativity to overseeing design, creativity may also help clients to make a better design decision. In addition, the ability to appreciate aesthetics would also contribute towards a clients’ understanding of design functions.

Q20: What is your perception on this view below in regards to design and brand?

From the question Q20, all participants strongly agreed that ‘design makes a brand distinctive in a crowd’ (Table 5.82). As design provides a central visual reference, therefore the brand establishment can be reinforced through design. Participants also agreed that ‘design becomes a powerful instrument in establishing a brand’. It is assumed that the design presence would be able to

determine the brand’s success even though only one participant neither agreed nor disagreed.

Perception on Design and Brand				
	Neither Agree nor Disagree	Agree	Strongly Agree	
Value Label	Frequency [%]	Frequency [%]	Frequency [%]	Mean
Design is a powerful instrument in establishing a brand.	0	1 [16.7]	5 [83.3]	4.83
Design makes a brand distinctive in a crowd.	0	0	6 [100]	5.00
Design determines a brand’s success.	1 [16.7]	2 [33.3]	3 [50]	4.33

Table 5.82: Question Q20 data

5.8.6 Stage One Findings of UK Participants

According to the analysis, the findings for UK participants in both sectors (SME manufacturing and design consultant) can be summarised as follows:

- 1) All participating UK companies indicated that design is very important to their company’s business. For the design consultant participants, clients’ knowledge in design is essential as design creates a physical image that can be used to project the brand image and identity.
- 2) Most of the participating SMEs in the UK have their own in-house design department. All participating SMEs employ 5 or less design

employees. Possibly a lower number employed relate to not counting engineers in some cases. The management of their design is conducted from a design department with constructive input by senior management in the company. On the other hand participating UK design consultants employ members ranging from 4 to 20 people. The company that did not have a design department engaged external design consultants for all creative advice and solutions.

- 3) The majority of UK SMEs participants rated 'previous work experience' as the most important criteria in a selecting design consultant. This is followed equally by a company's 'reputation' and 'quality of work'. However the clients often look at the quality of work as the important criteria in selecting design consultant, followed by their company's reputation.
- 4) The majority of UK SME participants reported that design was considered and involved throughout all stages of company operation. This is comparable with all participating UK design consultants who also indicated that they were involved throughout all stages in their client projects. However in specific, design seemed to be involved at the following common stages in most of the design process: initial idea generation, development of prototype and production.

- 5) The SME participants see the designers and the design consultants as an aesthetic specialist. The participants also view designer and design consultant as a project co-ordinator, to be aware of marketing and sales, and as design mediators in a multi disciplinary team. Interestingly, participating SMEs do not think designers have a role as brand identity creators. Therefore the majority of participants outsource branding consultants to further enhance their brand identity and image.
- 6) Most participating UK SMEs indicated that they engage an external branding consultant to promote their products and brand image. The external branding consultant may able to evaluate product and brand image from a different scope and perspective compared to an in house designer. Therefore, the majority of participating design consultants would provide the extra service of branding advice if their clients so required.
- 7) As expected all participating UK companies believe that design has a significant role in modelling a company's future. This is despite the statements made by the UK Design Council which claimed that a great many companies in the UK do not believe in the significance of design or comprehend what design can bring in terms of benefits.

However as a note, UK Design Council sample is much larger than this research sample.

- 8) Participating UK companies were aware that design does contribute in many ways. Primarily they understand that the use of design will increase sales and equally will improve brand identity as well as making the product more recognisable to users. Design also became a solution in cutting the cost of production of the individual products created. For UK participants, investment in brand is slightly less than investment in design. Perhaps there is some disparity over investment in brand recognition where only a small number of companies engaged external branding experts, yet their investment was considered great.
- 9) To UK SMEs and design consultants, the effectiveness of the DTI (Department of Trade Industry) in providing incentives for SMEs, contributes to enhance the significance of design, and was thought to be important compared to other government bodies. Surprisingly other organisations such SBS (Small Business Service), UK Design Council and design awards are not seen as being so effective. Looking at the results, the UK design council may have to work more aggressively to enhance design in the marketplace.

- 10) The findings also confirmed that UK participants were significantly influenced by design. It is suggested that the design culture, which has existed for a very long time in the country, influences the need and perceived importance of design. This can influence consumer's choice in the purchasing of goods and contribute to the success of brands.
- 11) All UK participants also acknowledged the importance of design in the creation of brands. They have agreed that design plays an important part in the improvement and management of brand identity. The majority of them also agree that design behaves like an extension of marketing promotion and gives character to a brand. Furthermore, all participants also agree that design helps brands evolve.
- 12) Good communication and understanding between team members is essential for the success of any given task. Participants agreed that within an organisation there are often disagreements between senior management or design clients and the designers. Interestingly only a small percentage of participants agreed that managers overseeing design projects must have a certain level of creativity. However, the creativity and understanding of design will aid best design practice in a company.

- 13) Participants perceived that design and brands are interrelated. Therefore, participating UK SMEs and design consultants agreed that design makes a brand distinctive in a crowd. Design is also a powerful instrument in establishing a brand and determines a brand's success.

5.9 Cross-tabulation Output for Malaysia and UK variables.

All the data from the common variables from each country were subjected to a cross-tabulation procedure to create a combined variable for the two countries' data findings. These were sought to identify similar or differing in views between participant subgroups. The cross tabulations were made between the sectors (SME manufacturing and design consultancies) against the country data (Malaysia and UK). The combined variables were selected from the questions (variables) related to design, particularly those highlighting the importance of design from each country.

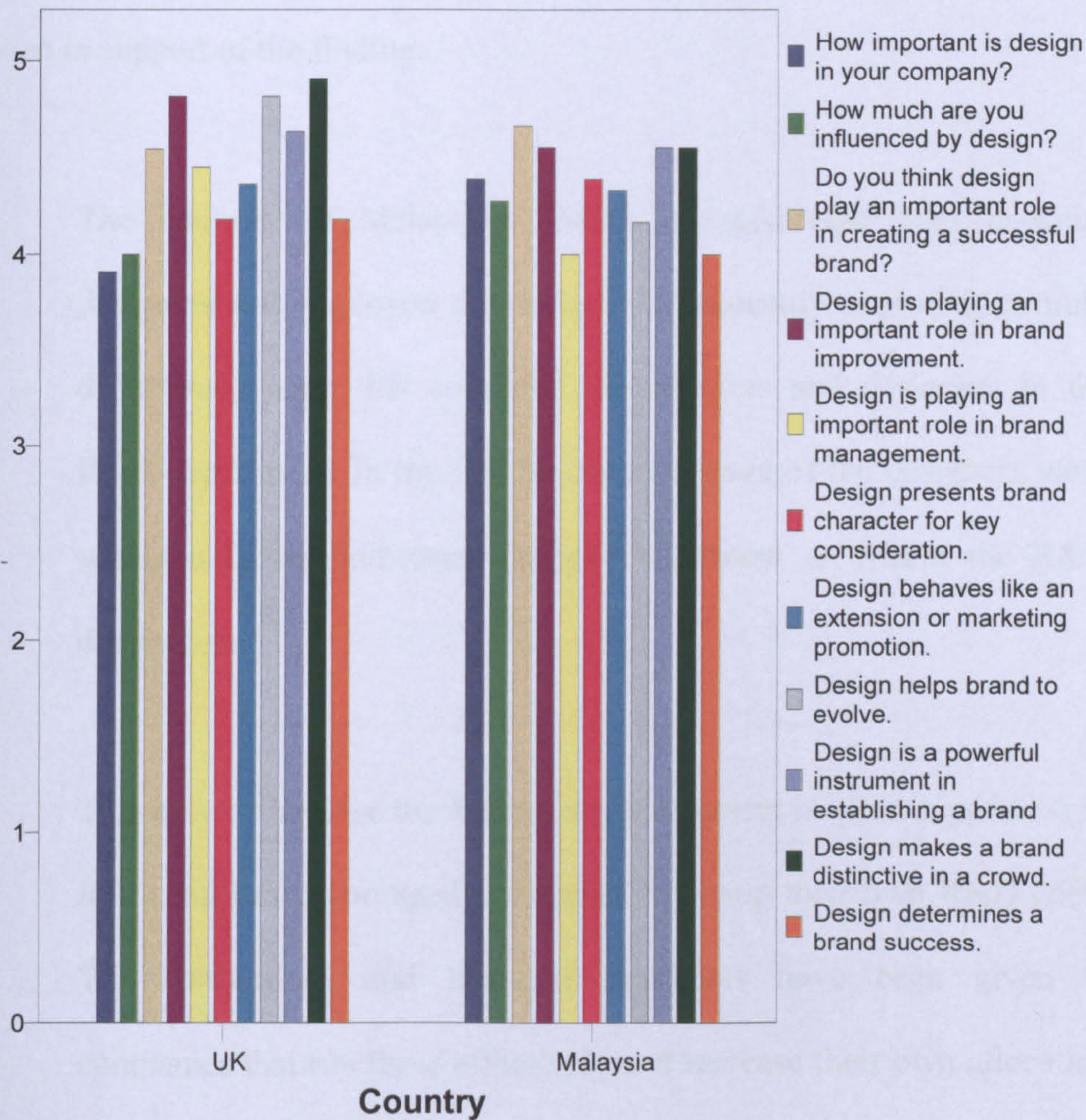


Figure 5.7: Cross-tabulation for the importance of design in Malaysia and UK

5.10 Comparative Findings Between Malaysia and UK

The descriptive (frequency and means results) and inferential statistical (cross-tabulation results) of the Malaysian and UK surveyed companies have revealed important findings concerning the design practice in both countries. It has also revealed the similarities and differences.

5.10.1 The Differences between the Two Countries

Using the statistical results, the differences between the Malaysian and UK participants are summarised below. Evidence from existing literature sources is also given in support of the finding.

- 1) The majority of Malaysian SME's engaged their own in-house designers and employed the designer permanently as staff in a multi disciplinary team that consisted of engineers and designers in the R&D department. In the UK by contrast, most of the designers work within a Design/Industrial Design department or within the R&D department.

This may be because the Malaysian government is often supportive of R&D and has encouraged companies to set-up their own R&D units. Tax concessions and financial incentives have been given to companies that run these effectively and increase their own allocation for R&D activities. As stated in Chapter Three (Malaysian and UK SMEs) the Malaysian government has introduced 'The Industrial Technical Assistance Fund' (ITAF1, ITAR2 and ITAR3) with the aim of improving the efficiency and competitiveness of local SMEs specifically in the areas of product design, the development of consumer products and branding.

UK companies also co-opted professional designers into their design teams for the period of an individual project or they would engage an external design consultant for specific projects as necessary. The surveys conducted by Roy (1987) shows that 90% of the UK firms employed in-house designers, three-quarters of them also used design consultants. However this has not been the case in Malaysian industry. The reason may be to avoid spending extra funds to hire external personnel in a project, or perhaps there is an issue of trust with a fear of any leak of information. Moreover the number of design consultants in Malaysia that directly focus on product design and development is very limited, therefore most of the SMEs have to rely on their own in-house designers (Kamarudzaman, 1995). Malaysian design consultants claimed there was low demand in the market and they find it difficult to sustain their design business, as industry is making full use of in-house design teams rather than appointing external consultants.

Furthermore, in Britain, there are many initiatives provided by the government to help SMEs in promoting the use of design in their business. An example is the work of the DTI in association with the UK Design Council since 1992. This has introduced the 'Support for Design' scheme whereby a professional design consultant is employed to work on individual projects involving a product, packaging or even

graphic design (Walsh *et al.*, 1988). In addition, industry is also able to access individual local and regional design initiatives such as the North Staffordshire Design Initiatives or The Liverpool and Manchester Design Initiatives (Bell and Jayne, 2003).

Another recent initiative programme ‘Designing Demand’ aims to help industry get full value from design by providing the skills needed to show how design can boost performance. It will help them seize new-found design opportunities (Design Council, 2007). According to Roy and Potter (1990) they found a success rate of two-thirds out of more than one thousand grant recipients with an average payback period of 15 months for those SMEs who applied. These were SMEs that used subsidized design consultants through government programmes aimed at promoting good design in SMEs.

- 2) The contribution of design to the manufacturing sector in Malaysia has only been observed since 1982 when the country was involved in two major projects, the image of the Malaysian national trains, Keretapi Tanah Melayu (KTM) and the design of the Malaysian national car, Proton (Mohd Mansor, 1991). In contrast, the UK in the past has had worldwide recognition not only as a consumer of new technologies, but also as an inventor of them. Based on the study by Japan’s Ministry of Trade and Industry (MITI) (Cooper *et al.*, 1995)

found that no less than 55% of all the commercially important innovations made in the world since the war originated in Britain.

- 3) The management of design or managing of product development in Malaysian SMEs is often positioned at the top management level in the company. In most cases, these managers and managing directors usually not a design person are making design decisions rather than entrusting them to the design team’s head or manager.

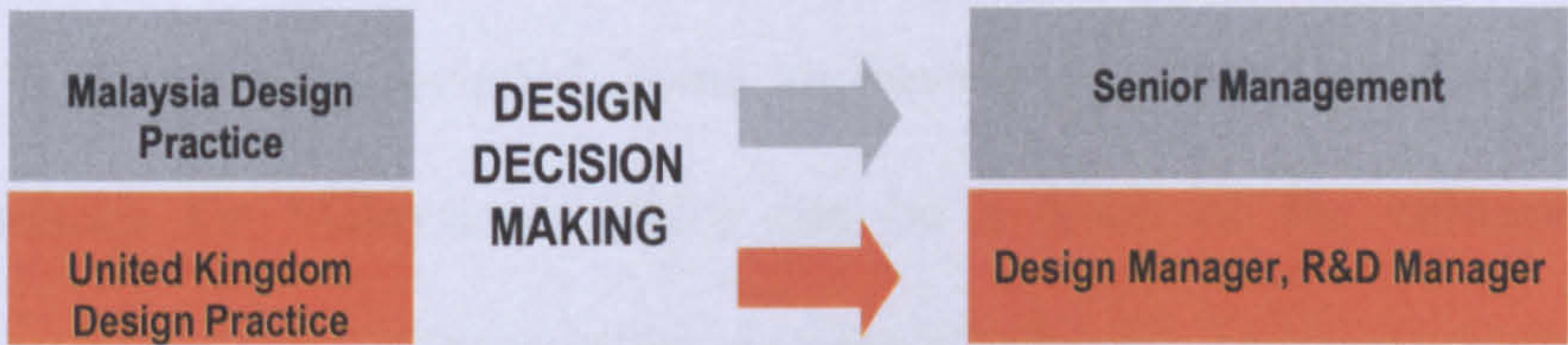


Figure 5.8: Differences in key design decision between Malaysia and UK

By contrast, in the UK, the Design or R&D Manager or Director is usually the person who understands design and is responsible for managing product development or managing design management within the company. (See Figure 5.8).

The findings also reflect that the best and most effective design practice in a company recognizes the importance of design in business success. Participant SAM stated: “designers should create products based on the demands and expectations from the market. Market

information is fed to them by corporate executives who have to market and sell the final products. It is essential for these two groups of people to share common values in the design of product and brand.

For similar reason, the corporate managers are recommended to have a creative flair in order to guide the market towards appreciating a particular product design” (participant ‘SAM’). It has also been argued by another participant that these “corporate executives probably are product experts, but however they are most likely not design experts” (participant ‘DBM’).

- 4) The findings also revealed some difference in terms of design importance for Malaysians. These can be a result of the cultural influences within a Malaysian company’s brand consciousness. Therefore the company is required to compete to convince the consumers by improving the brand identity of the product through design. It is also suggested that differences in design enable a product to be recognised by the users. By emphasising these factors design eventually will increase sales of the product (See Figure 5.9).

In the UK by contrast the factor of increasing sales was the most preferred aspect of design importance. Presumably the aspect of brand is not the main factor in customers’ decision-making. Instead, the

appearance of the goods is essential and as long the goods offer ‘value for money’ to UK consumers. In fact, value for money is considered to be more important than the price of the product.

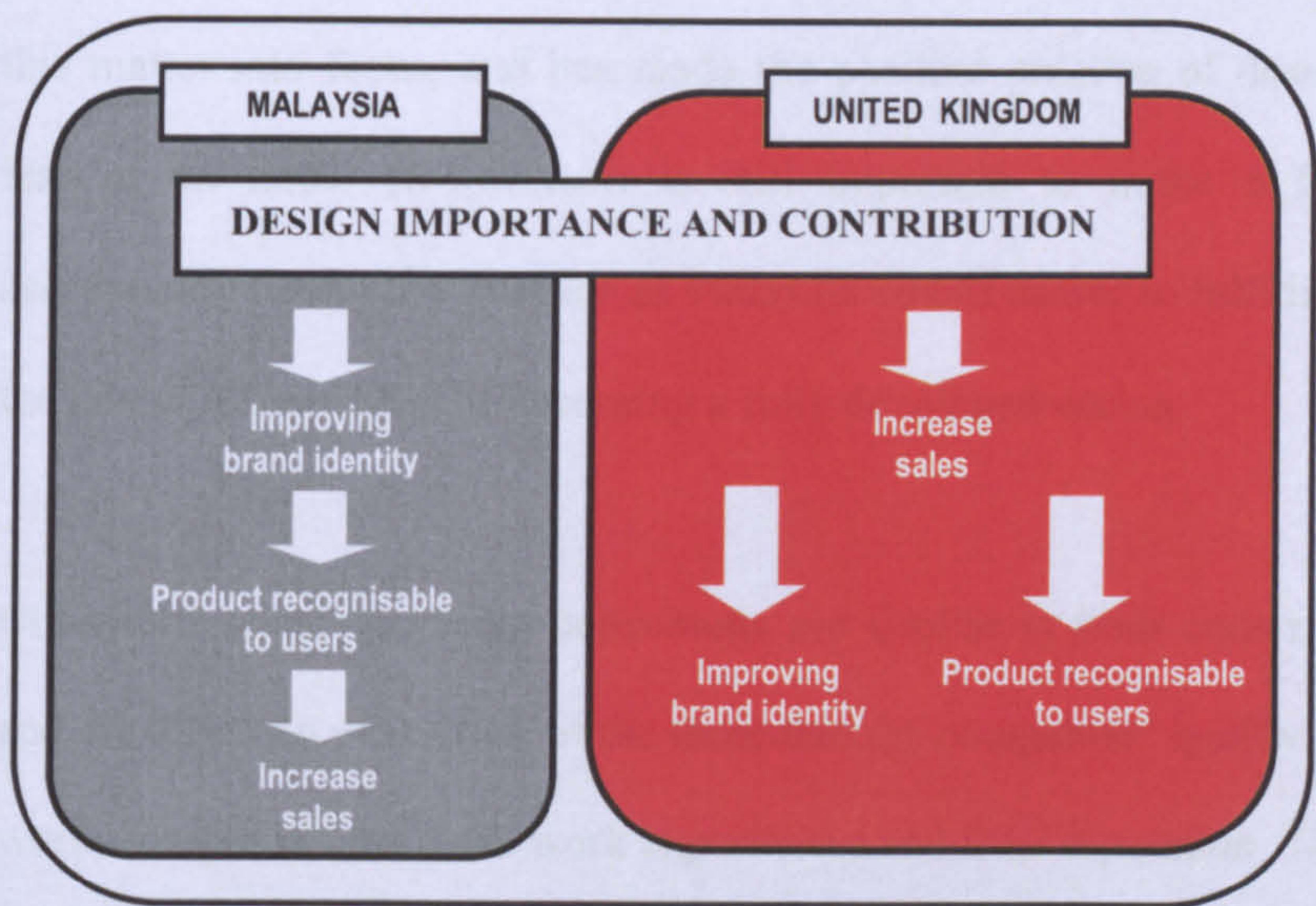


Figure 5.9: Differences in perception of design importance and contribution to company’s product or services between Malaysia and UK

5.10.2 The Similarity between the Two Countries

Based on observed results, the similarities of the Malaysian and UK participants are summarised as follows.

- 1) Overall, within the selected manufacturing SMEs, it appeared that design practices in industry were part of a vital agenda in both countries. This could be expected in the UK companies, which have a

long established tradition, dating back to the industrial revolution in the 1800's. More surprising is the positive response from the Malaysian compares as to the need for design to be part of the manufacturing process. It could be that the tremendous surge in SME development since Vision 2020 was announced in 1991 has brought this matter into focus, and has made the positive practice of design less of an issue. However, it is still important to make a full assessment of company practice as Malaysia comes nearer to fulfilling the aim of Vision 2020 of becoming a fully developed nation.

- 2) Criteria in selecting design consultants are similar in both countries and are based on evaluation of the three factors: companies' quality of work, companies' previous work experiences and their reputation. The findings showed clearly that 'service fees' tend to be a subjective factor that usually depends on the project and also the duration involved in the design process and development (Figure 5.9).

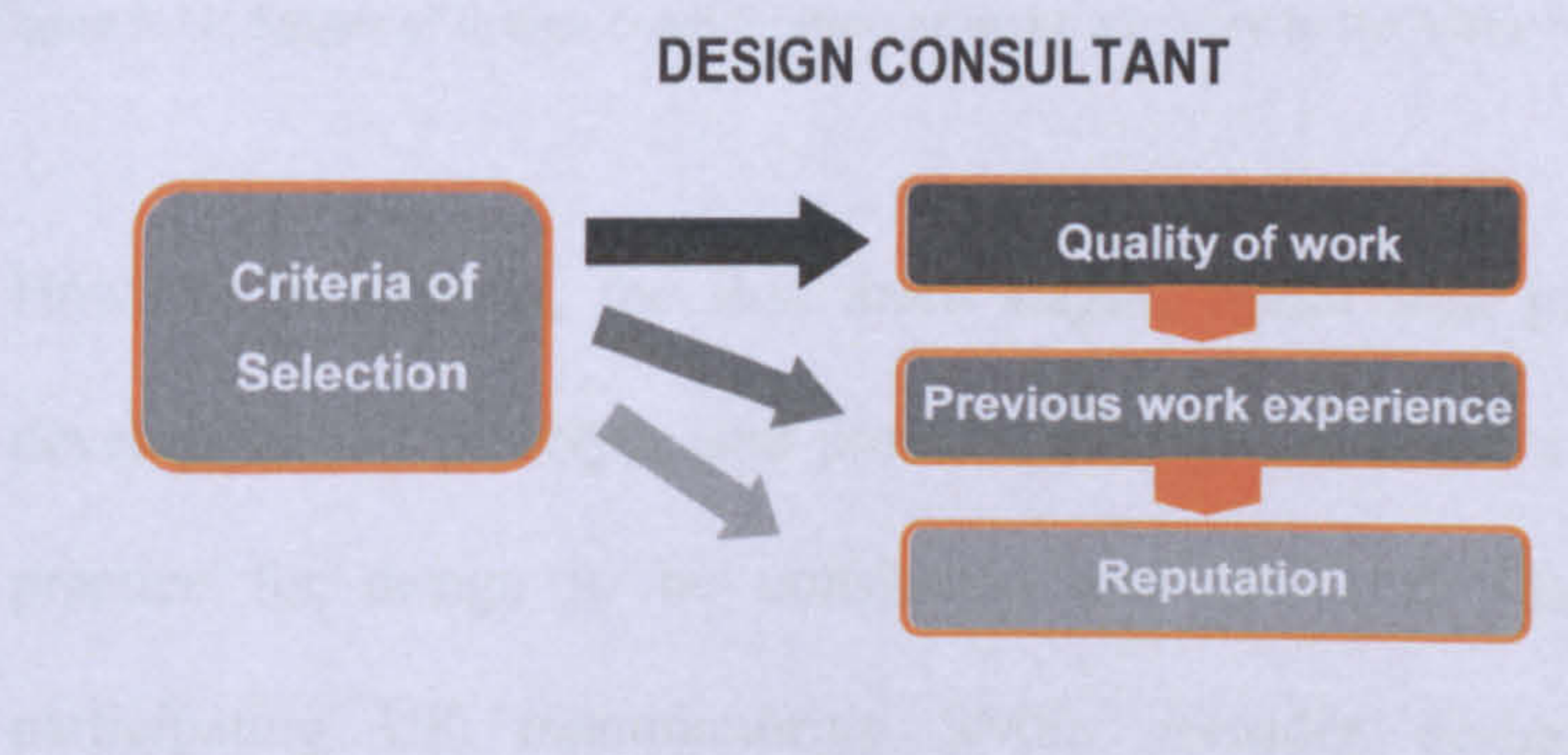


Figure 5.10: Criteria selections of design consultant for Malaysia and UK

This may be considered as a surprising result for Malaysian design practice; it indicates the positive acceptance of design importance to Malaysia SMEs.

- 3) The consideration and involvement of design in companies seems to be almost the same in the two countries. The participants claimed that they involved design throughout all stages of the manufacturing process in their company as shown in Figure 5.10.

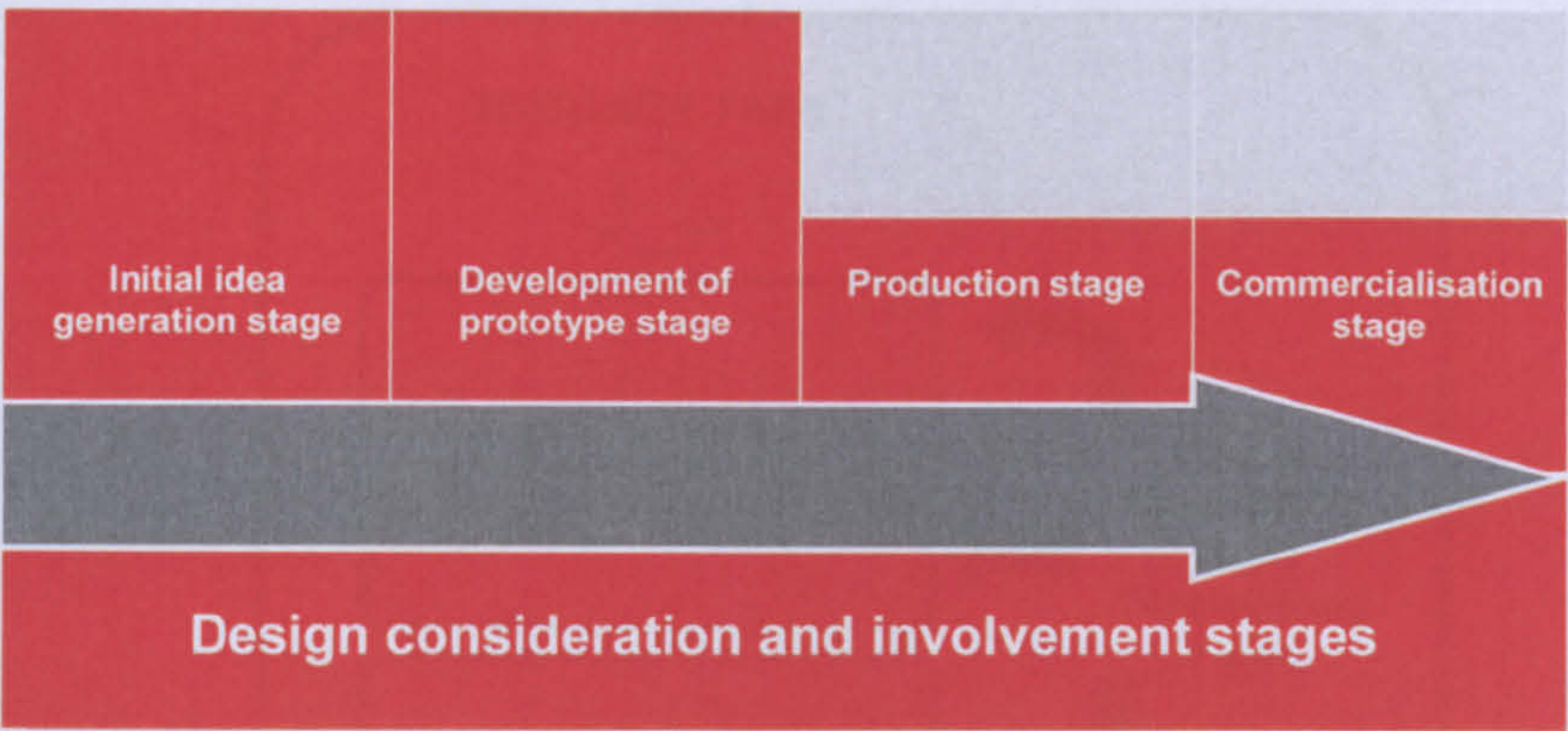


Figure 5.11: Stages of design consideration brought into play in the Malaysia SME

However in specific, the first three stages; initial idea generation, development of prototype and production stages, become a common practice for design to be considered and involved. Majority of participating UK manufacturing SMEs consider design at the

commercialisation stage, however design is generally considered at all stages.

- 4) The findings from the two countries showed that the role of designers or design consultants in the process of new product development (NPD) in a company is mainly expressed in three tasks or roles as shown in Figure 5.11: aesthetic specialist, project co-ordinator, and design mediator in a multi-disciplinary team.

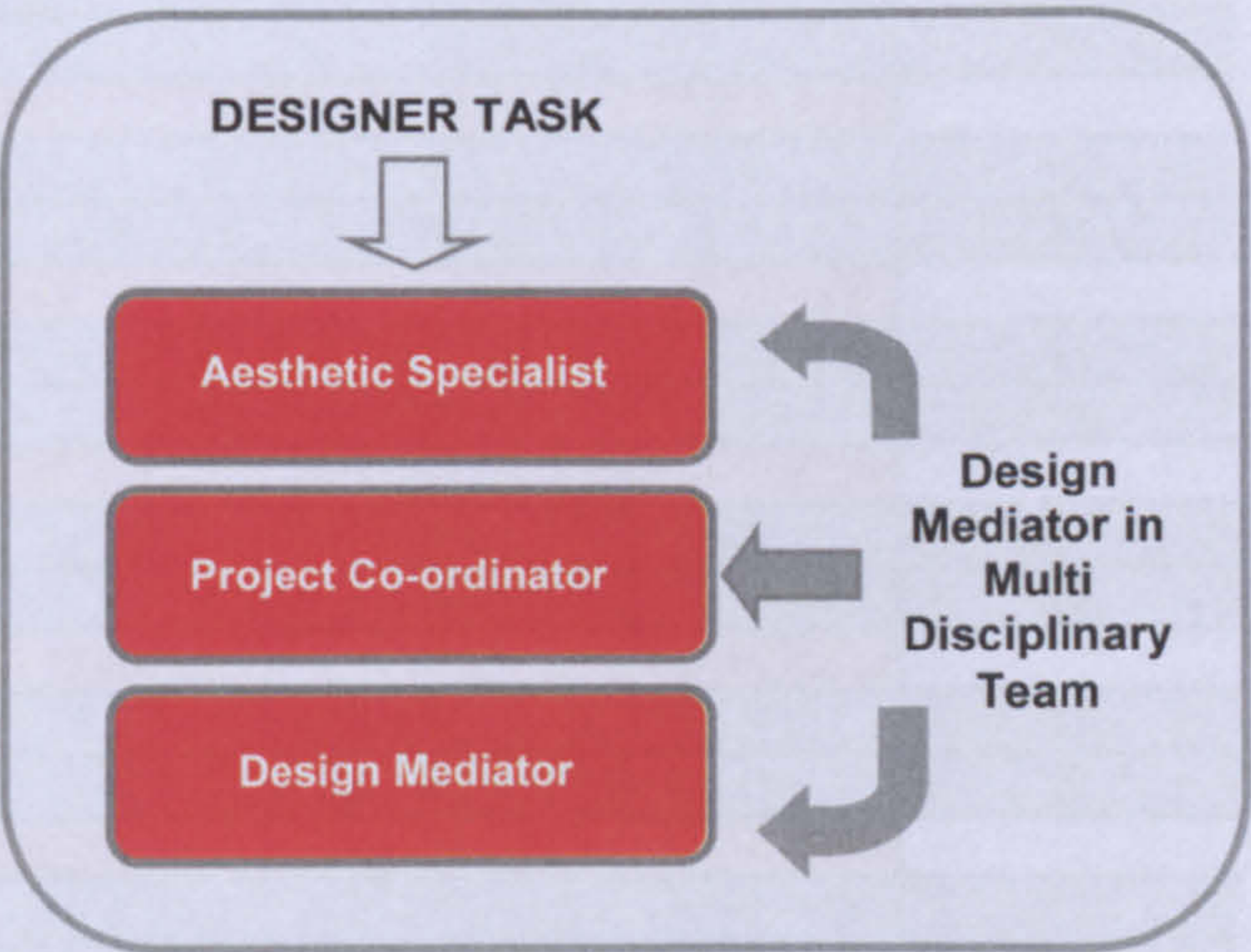


Figure 5.12: Designer task and involvement.

- 5) The two countries' survey participants strongly agree that design has a significant role in contributing and modelling the companies' future. In broad terms, the findings from both countries tend to broadcast the need for the design function in recognizing and promoting the value of product and services rather than for aesthetic purposes (Table 5.83).

Country	Value Labels			Total
	Important	Very Important	Extremely Important	
	Design Important for Company			
UK	5	2	5	12
Malaysia	1	9	10	20
	Design Influence Participants			
UK	4	3	5	12
Malaysia	2	7	10	20
	Design Influence Customers			
UK	1	3	8	12
Malaysia	1	7	12	20
	Design Creating Successful Brand			
UK	1	4	7	12
Malaysia	0	6	14	20
	Design Importance in Brand Improvement			
UK	-	3	9	12
Malaysia	-	8	12	20
	Design Importance in Brand Management			
UK	1	4	6	12
Malaysia	5	10	5	20
	Brand Character for Key Consideration			
UK	1	5	5	12
Malaysia	-	12	7	19
	Extension of Marketing Promotion			
UK	1	5	6	12
Malaysia	1	17	12	20
	Helps Brand to Evolve			
UK	-	3	9	12
Malaysia	2	4	11	19
	Instrument in Establishing Brand			
UK	1	2	9	12
Malaysia	0	8	12	20
	Brand Distinctiveness			
UK	-	1	11	12
Malaysia	1	2	16	20
	Determines Brand Success			
UK	3	3	6	12
Malaysia	8	8	15	10

Table 5.83: Cross-tabulation results of the design importance and contribution for Malaysia and UK

- 6) In consideration of investment in design within a company, compared to investment in brand, the overall findings appear similar in the two

countries. It appears that all participating companies invested more in design than in brand.

- 7) Malaysian and UK participants recognised the contribution made by the organisations to enhance the significance of design in SMEs. The findings revealed that the most important organisations providing incentives for the SME's were DTI in UK while for Malaysia these were MITI and MATRADE. These organisations play quite similar roles as both the trade and industry department of their respective countries.

Under the new UK Prime Minister the Rt. Hon Mr. Gordon Brown, the DTI no longer exists under that name and has now been replaced by the new department: Department for Business Enterprise and Regulatory Reform (BERR) as from 28 June 2007 (BERR, 2007). However most initiatives and activities that were previously managed by DTI are now has been replaced by the new Technology Strategy Board, which has become established as an executive Non-Departmental Public Body with effect from 1 July 2007. The aim to see UK as a global leader in innovation and a magnet for technology-intensive companies, where new technology is applied rapidly and effectively to create wealth (TSB, 2007). The existence of the Design Council does not appear significant to the SMEs for both

countries. However various awards; Millennium, BDA and D&DA Award (Table 5.74) granted to selected UK SMEs has an impact on the recognition and sales of the particular SME. For Malaysia SMEs, The Good Design Mark Award (GDA), the only award granted did not have any impact on the selected SMEs.

- 8) Most participating companies in the two countries were strongly influenced by design, and were aware that design was extremely important in influencing consumer choice. Furthermore they were also similarly aware of the importance of design in creating a successful brand. These positive factors, as stated earlier, were not new to UK participants. However it is believed that with the speed at which the business world is changing and with increasing international competitiveness Malaysian participants have being compelled to rethink their assumptions. This is a strong contributory factor on how best design can strengthen a company's business and growth within Malaysia.
- 9) Further similarities found were the agreement by participants regarding the importance of design in brand creation. The roles of design become an important aspect for brand improvement and brand management to both, Malaysia and UK participating SMEs. In fact design also was seen by both countries' participants character and

behaves as an extension of marketing promotion. One of the Malaysian participant stated, “Design is a branding activities tool” (participant ‘SCM’).

Similarly both countries’ participants agreed that design helps a brand to evolve. One of the Malaysian participants stated, “Design is very influenced by the environment in which it is created. As the environment is a dynamic force that is constantly changing, so too the design. These changes allow a brand to evolve” (participant ‘SAM’). Malaysian participant ‘DBM’ also added that “Apple computers is very good example to answer this question”. As the public see the aggressive use of design by the Apple brand to differentiate their products from others computer makers, and this will encourage other businesses to make greater use of design and technology.

There is general agreement with regard to promoting good design values within and between the team members in an organisation, such as corporate executives and designers. Most of the participants also agreed that corporate managers overseeing design must have creativity. One of the Malaysian participants stated, “Corporate executives look at what is marketable and saleable”.

A designer looks more at what is ‘nice’ (aesthetic). Sometimes what is nice might not be saleable due to cost or functions. The best designers would be those with creativity and a commercial mind. It helps to realise a product from concept to reality and keeps it in reality through proper marketing and brand management techniques” (participant ‘SBM’).

- 10) Finally, the statistical analysis results from both countries clearly show that the majority agreed with regard to design and brand. Design is a powerful instrument in establishing a brand and it makes a brand distinctive in a crowd as well as determining its success. In addition one Malaysian participant added, “Design makes a brand to be value added and helps a brand to grow” (participant DBM).

5.11 Chapter Summary

Descriptive and inferential statistical methods have been used to analyse quantitative data from Malaysian and UK participants. The data was analysed through frequencies, mean and cross-tabulation procedures. From these analyses, an in-depth understanding in terms of information about the importance of design and relation to branding, design and industry practice was gained. This understanding enabled a further comparison and contrast between both countries.

The results from the Malaysian participants, revealed to what extent an improvement has been made by industry over the last two decades, and in particular the selected manufacturing SMEs of which many were among the GDM award's recipients (awards established since 1997). Significant issues emerging from this research provided valuable information needed to pursue the qualitative research study in the next chapter. Results from the UK participants provided important feedback on the level of understanding of design and design practice in the UK, corresponding with available data from published literature. These findings were used as a basis for further in depth discussion on the relation of design and brand that has been placed into industry practice.

In order to examine design practice and brand creation in UK and Malaysia, the results in section 5.8.1, 5.8.2, 5.8.4 and 5.8.5 were combined and compared. The findings (section 5.8.3 and 5.8.6) formed the comparative studies which allowed for an identification of the similarities and differences (section 5.10.1 and 5.10.2) in the companies' practices. From the comparative analysis, the study found rather more similarities than differences between Malaysian and the UK participant companies in terms of their views. Perhaps the drastic development in Malaysia has contributed to a positive attitude towards the importance of design in the country's industry. Inevitably, these results reflect the true scenario in the UK industry, however the in-depth interview (qualitative research data) findings will highlight some disparity in the Malaysian participants' results. These will be explained in Chapter Six (In-depth Findings).

No Key Factors for Key Questions Derived from Quantitative Findings	
1	ROLES of DESIGN <ul style="list-style-type: none">▪ How design played a role in their business?▪ Will design play a role in maintaining the company's future?
2	VALUES of DESIGN <ul style="list-style-type: none">▪ What is the value of design in business?▪ Would you say design is a tangible or intangible asset in your company?▪ Does investing in design improve coordination between marketing and production?▪ Is design seen as a core competency in-company?
3	DESIGN MANAGEMENT <ul style="list-style-type: none">▪ How design is managed in-company?
4	DESIGN and BRAND <ul style="list-style-type: none">▪ Is the success of the brand solely dependent on promotion?▪ Does design have a role in marketing a brand?▪ Does design capability influence Malaysian SME brand?▪ How design help brand to evolve?
5	IMPACT of DESIGN PRACTICE <ul style="list-style-type: none">▪ What are the factors that influenced the company to have an in-house R&D or engage design consultant?▪ What is the impact of design to the company by having in-house designer or engaged design consultant?▪ Are there any changes in the amount of growth of design within the organisation between the past and current?▪ Does the design affect the company's product prices or competition in the new market?
6	DESIGN and CONSUMERS <ul style="list-style-type: none">▪ Does design provides consumer benefits?▪ Does design have a natural connection with consumers?▪ Do your company involve customer to obtain market information in assisting design process.
7	DESIGN KNOWLEDGE <ul style="list-style-type: none">▪ In promoting good design value does design team have differences in views with the senior management?▪ Does the company need more 'design knowledge'?▪ Where might this knowledge come from?▪ Do industry in Malaysia concern over ecological aspect of design?

Table 5.84 Key Questions Derived from Quantitative Findings

Although findings from the statistical analysis satisfied the objectives of the questionnaire survey and uncovered details of the design importance and brand relation as well as design practice in companies, this by itself was not seen as being sufficient. The similarities and differences that were found to exist between participating companies in the two countries through the quantitative findings have raised a number of key questions. These require a more qualitative approach (through in-depth interview). To do this, direct reference to Malaysian senior management or design managers, or design consultants, Malaysia Design Council and MITI or SMIDEC representatives with a responsibility for improving design practice were examined, as detailed in the in-depth studies reported in Chapter 6.

Chapter 6

In Depth Findings

Chapter 6

6. In Depth Findings

6.1 Introduction

This chapter presents the analysis of data and findings from phase three of the research's utilizing the qualitative methods. Phases one and two of this research provided findings through questionnaire-based surveys. The data analysis from these surveys gave enough grounding to pursue in-depth interviews and to develop the case studies for phase three of the research. These in-depth interviews and case studies also helped to strengthen the quantitative (phase two) findings in identifying the role of design practices in the selected Malaysian manufacturing SMEs. Subsequently these findings will be compared to the UK design best practices (data found in published literature).

6.2 Qualitative Research Approach

The views expressed by Denscombe (2007), Creswell and Plano Clark (2007), Creswell (2003), Miles and Huberman (1994) and Robson (1993) were utilised to gain a sound understanding of qualitative research in order to underpin investigations. The conclusion drawn from their converging views was that a qualitative research focus is necessary to gain an in-depth overview of the subject, thus giving intense or prolonged engagement with the area under consideration. The investigation was undertaken in a particular setting to ensure that participants

understand, account for their actions and manage their responses. Qualitative data captured from participants will provide a greater understanding for the researcher.

Qualitative research focuses on naturally occurring and ordinary events in normal real-life settings where the confidence in the research is buttressed by ‘local groundedness’, as the data were collected in close proximity to the specific situation (Bryman, 2004), (Symon and Cassell, 1998), (Miles and Huberman, 1994) and (Robson, 1993). The investigations focussed on the specific phenomenon of design practice. Subsequently, the case studies were set within the research context to allow deeper insights of design practices and perceptions. The data obtained were extensive and provided a strong potential to reveal the complexity of a situation in a way that goes beyond snapshots of What? or How Many? The data gained also reflected the emphasis on peoples’ experience and was designed to tease out and locate the meanings that were placed on events, processes and prejudgements.

6.2.1 Selection of SMEs and Organisations

The initial stage in interviewing was to identify the participants to be interviewed. Purposive sampling was used to select the participants for the in-depth interviews and case studies (discussed in Chapter Four, section 4.6.2). The sampling strategy was thoroughly considered within its parameters. Boundaries defining aspects of the case to be investigated were set to ensure that the research questions could be studied within the research limits of time and means.

According to Miles and Huberman (1994) qualitative research is usually undertaken with small samples of people, chosen from within the context of the in-depth studies, and is required to be purposive rather than random (this suggestion was taken on board and implemented in this research as discussed in Chapter Four, section 4.6). Therefore sampling was carried out by carefully selecting the participants from the list compiled during the second phase of this research (questionnaire survey for Malaysian participants) and from the group of participating authorities (Malaysia Design Council and the MITI/MATRADE representatives).

The key selection criterion was to include senior management and design managers from Malaysia who are, or have been directly involved with, and are familiar with design practice and brand development. They were judged to be in the best position to respond to the interview questions due to their experience as SMEs manufacturer or design consultant and also their influence on their companies' practices. It was also important to select interview participants from the government organisations that are involved in the promotion of design and the creation of design awareness. As outlined by Yin (2003-b), the participants should provide clear insights into the subject matter and be able to suggest further sources of corroboratory evidence. The sample selections were appropriate as they were responsible for the design activities and decision-making in the respective companies and organisations.

Eleven participants were selected for the in-depth interviews representing companies and government organisations. A total of six participants were from the manufacturing SMEs; four of these companies were acclaimed with GDM awards and two companies without the awards were chosen for comparison in the case studies. In addition, three participants were selected from design consultants who focus was on design services for industry and manufacturing. The remaining two participants were from the government agencies group; the Malaysia Design Council Manager (MDC/MRM) and MATRADE Trade Commissioner Executive (see Table 6.1 for companies break-down for in-depth interviews). These bodies are responsible for promoting Malaysian products, design and branding. At the next stage some of these participants were chosen to be involved in the case studies (6.4.1).

In-depth interviews – Company Break-down Detail	
Number of companies	Types of Companies
4	Manufacturing SMEs - Malaysia GDM Awards recipients
2	Manufacturing SMEs - Not participated in any Malaysia GDM Awards
3	Design Consultants - specialised in Product design and manufacturing
2	Government Agencies

Table 6.1: In-depth interviews companies break-down

6.2.2 The Research Instrument

6.2.2.1 Interviews

Research interviews are essentially a controlled conversation between the researcher and the participant. These interviews can take on different forms depending on how they are structured, where they are conducted and how many individuals are involved. The semi-structured interview format, for this research

was decided on after considering the views of Bryman (2004) Mason (2002), Kvale (1996) and Robson (1993). According to Goulding (1999) the semi-structured interviews aims to strike a balance between structured interviews that may over-emphasise the researcher's conceptualisations, and unstructured interviews that may "cause confusion, incoherence and result in meaningless data". Mason (2002) endorsed the flexibility and fluidity of semi-structured interview. This semi-structured interview format would enhance the validity of the investigation against the structured interview (*ibid.*). Other benefits of the semi-structured interview format include more room to probe for answers, allowing for clarification and elaboration to produce helpful qualitative information that can be recorded. Bryman (2004) emphasised that the flexibility of the interview process, gives the interviewee the chance to frame and understand the issues, events and forms of behaviour.

The design of the interview was mostly drawn from Kvale (2007,1996) with the aim of obtaining factual information and opinion through descriptive data. The interview questions were developed from the typologies or themes, which emerged from the quantitative research findings stated in Chapter Five, 5.11. Other important considerations in the interview process were the ethical issues discussed in Chapter Four. Consent was first sought from each participant to allow the interview to be recorded. The participants were also assured of the confidentiality of the interviews and upon completion, they were debriefed and thanked. They were informed of the useful insights they would contribute to the

research investigation and of the important points that had emerged from the interview sessions. Further consent for the production of transcripts was sought and obtained following the debriefing process. Participants were furnished their interview transcript and given the opportunity to check the accuracy of the data. The Apple iPod™ (4th generation) with Griffin iTalk™ plug-in microphone was used as dictation equipment to record the interviews.

6.2.2.2 Piloting the Interview

A pilot study was carried out to ensure the effectiveness and practicality of the interview design. Kvale's (1996) views were drawn on to guide the process. The assistance of two key parties in the refinement of the research questions, interview procedures and questions structure was sought before deciding to undertake the actual interview. In the initial stage of the pilot study, discussions were held on the interview process, format and structure with the two thesis supervisors. The frame of reference in these discussions covered the method adopted for research questions (structured or semi-structured interview format), tentative questions to be posed, provisional participants, and the time and length of the interview proposed. Notes were made from all the conversations in the first pilot, and adopted to refine the interview format. The outcome was that some of the interview questions were reworded and the structure of questioning rearranged.

The next stage of the pilot was mock interviews via Voip Stunt, (discussed in Chapter Four, 4.7.3.1) with two contacts that are currently working in Malaysian

SMEs with over 9 years of experience. One in product design and the other in the furniture design industry. Feedback, particularly on the conduct of the interview, the questioning approach and structure during the session, as well as the time taken were noted in order to further fine-tune the interview design. (See Appendices 3, 4 and 5 for final semi-structured interview questions used with the three different groups of participants: SME manufacturing, SME design consultant and government organisations).

6.2.2.3 Interview Procedures

Since the research involved individuals who held very senior positions in their organisations, their availability was often uncertain (e.g. work demands on interviewees' time such as engagements arranged at short-notice, which often necessitated out-of-station visits). This would bring a problem to the researcher if she had travelled to Malaysia, only to have this happen. Therefore, the scheduled interviews were to be conducted as telephone interviews, video conferencing or online-interviews (which involved the use of web based 'chat' applications or Voice over Internet Protocol or SKYPE). Moreover, face-to-face interviews would have incurred considerable costs in air travel and accommodation, as the researcher is based in the UK and the participants are in different states in Malaysia. Denscombe (2007) indicated, "people are as honest in telephone interviews as they are with face-to-face interviewing". He also added that it is questionable to assume that face-to-face interviews can produce better, or more precise data (*ibid.*). In addition, it was quite likely that the face-to-face interviews

would have to be conducted in an environment that does not reflect the actual workplace of the interviewees (such as meeting rooms or other ‘non-active’ locations). Inevitably, informal observations of the context of work setting will still be missing as in telephone interviews. Based on these considerations, face-to-face interviews were considered impractical and not significantly different from telephone interviews.

For this study, all eleven participants indicated their preference that the interviews be conducted via the telephone. Subsequently, the interviews were conducted according to the interviewees’ choice of time and date. This was more convenient for the interviewees and offered the opportunity for more flexibility in terms of their availability. Each of the interview sessions lasted from an hour to three hours depending on how individual participants responded, since the semi-structured interviews allowed for follow-up questions. To further enhance data collection for the case studies, some additional meetings with participants took place in the UK and a detailed review of company documentation provided by participants was undertaken. (Further descriptions on the method of data collection for case studies are explained at 6.4.1, 6.4.1.1 and 6.4.1.2).

6.2.3 Data Analysis Process

The purpose of qualitative data analysis is to make sense of the massive amounts of data generated from a qualitative study. According to Patton (2002) the volume

different design management activity mentioned, such as design process cycle: ‘brain storming and initial idea’, ‘conceptual development’ and ‘prototyping and testing’.

In the finer analysis of the interviewees’ descriptions, the coding procedure allowed for the following elements to be broken down:

- the ‘attitudes’, which involved consumers views at that times unaware of what they actually want,
- the ‘causal factors’ that reflected budget constraints and
- the ‘consequential effects’ which indicated the market success

Subsequently, the coding procedures also involved other pertinent sections of information that were all coded. These coding procedures assisted in-depth analysis and enable a continuous search in the data for meaning, as well as identifying sections or categories needing increased scrutiny with each new case. Next, transcribed passages assigned the same code might thus be compared to identify sub-codes that only become apparent when all these passages are examined together. Alternatively, collections of passages with different codes might be compared to reveal the possible reasons for any discrepancy. Therefore coding presents two challenges to the researcher: 1) Analytical and 2) Practical.

Preferably, the analysis will reflect on how thematically related passages are identified within and between cases. In practice, it required the documents to be labelled with relevant codes for later retrieval. In this study, the analytical

challenge was addressed by utilising the Content Analysis method and the practical challenge was addressed by the use of QSR NVivo software described below (6.2.3.4).

6.2.3.3 Content Analysis

Content analysis is an approach to analyse documents and text suitable for both quantitative and qualitative analysis (Bryman, 2004). This type of analysis permits transcribing, hence through this approach data was understood, explored, transformed and expanded to form a greater knowledge as outcomes of this research. According to Holsti (1969) in Bryman (2004), content analysis can enhance a researcher's ability to systematically and objectively reason and draw conclusions from the findings.

In addition, this analysis also allowed the researcher to identify specified characteristics of the message (*ibid.*). Both Bryman (2004) and Denscombe (2007) stated that this method of analysis enables the content to be quantified into predetermined categories therefore allowing the data to be revealed in a “systematic and replicable manner”.

This was also reflected particularly in the data gathered from the eleven participants involved in the interview sessions. Denscombe (2007) further emphasised that content analysis mainly form a logical and straightforward process in whatever context is applied such as:

- choose an appropriate sample of text or image
- break the text into smaller component units
- develop relevant categories for analysing the data
- code the units in line with the categories
- count the frequency with which these units occur and
- analyse the text in terms of frequency of the units and their relationship with other units that occur in the text.

Content analysis was also used to analyse data from the survey questionnaire. As stated in Chapter Five section 5.7, some of the questionnaire items were of the ‘open ended’ type. These type of questions were designed to enable the participants to express their views and perceptions in the space provided (refer Appendix 1). This is further reflected in questionnaires items number twenty-one to twenty-four (21-24) of the questionnaire items which seeks the participant’s opinions and perceptions with regard to design management and associated practices in their companies.

In addition Denscombe (2007) claimed that content analysis can potentially disclose hidden issues based on the communicated information revealed from the data. This is a positive benefit for the researcher if the transcription of the text contains unintentional messages that can be identified and incorporated in the analysis of this study (*ibid.*). He further described the value of content analysis in terms of what it can reveal by measuring words and ideas including frequency and

order occurrences, viewpoints and ideas proximity through text associations (Refer to Table 6.2 below). However, content analysis does have some disadvantages as an instrument, mainly when the transcription carries “subtle and intricate” meaning (*ibid.*). Therefore, content analysis is best utilized on communication that focuses directly upon statements which are clear and uncomplicated.

Content Analysis	
... reveals	... by measuring
1 What the text establishes as relevant	What is contained (e.g. particular relevant words, ideas)
2 The priorities portrayed through the text	How frequently it occurs; in what order it occurs
3 The values conveyed in the text	Positive and negative views on things
4 How ideas are related	Proximity of ideas within the text, logical association

Table 6.2 Content Analysis Descriptions by Denscombe. *Source: Denscombe (2007).*

6.2.3.4 QSR NVivo

Verbatim records from the transcriptions were entered into QSR NVivo™ version 7 software application for data processing. The use of a computer application is not intended to supplant time-honoured ways of learning from the data but to increase the effectiveness and efficiency of such learning. The choice of this software was based on the conviction that it would enhance the internal validity of the research. It offers the facility for sorting, ordering, indexing, cataloguing, recalling and reducing data for analysis with rigour and consistency, subsequently

reducing the probability of errors during the process. This is particularly helpful between the ‘themes’ and ‘sub-themes’ within the data. Moreover, this tool allows for better analysis on the structure of the research questions that facilitates the comprehensive exploration of data for the analysis. Once the data was processed, a detailed analysis was carried out. Special attention was given to paradoxes, particularly on the sensitive matters related to issues around sentiment raised by participants, especially those connected to government policy and negative practices in companies. These could provide fresh insights into the phenomenon investigated during the analysis.

6.3 Principal Discussion of In-Depth Interview Findings

In this section, issues arising from the identification of the initial findings are discussed. The information and evidence provided by participants in the in-depth interviews, is reviewed, developed and interpreted. The data gathered from the in-depth interviews is outlined in this chapter and is supported by the interpretation of participants’ perceptions. As stated in Chapter Four (section 4.8), the ethical considerations were in place and therefore complete anonymity was assured. Accordingly, the identity of all case study participants and their companies was coded as shown in Chapter Five (Table 5.4, participants’ coding indication). All the recorded data obtained during the interviews and documentation provided by the participants, were handled with utmost confidentiality and carefully stored for use only within the study.

The approach taken was to represent the data by using the verbatim code from the transcript. As the participants had ‘Bahasa Malaysia’ (Malay Language) as their mother tongue and not English, therefore the English transcript can sometimes appear to be grammatically incorrect, added with smatterings of Malay and Chinese dialects and colloquialisms. In the interest of accuracy, the interviews have been coded verbatim.

Furthermore as mentioned earlier in 6.2.3 the data collected were coded into seven major themes which are shown below. All the themes (from 6.3.1 to 6.3.7) refer to the research questions, to the quantitative survey findings and the interview questions. The conclusion of these findings are presented sequentially:

- Roles of Design
- Value of Design
- Design Management
- Design and Brand
- Impact of Design Practice
- Design and Consumers
- Design Knowledge

6.3.1 Role of Design

Discussion about this theme was highlighted in Chapter Two (design literature) and this has shown that design has become a fundamental tool in any form of NPD. This is because consumers view design as a major influence in their choice

of product, or as the most important reason for purchase of a product (Franklin, 2002). For designers or manufacturers, the advantage of technological improvements and engineering capabilities of design tools allows for adaptability and innovativeness in the creation of and, changes in design. The findings in Malaysia referred to earlier in Chapter Five (5.10.2), provided some unexpected results, as appreciation of the role of design in the selected Malaysian SMEs appear to have become more positive, with the majority of participants claiming that design played an important role in their companies. Participants stated that:

“Without design we cannot sell our product to the market and consumer is getting more demanding on design rather than just performance and the reliability. We also have to consult base on the good design in order to achieve a better sale” (Participant SME).

“I think the design is very important in the company like us who build the products. Currently the product life cycle is very-very short you know, its different from those twenty to thirty years ago. Example, like one new hand phone designed that you know can last only for one or two years only, so that’s why I think product design is very important in this company” (Participant SMF).

“In term of design ehmm like I say lah one or was sought before deciding to undertake the actual interview the very very important aspect lah I mean look at the children playground and all this kind of product okay. The design is a very big role in term of letting people make decisions and all but the key thing is always come down again to price because like I said, in many circumstances the buyer of this product which is either the government, the property developers, okay even the school and the kindergarten, the children centres and all. The buyer is not the user of the system okay, so usually if they’re not the user of the system, the key thing to them is giving something good enough at a reasonable price but of course when your price is similar there is of course something they would look for. Is about a better design okay, but the whole issue here is when a product is launch out from the design people. Somebody see your design anybody else can also do that design because everybody will have the same tools and material available in the market to do this kind of product. Even lah, except our product will use a lot of plastic sheets and all okay

we duo colour sheet and can engraving product nice motive and all. Competitors also do that, they might not buy it from us but they are not ten other manufactured in the world product to buy it from” (Participant SMB).

These statements indicated that participants believed that design had become more important in enhancing product sales. While the technical specification and engineering may be similar within the product, the design or appearance allows a differentiation between the products with other brands. Therefore design can be used as tool to influence consumers’ attention and preferences. The increase in consumers’ income and changes in their lifestyle can lead to a change in their perceptions on design when they are planning a purchase. This affluence can be advantageous to the SMEs as the manufacturer of consumer durables. Walsh *et al.* (1992) had stated that integration of technology into industry entails changes in forms. And if we reflect on the statement made by the participant SMA, it would appear that the consumer considers design not only in the form or aesthetics of the products, but also the impact of the design on the use of the product to address the consumer’s needs. A participant stated that:

“We start with design to overcome or to provide a solution to the client’s needs or requirement if we could assist their problem. So for us, design is everything because our products are sold with a premium in the market. Design will play more and more important role in the company future simply because I think that the market place in the future will become more and more...Because customer has become more demanding in term of advice, in term of value for what they going to pay for... I think that not just my company, I think to any companies who want to survive in future. Design has to be more and more important” (Participant SMA).

This statement is consistent with studies conducted by the Design Innovation Group in several industry sectors in the UK, comparing these with international

industry sectors. These have shown that “design-conscious” companies have better results in terms of sales growth and company profit (Roy and Potter, 1990); (Walsh *et al.*, 1992); (Cooper and Press, 1995) and (Hertenstein *et al.*, 2001). Subsequently, studies done by other UK researchers (see Table 3.6, Chapter Three, for details) gave further evidence on the important role of design in UK companies. Further it appears to suggest design is crucial to achieve the consistency that brings together the diverse elements of product performance (Cooper and Press, 1995). In addition, research commissioned by the UK Design Council (2003) indicated that ninety percent of SMEs in the UK said design was integral to their operation and had a significant role to play.

Differentiation in branding through design commonly goes beyond just creating a product identity. Based on the in-depth interview findings the majority of the participants claimed their company success today was built on design and differences in design, which also enabled the company to better promote the product’s brand. Not only does design represent the company’s personality: it is also important in modelling and enhancing the company’s future. It was noted by participant SMC that:

“Without design it cannot lead us to this way. Because we will have or I should say with all original design to project our company image. That would actually help to build our brand. Rather than buy from outside then trading, even though we are not trading but we want to create the products that can project our brand identity then we can achieve our OBM target. That is only through design, one important factor and of course if we have design, I would say we could have better pricing and lower cost. I think it is definitely helps to the company future” (Participant SMC).

Such perceptions of the roles of design within the selected Malaysian SMEs may be considered important because design activity appears to be increasingly recognised as a focus for the company. The interpretation of the findings also suggested that the role of design was not mainly to enhance product appearance but was an important aspect in planning and organising the future of a company, as shown in Table 6.3.

Description of the Roles of Design from the Findings
Design gives personality to a product.
Design gives satisfaction to customers and directly creates better revenues for a company.
Design helps to promote brands
Design also enables a company to bring desirable products to the global market.

Table 6.3: Description of the Roles of Design

In addition to giving a competitive edge in the global market, design awareness has created pressure amongst SMEs to make differentiation in their products. In this regard, one of the participants stated,

“What is more important is the product itself has to be differentiated, in terms of design [aesthetic], function [performance], quality [finishing]. Until the people are aware of these product differentiations then only they can be aware of the role of design” (Participant DMC).

Interestingly the study discovered some inputs that reflected on the rapid changes in the industry’s development in Malaysia. Particularly, how companies presently viewed the significant role of design and impact on their company’s bottom line. This can be attributed to the changes in management personnel that place high

importance on design. Moreover, owners on first generation family-owned Malaysian companies built on entrepreneurial-based instinct, tend to educate their children in design abroad. Armed with design management knowledge, this next generation can rapidly incorporate new ideas, approaches and beliefs into the company's philosophies when they return and begin working. One participant stated;

“There are as I said few companies that because they are changing the management, previously their father managed the company. Now, since we have a new generation, new generation they are looking to a different approach, different way a say for instance. There is one company in Kedah. They are looking design is very-very important for the company. So they are approaching many-many designs for them to before they go for productions. So, meaning this new generation we are hoping that this new generation will change the manufacturing scenario in Malaysia. Meaning putting design as their main task of producing their own products rather than looking internet cut and paste there” (Participant AMA).

This newer generation have the potential to place design as a core strategy and create valuable product differentiation, especially in those companies that involved the use of design as the means of income or revenue. Thus:

“I totally agreed with what you have said. Actually I am young that is my advantage, and I have to explain the whole situation to you. This Malaysia furniture industry actually started about 20-30 years ago. That is when the plantation land being promoted in the economic plane as industrial land. Through this conversion some of the landowner make a lot of money. So they don't know what to do...so the best industry at that time for them is furniture. Because in Malaysia rubber wood a big resources, and they will go into this industry. But then my dad previously, he is not educated, well I am sorry to say that...so they are not systematic thinking. That is why most people cannot do it until now. Because the way they do business and their thinking quite old. Well! I think the owner also got problem. That is why...I am new and young, I bring new concepts in this company and as we try it seem works well now” (Participant SMC).

Further in terms of product design importance, the research findings showed that there was a strong consistency of views, in that all participants agreed that design is important in their business. However their position within the industries as the managers of these SMEs also reflected the different ways in which they strategize and perceive design. All in all from the research findings, it is clear that participants say that design certainly played a significant role in what they have achieved so far.

6.3.2 Value of Design

Initial discussions on the theme of the value of design has been highlighted in Chapter Two; Design, Practice and Brands (2.2.3). However in this section, the focus is to expand the findings based on the participants' responses. Then, correlate them to the results of the 'importance of design' (finding Chapter Five, in sections 5.9 and 5.10.2 point 5) that eventually relates to the value of design in this section.

It is claimed that design in all its forms is a powerful business tool, and there are specific techniques, processes, and structures to enable success (Kotler and Rath, 1997). Inevitably, creating value through design is often based on the economic, social, cultural, and environmental influences (Julier, 2000). However obtaining significant value from design goes beyond commissioning designers or advertising. Furthermore, designers need to play a greater role in communicating design value to business. This would involve a deeper understanding of aspects

such as customer behaviour, corporate and cross-functional work teams, specific methods and processes, as well as the ability to utilize both research and intuition in decision-making. Added to this, the application of design visualization and design methods need to be considered in key business processes.

“Design value has become more consistent throughout the industry, regardless product, furniture, household and others. This is why manufacturers are placing increasing emphasis on design as the key product and emotional differentiator”.

(Participant DMC).

For many participants, design was increasingly recognised as being extremely important in their companies. Accordingly, the companies claimed to have increased their efforts in producing good design and quality products. In fact, when a high value is placed on design, it proves to be a significant influence on consumer purchasing decisions. It is suggested that good design may have a direct effect on how consumer experiences the products (Trueman and Jobber, 1995). Such positive experience can be verified between consumer and manufacturer on the particular product compared with others, and essentially can be more profitable (Hertenstein *et al.*, 2001). Design therefore, needs to be used as a core business strategy to create greater value for the customer as well for the business, as noted by participants:

“As I explained earlier we are very much a value add company. And because of that the design has to be the core competency” (Participant SMA).

“Yes! Design is seen as a core competency. I would say is a leading one but not the most important thing. Everything must be a balance. You can’t just put design as the most important ones and you forget about delivery, or you forget about competitive pricing and forget about quality. All these

have to be balance. But design is a leading position of these 4 criteria, design, price, quality and delivery” (Participant SMC).

“Mmmhm.. I think in our company, our top management always emphasize on the design. And I can see that, how to say, because as for as now, like what we are... our department in fact we don’t.. aaa.. It doesn’t cost so much to run, because all the cost is to be back up by let say... aaa...the central. So, as far as I know, like we involve in design we have been involve in top management decision in the, how to say, like marketing department, engineering department and design. We are always in the front. In the front of the management in this company” (Participant SMD).

Design seems to have an impact on strategic management, especially when manufacturers are focusing on branding success where the value of design appears as a strong feature in enhancing the specific product and brand. Perhaps it is necessary to explain what value of design means and what it is worth in terms of management understanding. According to Haberberg and Rieple (2001), a strategy is the set of actions coming by accident or design that is being deliberately or intentionally planned by an organisation to develop resources. The organisation uses the strategy to deliver products or services in a way which its users find valuable. Other factors that influences strategic decisions include financial implications, other competing priorities and constraints (*ibid.*).

In relation to the earlier discussions on impact of the role of design (section 6.3.1) and value of design on selected Malaysian companies, it is encouraging to note that the findings revealed more positive design practice than anticipated. It was seen that design has the particularly tangible value of allowing an increase in product pricing. It was claimed by one participant that:

“Having a new design means that we have to put up with the market. The price definitely will increase and the price of old design will come down” (Participant SME).

This assumes that through design, not only are manufacturers able to understand consumer preferences, but the value gained from design can help a manufacturer to sell more and deliver better profits. The value of design had also evolved to the point where the use of design was enhancing not only product differentiation between companies but also most importantly developing a core competency for the participating companies. The participant noted that:

“If design made by our own then we can actually sell at higher price. Well higher product value. So if we have design, we can actually give our product a differentiation. So these two elements is actually important to business. So this is how we define design in our business. Increase the product value and to make the product differentiation” (Participant SMC).

Therefore design reflects its value by displaying rational characteristics of products and services: reliability, quality, company image, brand identity and unique appearance of the product. As such, the value and market impact of the products and services is enhanced, as explained by one of the SME participants.

“Of course from time to time we are thinking of to add value to our product. So to say, our product basically we have various categories. We caters for middle market, we cater for high-end market. We have these categories in our manufacturing. So basically when we come to higher-level product we have many new features that we incorporate in” (Participant SMB).

It seems that the value of design for the customers is to have their needs recognised and thereby create a product that satisfies them. It was suggested that the value of design would determine the perception and justification of consumer attitude towards the products (Trueman and Jobber, 1998, Press and Cooper, 1995). The results of the survey show that there are a number of similarities in the

perception of both sets of participants; manufacturers and design consultants, on the positive influence of design in product acquisition, apart from the obvious functionality of the goods.

“As well as the design up-look itself, it must looks gorgeous, expensive look, which means we must level up, then what we have in the market. And beside what we can see the trend now, people don’t mind paying extra money for the product that they perceive that they can perform their needs. So likewise we are concentrating on this high value added product at the current moment also. We don’t normally benchmark lower end product when we do our designing. We benchmark higher level of more famous brand products that we set us a benchmark as our design criteria to persist as product leader. So, we have to keep on innovative, create new product, create new design, and that’s why they pay and persist on R&D” (Participant SMD).

Good design appears both rational and accidental; design value is a shared experience between manufactures and consumers. From the discussions, it appears that the role of design and its value are recognized by the selected SMEs as having a positive influence on their products. The result is that design becomes an integral part of strategic planning and an influence on the future directions of the organisation.

6.3.3 Design Management

In this section, it is considered important to relate this study to the researcher’s own experience in her home country Malaysia, based on anecdotal views. For the past two decades, the Malaysian SMEs’ management were unwilling to invest in design, or to set up R&D departments. Financial constraints emerged as the common issue faced by the SMEs. In addition, there was an awareness that investing in design requires not only sophisticated resources but also well trained design personnel. Although this concept still exists in some sectors, the results

from the research have shown some positive improvement in the way participating companies have managed design in their company. A participant noted that:

“So basically we work closely with the marketing department, the engineering department and production. Our job start from.... once we involve with the design brief we work closely with marketing department on what is the current market situation, trend, and of course later part we work with the engineering department on the possibility whether or not to produce or it is viable in cost matter to produce. So basically these are the process we gone through” (Participant SMD).

The management of design in Malaysian SMEs may be further improved, if SMEs can understand how design, and in particular industrial design, can produce a better outcome, and hence can create benefits both tangible and intangible for their companies. This is because design activities have become fundamental in most of the selected SMEs industries. As described by participants:

“Basically like our management, looking at... they also perceive that design is very important in our manufacturing company for example the product that we produce, is nothing special actually, so mostly everyone can duplicate it, can do it, for example like what we can see many brands and manufacturing are doing. But what we are more concern is more on the quality. Design quality that will be ahead then others in term of the finishing, of course it is down to cost. Cost matters, but very importantly that we perceive that design appearance is important beside we are bragging on our branding name” (Participant SMD).

“The R&D, our ultimate aim is OBM Own Brand Manufacturing. If you talk about short term the R&D is just to boost the value, raised the product value. Well, you can say product pricing. Because if your own design you can sell at higher price but this is just short term. If is long term, if you ask me for long term sake why we want to invest into R&D because we need to have our own brand manufacturing. That means that next time maybe 5 years later you will see that ... actually selling the product of its own name under its own name/brand. That is why we want to engage into R&D. I do not know but you see actually quite or I would say little bit conservative because from OEM to ODM it takes about 10 years than only we take the 1st step. That is why is a little bit slow but our concept of principle, we make sure that we success in OEM and then we do it in ODM after the

ODM then only we will do OBM. If the stage cannot go through or without any firm solid data and then you go for it will be very high risk to the company or the group ” (Participant SMC).

One of the design consultant participants stated that it was common for some companies not to have a plan for the design of their products (Participant DMB). It was also claimed that the companies would only start looking for someone to develop new design, when they realised that their product appearance has become outdated (*ibid.*). To be able to experience benefits and impact that design can bring to a company, particularly the SMEs, the following can be considered:

- understanding exactly how industrial design can benefit them
- understanding the right timing in developing a new design
- having in place product planning and forecasting ability
- understanding how to best locate a professional design consultant or expertise from design advisers

Based on the findings, it would appear that some exposure to views from international collaborations and the application of fresh ideas to a whole company's management with concerted efforts by team members can ultimately provides a better result for the company. Most SMEs in Malaysia do not appear to be creating a sufficiently large team for their R&D. It was suggested by one of the participants (Participant SMF) that the government should find a way to group businesses together so that they can join forces to undertake a larger scale of R&D for the benefit not only of the companies but also for the country itself. A discussion over the way the government, companies and higher education

institutions collaborate on schemes in the UK can be found in section 6.3.7 of this chapter.

An SME company needs to have a clear idea of the direction it wants to go before any decision is made over the management of design. The setting up of a team, for example, for prototyping to facilitate in-house design or product development, is one of the basic requirements in the management of design in a company. In addition, designers in the company need to be aware of the latest marketing information. The effort in sending selected product samples to customers is to continue. Frequent design review sessions are recommended between the design team and the management so that more positive reflection on product reliability, functionality and improvement can be undertaken. It was also suggested by participant SME that the management of design in a company is best to include all levels of personnel and not just the designer or design team only. The findings revealed a lack of willingness to take on roles in developing new products, even though appropriate design knowledge can better convince the potential parties of a design proposal.

There were several common perceptions among SME participants involved in this research. They stated that investing into any R&D activities such as New Product Development (NPD) can involve spending substantial amounts and there is always a risk in not knowing what will be the commercial value of the products

and their acceptance by the market. In regards to risk in design, Jerrard and Barnes (2006) stated that:

“Making design decisions within the new product development process is risky and innovative processes normally require structuring around significant investment”.

Further, decision-making in design may cause tangible risk to the manufacturers. Therefore, it was also apparent that a short-term gains approach was very common. Historically, reverse engineering was quite widespread, as invention and innovation required a functioning NPD process. This short-term profit-making attitude relates to and encourages imitation practices. Alongside this attitude, another issue was that a lack of design knowledge hindered the use of design. Due to lack of understanding of the importance of design management to company growth, the management of SMEs fail to incorporate design managers as part of strategic planning for the company. Moreover, participant stated that as a result of the lack of awareness on design significance, the role of a designer seem to be redundant and often not well rewarded:

“I think the Malaysian Design Council and SIRIM and MITI are a good things. However efforts are still lacking in getting to the SMEs on what they can offer to the SME. I think the higher education sector have also put much emphasis on the designs education. Emphases on designs are low due to the ease to "steal" designs (easier to copy people than to think of designs) making many designers redundant are not paid that well here - hence less will be interested. Originality must be protected for the SMEs to stress on human capital and creativity as they lack the economies of scale, the financial power and presences of large corporation” (Participant SMB).

The research findings show that imitation is currently one of the ‘design cultures’ within Malaysian industry. Thus, designs are often copied; concepts are easily

replicated with minimal changes. In this connection, one of the participants (Participant SMB) stated that in the Malaysian context, designs are important but do not last because of the lack of respect for intellectual property and patent rights (IPR). It was claimed by participant that:

“Because my experience here base on small industries, well I talk to some of my friends that working here with us small medium industries producing parts, normally they don’t do their own design, mostly they copycat. They copy and produce it on their own or they get the drawing from the big companies” (Participant SMD).

Further, according to participant (SMB) not only in Malaysia but also Asia as whole, a good design can be copied at 90% similarity and sold at a lower price and be ‘better’ result than the original. In addition, the participant also claimed that the authorities are not doing enough to police this bad practice. It shows that, although the significance of design has been recognised it has been dominated by bad design practice and lack of piracy enforcement by the authorities. This phenomenon was further explained by participant thus:

“Design is very important and it is the most important thing but most product in Malaysia, particularly Malaysian made is NOT actually all made in Malaysia. Mostly... for example Pensonic, they don’t make, they just assemble. Mostly they got parts from China and assemble the unit. In the company, we do it from raw material up to the complete product. Better! Another thing is... new brand, for example EuroUno, which also produce water heater. Market should know and aware they don’t even own a plant (factory) so how can they make the water heater. So therefore is actually all this parts they got from China and they just screw and assemble them” (Participant SME).

The development of successful products requires much more than an appreciation of aesthetics, quality and functionality. Therefore, in accommodating the consumer’s expectations, the involvement of all related personnel; management,

marketing, manufacturing and design in the decision process, is important. According to Press and Cooper (2003) the common central challenge of the design profession is to make designers relevant to business leaders, and therefore their inclusion in decision making is imperative.

Another common perception evident in the data is that designers often see themselves more as strategic visionaries or problem solvers and not as spreadsheet analysts. Inevitably management finds it hard to value something that they can't quantify. Rieple (2004) stated that designers or creative people approach problems in different ways and that only by "understanding these differences can reveal bottlenecks and opportunities in the innovation process". But managing design for better business is what designers ought to do. Two of the interviewees said,

"Designers should create products based on the demands and expectations from the market. Market information is fed to them by corporate executives who have to market and sell the final products. It is essential for these two groups of people to share common values in the design of a product and brand. For the same reason, corporate managers must have a creative flair in order to guide the market towards appreciating a particular product design" (Participant SMA).

"The most important thing is I want a product that design and make the product sell. This is what I want. The ability to sell and penetrate the market. What the designer always wants is the elegant design, beautiful design or the special design...Then my role is to bring the balance between the two things. I want elegant, good design. These things can penetrate the market and only then is OK. But of course... senior management does have different view of design from designer. Of course this is natural...So, it is very important not only design but talking about the whole range of design, engineering and 'model shop' making the sample (prototype). All these must come together have a set of need capacity then we will boom out the brand or the company" (Participant SMC).

However it is also arguable that designers could educate themselves about business issues in order to become more effective and better designers. Borja de Mozota (2006) views a designer's lack of recognition and support from managers as being due to two missing links. Thus: "1) Designers' lack of knowledge of management concepts and of management as a science and 2) Designers' difficulty in implementing a value model in their everyday practices". Designers therefore are recommended to extend their design boundaries rather than being committed to aesthetic and appearance alone. The forging of these two links, results in the business changing its design management scope toward more integration between disciplines. Hence the designer's task is best viewed as a dynamic process of strategic design management rather than common project design management.

It emerged from the interviews that there was concern over the relationship between the designs teams and company management which was not limited to manufacturers with in-house design. This concern also extended to a manufacturer that engaged the outside design providers as described by a design consultant participant:

"We can act as their R&D and then we promote for them, we help them and we teach them how to sell the furniture then they will do the marketing and distribution for us in their hand. So it is actually a new way to create new customer. And then, of course if you promote the R&D to them, they own design and products. So these kind of designs relationship do for us and our clients" (Participant DMC).

6.3.4 Design and Brand

As the roles of design and brand become increasingly important in business strategy, the need for cross-disciplinary collaboration increases. The initial discussions relating to these matters can be found in Chapter Two, Design, Practice and Brand. On this theme, the findings revealed that building integration between brand, design, and business was a significant part of sustainable business success. There was a view that it was critical to establish a good working environment between design and brand managers that would lead to a cross-disciplinary knowledge-sharing team, if optimum results were to be achieved in terms of customer satisfaction. Findings did reveal methods to foster synergy across creative and management disciplines. However, until now there have been few consolidated efforts to capture and share knowledge about cross-functional brand and design integration. Inevitably, the focus was mainly on integration as a business imperative within brand and design. Leonhardt and Faust (2001) view brands as conversations with consumers, where through the product appearance or experience, the consumers identifies with the brand and can predict its value. According to them Volkswagen, Apple and Hush Puppies have successfully shown the contribution of design to strategic branding. This is based on core values rather than objects and media (*ibid.*). Nevertheless the participant below was committed to the notion.

“Design plays a very important role here in the brand because the design carry image the design communication between the manufacturer the people and the consumer so definitely I think that it is a very important role in fact. What we believe is in differentiation, differentiation in term of customer service, differentiation in term of product pricing, product

quality or differentiation in term of service. These are what we believe on brand” (Participant SMC).

Recker and Kathman (2001) stated that strategic design can be an effective competitive differentiator for brands. Therefore, design could involve a comprehensive product development process and not merely concerning form, especially for manufacturers who plan to brand their own products. The findings also seem to suggest that, to have a recognisable brand, image and identity need to be part of the company strategy. Although for some, the new entrants to the market may sell on price rather than via their own identity, as the brand matures, the identity would make the particular brand known amongst its competitors. This issue was highlighted by participants:

“As I mentioned earlier when we have our design we keep on, how to say... the product identity, the signature of our product is there when people look at it, they will know its... Regardless of what are the products, like rice cooker, blender or fan. So the positioning of the brand itself are when what people look they will know it is... That meaning of product identity is very important. The product culture... we always emphasis on this” (Participant SMD).

“Our products - children playground are under..... brand. We have maintain the brand over the past 10 years. We come up with numerous designs using the highest quality materials - safe for children and durable to last over time. Our designs stresses on strong colour combinations and creative plays that provide educational value, excitement and physical development. Over time our designs improve and varies to customize to customers needs and ever changing taste and trends and updates of safety standards. However, the company...have always overshadowed our brand name due to our positioning as a park and playground solution provider rather than a marketer of a branded product” (Participant SMB).

However, there was a contrasting issue brought up by one of the participants who claimed,

“Some manufacturers just want to get the products out quickly, even if there are defects. The damage to reputation of the products and the brand may be irreparable” (Participant AMB).

From this statement it seems that the quality has not become a priority in the production process in their company. However, as the term ‘Quality’ has evolved and changed over time, commonly it can be defined as conformance to a specification of fitness for use, which directly implies customer satisfaction. The essence of quality is interpreted based on the needs, wants and values of the customer. Consumers now understand quality and how to demand it from their purchases. If manufacturers are likely to ignore the quality of their product then they can expect serious consequences for their business. Further in this discussion regarding design and brand, one participant stated that:

“The role is throughout the design activities it can actually come out with product differentiation. And then this product differentiation will be too of marketing for brand...That is why I strongly disagree that when the successful of a brand solely dependent on product. It is very important and crucial that product differentiation has to play a role for a brand. And this product differentiation come from design not imitate”. (Participant SMC).

The statement reflects the view expressed by Press and Cooper (2003) regarding ‘designing for difference’. In that review, they highlighted the Apple iMac (also discussed in Chapter Two, section 2.6). This concerned a TV commercial with the powerful slogan ‘Think different’; the unique all-in-one colourful translucent computer that simplified wireless connectivity and ‘plug in and go’ access to the Internet. Shown in this review of the ‘designing for difference’, the Apple iMac became the fastest selling computer of all time and also won the 1999 D&AD Design award in London, which is among the most prestigious of design awards. The Apple iMac was designed by a British industrial designer and his team, and

emerged as the most innovative product in the market. Press and Cooper (2003) also noted that while marketing can emphasise difference, design is the process that gives it physical form.

Within the context of design and brand, participants were further asked about the significance of design and its role in marketing a brand. One participant answered,

“I think very much the design play a very important role here in the brand because the design carry image the design communication between the manufacturers the people and the consumer. So definitely I think that it is a very important role in fact” (Participant SMA).

Another participant had a slightly contrasting view :

“The role is throughout the design activities it can actually come out with product differentiation. And then this product differentiation will be two of marketing for brand... That is why I strongly disagree that when the successful of a brand solely dependent on product. It is very important and crucial that product differentiation has to play a role for a brand. And this product differentiation come from design not imitate” (Participant SMC).

Further in this discussion it is very important to highlights participants' perceptions in relation to how design influence the Malaysian SME brands.

Participants' views were contrasting and varied;

“Yes indeed! You see throughout design we can have lots more. Firstly we have a control in price. That means now I want to target this market, I will asked my designer to design something to suit this market range wise. So this chair is \$20. To be able to get into this market I will asked the designer to design for that market. And then if I have a lot of design I can cater a lot more, I can even provides more choice for that market. The more designers I have the more I can focus for different sectors. So it is very important not only design talking about the whole range of design, engineering and 'model shop' making the sample (prototype). All these must come together have a set of need capacity then we will boom out the brand or the company” (Participant SMC).

“I think that the government in Malaysia especially the SME section community is really very aggressive now in trying to encourage SME, to also learn how to brand sort of. Because most of the time we are very preoccupied with just following, establish things or even making things for other people. So they are out of branding. So I think that we are learning now. I think that Malaysia is putting a lot of answers now on teaching the SMEs to put in design in perception make product for yourselves you know. Create a main for yourself; develop an image for your product. I think that the government is very much on that track now so I think awareness amongst the SMEs for think... I quite... building up quite well. Let see if they can take off. If truly we will, but its just at what speed, it depends really on the attitude I supposed of the people of the SMEs circle ” (Participant SMA).

Perhaps the above participants do recognise that companies can benefit from design and branding activities such as more product invention, innovation and positioning. In addition, there is a recognition that design does have a significant influence on individual companies’ brand in Malaysia. However according to one participant, brand relates to how the design was originated whether it is genuine or imitation.

Aaa yeah...Yes because right now what we can see probably the design probably its originate from the design local itself but some of them copy or modify...Like they copy and modify here and there lah...” (Participant SMD).

To conclude this topic, the notion that ‘design helps brand to evolve’ has elicited various perceptions that :

“In my opinion, in many occasions, designs and styles make such an impact on brand and identity that make its rigid to evolve to cope with the changing taste and environment. Changing the designs at times could change the brand or loses its identity” (Participant SMB).

Design is very influenced by the environment in which it is created. As environment is a dynamic force, that is constantly changing, so too the design. These changes then allow a brand to evolve” (Participant SMA).

“It is a common phenomena, examples of BMW, Mercedes Benz. In food industry, example Mc Donald, Maggi. Others in IT, example Apple, IBM etc, and the list goes on. Above all, the merchandise must look good, perform as expectation, safety, quality, service, etc. It will give long impression to consumers mind” (Participant SMD).

The above views have triggered an interesting interpretation on how design helps brand to evolve. Such an example, in the automotive industry, BMW radical design evolution has changed their car tradition appearance that have created controversial acceptance among consumers. However, the strong identification of the particular brand is able to maintain its value to the consumer. In contrast, the inconsistent design of Japanese cars often created brand confusion among consumers. However, in some cases design not only helps brand to evolve but enhance the model value such as the third generation of Nissan Micra which are known for its unique design (Mohamad Hariri, 2008). Participant DMB also appears to suggest similar thoughts in relation to the Apple computer brand design’s revolution. Apple has reflected a very good example for this phenomenon through its radical design in creating the translucent plastic body, breaking away from the norm of a standard computer body appearance. This has been discussed in Chapter Two, section 2.7. In conclusion, design does allow a brand to evolve regardless whether the effect leads to the improvement of the particular brand or otherwise.

6.3.5 Impact of Design Practice

On this theme, there was some initial discussion in regard to design practice in Chapter Two: 2.4. In relation to that discussion, the research findings clearly show

that acceptance of design practice has been established with the growth of in-house design departments and R&D in companies, particularly SMEs. All the participants involved in the research claimed that their company employed a design team with a range of between 2 to 15 employees. However although the number of design businesses and consultants have increased in Malaysia (see Chapter Four; Research Design and Methodology, Table 4.1), the number that focus on product design and manufacturing design services is very limited and is low in demand for the Malaysian market (refer Chapter Five 5.10.1 point 1, paragraph 4) since SMEs were making use of their internal design team expertise.

“Well! Beside time factor you know, that you can control if you doing it in-house, the other factors is that we know our products best. So we know which is the most economical solution. If we use our own products, which is the best performance in term of performance and the optimization of the system and the most energy saving for example. So if we do in-house we are able to actually utilize the strength, entire strength of the particular product of that project. Whereas, external lighting designer might not able capitalised the strength of the fitting because they could not. It is impossible for them to know the products of the suppliers. You know what I mean? So I think that is the impact differences between the designs that done in-house by the manufacture with the one that we have to ask the lighting consultant to do” (Participant SMA).

This example demonstrates that in the past, there is evidence of design practice in companies through employment of their own in-house designers to enhance their products. However, the findings reflected the fact that senior management involvement in design still plays a major role in finalising decisions as compared to input from the design team. One participant mentioned that:

“Corporate executives look at what is marketable and sellable. Designers look more at what is nice. Some times what is nice might not be sellable due to cost or functions. The best designers would be those with creativity and a commercial mind. Corporate executives helps realise a product

from concept to reality and keeps it in reality through proper marketing and brand management techniques” (Participant SMB).

I take for instance like our company, ...the impact is very great actually no doubt the probably we engage outside people to do our design, consultancy, as you mention, so probably they will have a better idea or better shape to come but, at the end of the day, probably it doesn't suit to our manufacturing style. Then, moreover, like what I perceive form the beginning that I would until now I can perceive that our company we try to keep our design consistency (Participant SMD).

One aspect that participants could see would make an impact in embedding design in the company is if there was an experience of some changes in term of design growth, which could be shown to have had an effect in terms of a company's product prices. This would subsequently enable them to compete in new markets.

One of the participants said that:

“I would say that the design, engaged in design we know a lot from the design that actually increase the selling price and reduce the material cost. OK this are the design study that we do, to increase the selling price by decrease the material cost. One of the way we want to study about design and then by doing this we can actually look upon new market you see” (Participant SMC).

Added to the earlier statement in the stage one findings Chapter Five: 5.10.1 (Differences in point 1), the statistical results showed that the majority of the selected SMEs in Malaysia were making full use of their in-house design expertise. However, only a minority of them used external design consultants to seek for fresh and innovative ideas. Perhaps there are some disparities in SMEs' commitment to use external design consultant. A participant from a government organization revealed this in his statement;

“Now, in Malaysia one thing I want to highlight you this for SMI normally the owner of the company normally they claimed they are the designers. We know that they can design but they cannot design with the good quality design outcome. So, that’s why we are facing another problem where the manufactures aware about design but then they do not want to engage a professional designer” (Participant AMA).

The above statement seems to reflect the view raised by Gorb and Dumas (1987) who coined the phrase ‘silent design’ (discussed in Chapter Two) which refers to those non-designers, such as marketing managers, who make decisions that affect design. Similarly, Malaysian companies’ may be utilizing this approach of not employing trained designers in order to obtain maximum profit. The study also found a variation in practice whereby external design expertise is engaged. Thus:

“Speaking from the perspective of an SMI, although it is necessary and convenient to have in-house design personnel, we should supplement our design needs by collaborating, wherever possible, with other outside sources of design talent. In this way, design ideas will be kept fresh and relevant” (Participant SMA).

“We put a lot of investment into the design, new design especially, beside our own engineers we are actually engaged like industrial design, the outsiders to come up with the design. So besides design, we also actually put a lot of investment into the research” (Participant SMF).

“Example like we take for instance the Japanese company, electrical company, all originate from Japan of course, and I think from beginning they are pursuing on the design actually. And when they set up a manufacturing company outside Japan, they also feel that there is a need for design in the country that they are doing business, for example Malaysia. So, like our department we have been setup since 1974 actually, so..because there is a need for local people because they understand well the need and the criteria of the local people. Because as I mention, like Japan product, probably it doesn’t suit to the Asian taste, local taste, because like Malaysia itself, we have a lot of different ethnic for example, Chinese, Malay, Indian, and whatnot. But in Japan they only have one society. So, they persist that the Asian people they have a different way of likes and dislikes in term of culture in terms of these things. Hence, they feel that there’s a need to set up design department to cater for local”. (Participant SMD).

6.3.6 Design and Consumers

Any designed products would be considered effective if they provided consumers with what they actually want. In this respect, the findings focus on how the selected SMEs designed their product and relate them with their consumer benefits (in term of added value to their products).

“I think design has natural connection with consumer. It is a very natural connection because whenever we buy something you always thinking in term of our need and our environment in which we wants to use them isn't it? So subconsciously we will all be doing that so it is a very ingrain things, it is very natural and connected” (Participant SMA).

Furthermore, the findings also looked at the participants' views in relation to design integration with consumers which can be seen as making a strong association between the actual product features (value in the product) and the brand. However, designers need to strike a balance between fulfilling their own personal design aesthetic goals and the needs of the consumer: as explained by this participant:

“I think if we do a good design, example like design which easy to use, easy functioning, functioning well, and people when they see the product, it can help in a way, so I think we can say that design create a lifestyle. Example like a product, washing machine, rice cooker, where there is an automatic function where it does the work when we set the time and press the button and then we go out shopping, by the time we come back we can eat already. I think this is sort of thing we are looking and have been looking for. Friendly, user friendly product that meaning it's a hassle free product that you can use for example in term of cleaning,

keeping, I mean it does not create a problem to them. Then it can be a real connection with human being” (Participant SMD).

In trying to review this theme; design and the consumer, it may be that consumers' needs and desires are not easy to describe or identify simply because consumers themselves are generally not consciously aware of exactly what they prefer or how to achieve what they want. It could be that even when consumers are aware of what they want and are willing to reveal it, they are likely to be conditioned by what may be available around them. And if the product or service available is basically unsatisfying to them, they are unlikely to reveal other surprising new desires or needs.

“Only through design you and me will have better choice you know...if there is no design from where we can do shopping, if we can have design then only customer will have more choices and from there I think the way to improve the living standard. If there is no design, everything follow the same how can you go to choose your things and how can be your life improved without the new idea and new concept coming in” (Participant SMC).

The usual way of involving consumers in surveys such as product design focus groups and questionnaires give results that are more about what they do not want, rather than offering startling new insights about what they really want or need. It seems in fact that consumers often attempt to provide answers that they think the investigator wants, rather than revealing their own preferences. According to Recker and Kathman (2001) between design preferences and purchase intent are many variables, including pricing, distribution and advertising, that cannot effectively be measured in brand design research. However in respect of the

‘design and the consumer’ theme stated above, surprisingly none of the Malaysian surveyed participants seem to involve customers in their product design development process despite their positive views in regards to consumer benefits through design.

“Involves customer ha... ok we not yet so far do that. Maybe company think is expensive haa. Maybe also difficult to get outside people to tell us what they like. So we actually used internet and magazine to get idea and design.” (Participant SMF).

“We are aware that many companies, big and multinational companies invested a lot in research before they develop product. They maybe called outside expert to conduct research or talk to their customer. We don’t do that yet. Maybe in future once we know customer input help us with design, we will do that probably. Now we get our dealers to tell us what customer want because they see the customer. Our design team also use available reference like design book, magazine and internet also” (Participant SME).

This shows that most surveyed participants rely on available foreign and local market research materials rather than interact directly with their customers in identifying end-user needs in relation to new product design development.

It can be said that often design results in consumer benefits, which can be defined in many ways. Therefore, enhancing technological aspects of a product as well as maintaining the aesthetic design value, will subsequently benefit the user. For example, when audio control of the car sound system is incorporated in the steering wheel, ergonomically the driver has a full control of both the entertainment and safety elements in navigating the vehicle.

“When you design something your concept for the new design whether is design for a product or designer persistence, there is always a concept isn’t it. When there is a concept, we design something that design is

always into consideration, isn't useful for the people, isn't it practical you know and when we put in this pot then there is a lot of value added in the product and these products as they get more and more value in their own design in their own manufacturing of a particular model for example they will always automatically then to be passed on to the consumer. And this is very clearly seen in the products that just come out in market. They evolve! Design allowed evolution as well to be able to adjust to new lifestyles. And all these definitely all these are done to benefit the consumers" (Participant SMA).

Walsh *et al.* (1992) investigated in their study whether 'good' design was associated with commercial success. The study revealed that award-winning, design-conscious firms out-performed 'typical' firms on several business indicators. However as stated earlier, awards for good design alone would not guarantee a commercial success. Their in-depth studies also revealed that the successful firms were not only strong in design, but were also effective in all key business activities, which include marketing, production, and quality control (*ibid.*). Positive communication between multi-disciplinary team would create a strong bond within the company. Therefore new products introduced with better features and functionality need not be at a higher cost, as one participant expressed;

"The trend now, that if we introduce a new product, we have to, NOT increase the prices. Its either we maintain the price or we reduce the price but with better design, better added features. Because we have to compete with the others, outside there, especially in Malaysia we are competing with the Korean products and China products. So, the trend now, as I can see, for the past 5 years, when we proposed a design, our top management says that the prices of this product cannot exceed the current price or it should be at least 10% down. So, of course we have a hard time doing all this. We have mostly, when we propose a good one... normally we will propose a very good one, and then the engineer has to verify the cost, the material to use, the costing. So, when it exceeds a certain limit, then we will have a discussion again. On our part, we have to sacrifice on certain part of the design that we should prolong. So that meaning, in a way we are always

quarrelsome with our engineers. So, at the end of the day, our top management will look in both ways. So for the past five years, I can see that there are things that are sacrifice from design. So we have to do away with gorgeous thing, we have to come back with normal materials that we used before. But the design, in terms of form, in terms of colours, we offset by that” (Participant SMD).

6.3.7 Design Knowledge

Good design is good business, but it is not enough to just come up with new product ideas. For successful product development, innovation and sales, one needs to understand the larger issues that surround a business. Issues like customer satisfaction, trends in their business environment and how to make use of new technology in a more creative fashion will all give a business a chance to get ahead of its competitors. If SMEs equipped themselves with a good understanding of ‘design knowledge’, that would give the initial impetus to build a good product development strategy. This can be done through an in-depth investigation and analysis of their business environment as well as by identifying their strengths, weaknesses and new opportunities in the current product range. This will then produce a drive towards discovering innovative product concepts. As a result the development of excellent products that match their customers' needs would become possible. It is believed that design knowledge needs to evolve along these lines:

- 1) Design and Business – The significance of design on business profitability
- 2) Conceptual Identification – The effect of design on creating differences in product identity
- 3) Prototype and Manufacturing – To enable product manufacturability

- 4) Marketing – To ensure product marketability
- 5) Design Review – To allow for reflection and analysis on usability and durability of products

Although design knowledge is a broad topic, it is important that companies have greater awareness and understanding of it. Design knowledge and practice in Malaysia is perhaps, no longer in its infancy (Elias, 1976, Kamarudzaman, 1978, Abu Haris, 1979) and it has obviously grown rapidly. Subsequent design related studies by; Tamyaz (1988), Dzulkifli (1995) and Marzuki (1999), showed consistent growth in this area. Looking at the recent findings after fifty years of independence from the British, Malaysia can be considered as developing well towards its Vision 2020. However as yet, no statistical data is available about design knowledge to support these views. Therefore the findings from this study provide significant insights to the increased awareness on the importance of design and its impact on company growth. Hence, design knowledge has a valuable role in the success of SMEs.

Perhaps within this theme, strategic planning by the Malaysian government could raise a greater awareness of design in SMEs. Significant cooperation from all parties will be required to ensure effectiveness. Thus;

“The Government need to play the bigger role in creating this awareness by educating them on how design can “value-add” for their products through seminars, workshops and conferences. By bringing SMEs or SMIs together, they not only get to open their minds to more possibilities but they will be able to exchange ideas with each other. Learning from a successful model that has been used by another company is always the

strongest motivating force. The Government should offer help in the form of grants to encourage and help SMEs to invest in design, be it in the form of tools or human capital. Alternatively, they could offer tax incentives for companies willing to invest in this area (Participant SMA).

A review of the participant comments pertaining to government incentives for those companies that have invested in design was discussed in Chapter Three; Malaysian and UK SMEs: (3.1.3 and 3.4). In these sections, it can be seen that the Malaysian government does provide specific incentives. However, according to SMIDEC (2006) the lack of transparency in business disclosure by SMEs has hindered their accessing of government funds. Furthermore, it was also claimed by (Participant SME) that even though the government may provide such incentives for design, some companies have used the grant for different purposes. At the same time others have claimed that the government was not being open enough about publicising the information to make companies (particularly SMEs) aware of their entitlement and that political influence played too great a part in deciding grant allocations. It was claimed by a participant that:

“ I’m also aware that the government, sometime they are neglected or unsure to give the grant to the SMI/SME because SME use for other reason. Let say...this actual grant is for design but they use it for some other purpose. So you see for instance I think most of the product, they are not producing them but they’re taking parts from China and assemble here. There is no design here. They providing this grant money to China to open their ‘tooling’ and this kind of things and give China this money to produce new design” (Participant SME).

In terms of UK government support to industry, Potter *et al.* (1991) conducted a study called The Commercial Impacts of Design (CID) during 1987 to 1990. The study provided information on commercial and other outcomes of over 220 design

and product development projects in small and medium-sized UK manufacturers, which majority received UK government support for design.

In relation to design knowledge, for many years Malaysia's design curriculum in schools only focused on arts subjects, whereas craft subjects were optional.

Therefore the pupils were not exposed to a design curriculum that was integrated with creativity. However, design and technology was recently introduced as a pilot subject in 1996 to secondary school pupils, as stated in Chapter Two; Design Practice and Brands (2.4). The design curriculum was then revised to be more effective in 2001, and in 2003 was introduced also to primary school level at year 4, 5 and 6 (Ministry of Education Malaysia (MOE), 2005). There has been growth in the number of design courses, specifically in Industrial Design and 3D design, and these have been a compulsory subject in government, and semi-government as well as private education. This is a positive movement towards emphasizing the importance of design within Malaysian industry, specifically to SMEs that need a greater design awareness. Subsequently the links between the government, private sector and education sector in the aspect of design collaboration need to be further developed. Referring to this, (Participant SMD) stated that universities and colleges should have a more symbiotic relationship with the corporate world, especially SMEs, providing vocational training and joint development programmes. This participant also added that students could help the SME in design and branding, and this would provide the students with more practical training that could lead to commercial and applicable designs.

“I think maybe for the design is not so... how should I say. Actually we need the government and university too. I think to support the research knowledge, okay instead of design knowledge only, because research need a lot of investment for example, research on the NANO technology, so we need a lot of investment where SME's like us are not capable. We are capable of design using the technology design to turn the technology into a product so I think we need a support in term of research result from the university I think”. (Participant SMF)

However it was argued by (participant SMD) that such collaboration between the larger companies, SMEs, government and the higher education institutions in Malaysia would possibly not provide a successful linkage, as individual organisations would have their own different interests and agendas.

“This thing it boils down to the relationship. Because if you ask a company to help a smaller company thru design collaboration and all this things and then they... I don't think it will be successful in the long term. Because it boil down to office, because they have 'kepentingan' [own advantage]... unless to do this, we have to get involve with government agencies like MIITI, MATRADE or even here in Malaysia, SIRIM or Design Council. They have to put a certain enforcement asking these big companies to do that collaboration. At the same time, we give the...how to say. There should be a weaving station here. You know what I mean or not? The weaving station for a government body, private sector. So, we supply this and you get something like that. Just the weaving station then it will work out. Is a win, win situation” (Participant SMD).

Nevertheless, earlier studies that were conducted by Inns and Hands (1999) showed that initiatives linking higher education institutions, companies and government such as the Teaching Company Scheme (TCS) programme in the UK, had been an effective mechanism to enhance in-house design collaboration. TCS has now been renamed Knowledge Transfer Partnership (KPT). KPT is a Technology Strategy Board Programme, with the aim of enabling innovation in business. The role of lead sponsor for Knowledge Transfer Partnerships was

transferred from the Department for Innovation, Universities and Skills (formerly the Department for Trade and Industry) to the new Technology Strategy Board in July 2007 as mentioned in Chapter 5. It is a government co-funded scheme for the transfer of technology research, helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. It was found that all participating companies in this programme had identified some tangible benefits in their investment in design. For instance, all the companies involved have had a similar two-year burst of design activity (*ibid.*) (see Table 6.4 TCS’s tangible benefits).

Company	Tangible Benefit
Montford Instruments Ltd	40% reduction in key component costs
Zellweger Analytics Ltd	New products for domestic markets
Trent Bathrooms Ltd	50% increase in turnover projected within 5 years
Armstrong Technology Associates Ltd	New in-house expertise reducing cost of previously hired in external expertise.
TP Activity Toys Ltd	11% increase in profitability
Art Glass (NI) Ltd	20% increase in company turnover
Haley Sharpe Associates	Increase in design efficiency (time to complete jobs)
Multifabs Survival Ltd	Family of new products
Thorowgood Ltd	13% reduction in material wastage in production
ASG (Accessories) Ltd	New products for new customers
Edwin Trisk System Ltd	13 products rationalised into 3
DAKS-Simpson Ltd	10% decrease in number of prototypes

Table 6.4: Summary of tangible improvements of products and services at each company.
Source: *Inns & Hands 1999 in Jerrard, Newport and Trueman*

Design knowledge also encompasses understanding on environmental issues. Western countries in the past decade have seriously debated over the issue of

environmental concerns thus have started to implement the relevant legislations. In fact, the ecological design aspects in product design development have extended over the efforts that resulting in the increase of social responsibility and sustainable awareness for design. Malaysian authority participants have also shown their response to questions relating to in relation to this issue:

“Yes! We are aware of this environmental design. In fact we were invited to the conference few years back in Japan. Is difficult issue you know. We are still struggling with product imitations anyway in Asia as a whole and I think is the world problem over also with this issue...haaa Maybe as developing country we would take more time to implement this. The industry also need to aware how they can contribute. Of course we started the solar car competition last four years I think but people know ecological design very expensive investment. Maybe some companies started to designed and produced what they call it...energy saving products like washing machine used less water and some electronic products same power. This may they didn't realise that they already contribute to the environment. As design council we will try to call speaker and arrange some seminar about eco design and definitely we will invite the industry and university involve but this also already in our planned for next round of project ” (Participant AMA).

“I think it will takes time for the industry to participant in this campaign. The developed countries they have so much funding. I was based here in UK I know, but then I think Malaysia will take maybe another ten to fifteen years at least” (Participant AMB).

6.4 Case Studies

The previous discussion represented the perceptions of participants on the seven principal themes gained from the in-depth interviews. Furthermore, the data gathered from these interviews can be used in supporting evidence of the earlier findings. Therefore, the case study approach was adopted to gain insight into underlying or hidden issues that may be considered important in influencing the actual design practice in any particular company.

The main aim of the case studies was to provide a set of detailed descriptions of design practice in selected Malaysian SMEs, particularly those companies that participated in Malaysia GDM awards, and those that were not involved. In this section, the case studies mainly focus on the three aspects, which are ‘design practice’, ‘Malaysia GDM awards’ and ‘political issues’ that extend the investigation into the use of design as part of practice in company. These three focus topics have been developed from the subsequent discussions concerning the seven themes discussed earlier in this chapter. This method also makes visible hidden information and factors that contribute to the formation of participant perception and influence their company’s current design practice. A detailed comprehensive review of design practice in the companies that were studied can be developed through this approach and has the potential to suggest improvements best design practice for consideration by Malaysian SMEs. This is a possible topic for future research.

The multiple-case studies approach was found to be most in the context of the current research. According to Yin (2003 -b) the use of the case study can be based on single or multiple-case studies. In this study four cases were involved, (four Malaysian manufacturing SMEs in which two were recipients the Malaysia GDM Awards and two were not). A multiple-case studies approach was chosen as it enables comparative or cross-case analysis between organisations, for example between the two recipients of Malaysia GDM Awards companies and the non-

recipient companies. This comparison also will evaluate the significance of the awards effect within the companies. Yin (2003) has stated that multiple-case studies are not based on a ‘sampling logic’, but a replication of two or more cases in the same study that expect the same results. He also added that the finding of multiple cases can be considered robust due to the consistency of the results and this can expand the confidence of the researcher (*ibid.*). Based on the preceding, the researcher preferred multiple case studies as it allows for more rigorous exploration of data.

6.4.1 Additional Source of Information

In the case studies, the primary source of information as mentioned in 6.2.2.3, were the in-depth interviews. Further to this, the ‘triangulation’ method was used for data collection to look at the investigation results from various angles that make use of two or more methods on the similar research problem. Denscombe (2007) encouraged the used of triangulation to boost confidence so that the data are ‘on the right lines’ to ensure credibility in verification of the research question. In these case studies, triangulation of data source was used. This involved 1) semi-structured in-depth telephone interviews, 2) meetings in the UK and 3) review of documents provided by the participants. According to Patton (2002) triangulation is divided into four sections. Thus: 1) Method of triangulation, 2) triangulation of data source, 3) triangulation through multiple analysts and 4) theory or perspective triangulation.

6.4.1.1 Meetings

All interview data gave contemporary interpretation that allowed flexibility in extracting factual information and exploring in-depth issues in question. This also enabled the researcher to seek appropriate, solid and 'rich data' that would provide holistic views of the case under study. As a follow up to the in depth interviews, four meetings were conducted (as stated in 6.2.2.3) with interview participants from selected Malaysian SMEs in order to gain insight into their design practices and other related issues. Four of the participants that were previously involved in in-depth telephone interviews from different companies and organisations were visiting the UK on business. Meetings with them were held during their visits. Two of the meetings were held in London, and the others were in Birmingham and Hull. The earlier stage of email and phone communication ran for approximately a year (between February 2006 until January 2007) including the distribution of survey questionnaires and in-depth interviews, and this bridged the formalities and established positive rapport, which made it easier to set up the meetings. They also provided good interaction and improved subsequent communication which was helpful in acquiring additional materials when required at a later stage of this study.

6.4.1.2 Document Review

Printed materials provided by the participants were reviewed for detailed descriptions of the selected companies for these case studies. Documents used included companies' brochures, profiles, catalogues, financial reports and

websites. All were critically reviewed to learn more about the companies and their products (refer Table 6.5, companies document reviewed). These documents served as evidence of activity that the researcher could not observe directly. Hence according to Yin (2003 -a) the documents also played an explicit role in the data collection because they can be used to corroborate arguments and evidence from other sources.

Case Study	Companies	Reviewed Documents Description
1	Company 'A'	<ul style="list-style-type: none">▪ Brochure▪ Company Profiles▪ Catalogue▪ Financial Report,▪ Business Overview for Proposed Listing▪ Website
2	Company 'B'	<ul style="list-style-type: none">▪ Brochures and▪ Website
3	Company 'C'	<ul style="list-style-type: none">▪ Brochures▪ Company Profiles▪ Financial Statement▪ Details Completion Projects Report▪ Website
4	Company 'D'	<ul style="list-style-type: none">▪ Company Brochure▪ Products Catalogue▪ Website

Table 6.5; Case Studies Company’s Reviewed Documents Description
Source: Individual companies.

6.4.2 Selection of SMEs for Case Studies

The in-depth interviews, meetings and documentation reviewed with the selected Malaysian participants have provided this research with a large amount of data in regards to design practice in Malaysia. This process has enhanced the

identification and selection of companies for the case studies from the following criteria; Malaysian SMEs, importance of design in companies, consent and willingness to participate further in the case studies.

6.4.2.1 Malaysian SMEs

The initial criteria considered for inclusion in the case studies were:

- 1) SMEs that owned an in-house design department against those SMEs that do not have an in-house design department.
- 2) SMEs that have won Malaysia GDM Awards against those SMEs that had not even participated in the Malaysia GDM Awards.

However on deeper reflection, only one of these criteria was used; the SMEs that have won Malaysia GDM Awards against those SMEs that were not involved in the awards. This was to enable a comparison between the involved and non-involved companies in Malaysia GDM in relation to the importance of design. Further, the consideration was mainly to focus on how significant the awards are to Malaysian SME. In addition, how effectively the award influences the use of design in companies and subsequently promotes best design practice in Malaysia.

As stated in Chapter Three, Malaysian and UK SMEs (3.1), the Malaysian government identified SMEs as one of the most essential sectors in helping to boost industrial growth and the national economy. In line with Malaysia's goal to become a developed nation by the year 2020 (Vision 2020), the government has

provided SMEs with training to better manage resources and introduce technology in their operations for better quality products and services. In addition, the government has given a wide range of incentives, for example ITAF and IGS. For further information regarding the Malaysian SMEs incentives, refer to Chapter Three (Table 3.1 and 3.2).

6.4.2.2 Design Importance in Companies

This design importance section attempts to identify the significance of design and its impact on the products in the selected Malaysian SMEs. The companies selected for the case studies were based on; the perception of priority placed on design and the company's reputation, a demonstration of commercial success and good product development. In addition, this criteria is particularly relevant to the two companies that were not involved in the Malaysia GDM awards. This aspect of design importance is also related to recognition and awards received as well as participants' feedback on the survey questionnaires and in-depth interviews.

6.4.2.3 Market Sector

Based on the comparison between the involved and non-involved companies in Malaysia GDM awards in relation to the importance of design (section 6.4.2.1), four successful Malaysian SMEs were chosen for these case studies. An aspect which the study also focussed on was the durables manufacturing market sector in order to obtain insights into the SMEs that started life as OEM, trading or distributor companies before becoming fully involved in their own ODM and

OBM types of manufacturing. This gives a gauge of credibility and companies' trade experiences, to refer back to.

6.4.2.4 Consent and Willingness

Participants' informed consent and willingness to participate in this research with the case studies after the in-depth interviews had taken place was another factor that had to be considered. Views from Stake (1995) and Marshall and Rossman (2006) were adopted as they suggested that the accessibility of participating companies and their openness to the inquiry are essential in selection criteria. In addition one would look for the high probability of rich data collection and the participants' responses and interest in the issues discussed. This would help to expand and build up the trust in the relationship, and would benefit the data in terms of quality and credibility.

6.5 Principal Discussion of Case Studies Findings

The case studies focused on three important issues derived from the in-depth interviews:

- Design Practice
- Malaysia Good Mark Design Awards (Malaysia GDM)
- Political Issues

Design Practice

The aspect of design practice is essential in these case studies as it provided an insight into how the four companies managed design, whether or not they had won a Malaysia GDM award. The case study approach managed to also identify general and specific design processes that were adopted by these companies in carrying out their product design and development. In addition it was necessary to characterise their designers' roles in the process of product development in the company, whether as:

- 1) visualisers
- 2) aesthetic specialists
- 3) mediators between production engineers and marketers
- 4) mediators between customers and marketing.

It was then important to discover what use was made of external design consultants in particular, or whether design work was commissioned to outside expertise as a means of obtaining fresh and new ideas. The study also determined

whether these companies put in place any design collaborations with other bodies such as working together with higher design institutions, MDC/MRM or SIRIM.

Malaysia Good Mark Design Awards (Malaysia GDM)

This award is the pioneering national level award in recognition of design excellence within companies in Malaysia. The award was also used as a benchmark to evaluate on the influence and effectiveness of this award to promote design awareness to the Malaysian public that was organised by Malaysia Design Council or 'Majlis Rekabentuk Malaysia' (MDC/MRM). It was particularly aimed at the manufacturing industries so as to encourage the use of design in support of business growth.

Political Issues

Observations were made as to what extent internal political issues influence the enhancement and the implementation of design in companies, as well as looking in particular at MDC/MRM as the government agency responsible for promoting design in the country.

6.5.1 Design Practice

The case studies from the four selected companies indicated that good design practice is an essential and strategic business tool in any organisation. Therefore the extent to which the companies studied promote design and design process management was considered significant and critical, as stated earlier. Cross *et al.*

(1994) suggested that good product design practice is converging towards the industrial design engineer. In addition Cross (2000) stated that, ‘normative model of good design practice’ which is part of engineering and design education has been improved based on the experience of professional designers. Furthermore in Dagger’s (1996) interview with James Dyson, it was found that engineers and designers decided what is going to be in the product, not marketers. Dyson also endorsed the view that their designers and engineers had empirical practical skills in NPD. Furthermore Dyson’s model of best practice has shown the involvement of design management in company strategies (*ibid*).

Another important factor that is essential in this discussion is the aspect of companies’ practice in proactive, heedful design. Ideally the case studies will view how the selected companies manage design strategically. Seidel (2000) suggested that to make use of the strategy of visual planning, the company’s design management should have four strategic roles. Thus: 1) Visualizing the business strategy, 2) Searching for core competency, 3) Gathering market information and 4) Innovating in management processes. These factors were considered in the analysis of the case studies.

6.5.1.1 Case Study 1 (Company A)

Design Practice in Company ‘A’ evolved from the design and production of furniture that focuses on complete dining sets for both local and export markets (Figure 6.1). Company ‘A’ has in-house R&D facility that ensures the quality in

development of prototypes and product-testing (see Figure 6.2). Three designers are involved in product design and development (Product R&D: Fig 6.2) and at the same time, the fabrication of the full scale prototype takes place.



Figure 6.1; Company ‘A’, Sample of Dining Sets. *Source: Company ‘A’*

Subsequently, the quality testing for all furniture designed in Company ‘A’ involves basic physical testing on: chair rocking, comprising dynamic load, speed of rocking, height of rocking and frequency of rocking. Further tests on climate, chemical and moisture content are also part process of testing in Company ‘A’ to ensure the quality of their furniture.

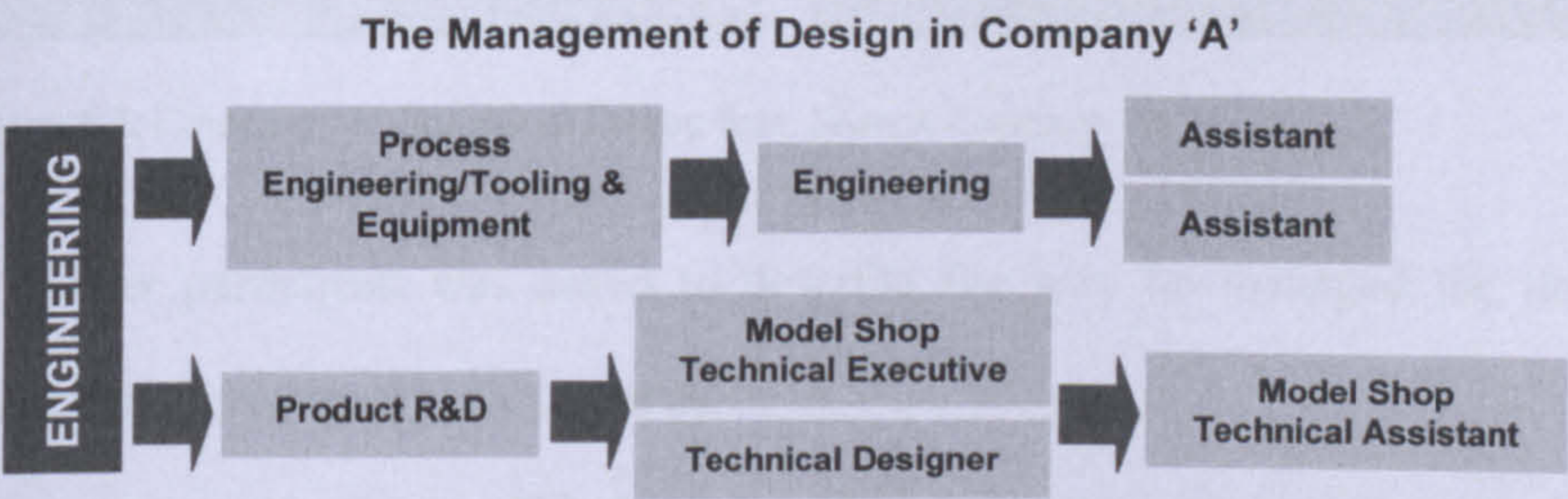


Figure 6.2; Company ‘A’ Management of Design. *Source: Company ‘A’*

Company 'A' claimed they were maintaining their company position and brand alongside well-known lines such as Hannover, Salina or Pesaro (Figure 6.3). The participant claimed that he believed strongly that design improves the company's revenue and that he will take every step to further improve this area (R&D) along with the management of design.

"For the whole business model...Our philosophy is we are a centre man, I meant centre man from a resources for customer. We are actually value added person in the middle. Example, value added from material make into something and give them to customer. So based on this believing value added we have to add value to a product. You know this is a very simple thinking. From the resources to the customer, we are the middle-man. What is our job as middle-man is we have to add value to the product. If we can't add value to a product so no point for us to be here. We have to value to the product then only we sell to customer. Then only we can play our role. Actually we do it in the smart way. We talk about design, we don't actually made the sample (prototype) without see them first in the computer. One way we cut cost in term of using the technology. So this help save the cost of production of the prototype".



Figure 6.3; Company 'A' Sample of Dining Sets. Source: Company 'A'.

A further participant was asked to describe the way he managed the design process in his company. He stated as:

"Actually we are ISO 9001 certified company and our design process, design cycle in can be divided into 4 categories that are, stage 1) Brain storming and drawing, stage 2) Prototype stage 3) Testing and stage 4)

Launching. During this drawing stage we are actually using Corel Draw, 3D Studio Max, Auto Cad to help the designers to draw the things. And then after that we will just go for prototype and then prototype building in the whitewood band, and then after all the whitewood has been done by the model shop we will go for life endurance testing that life endurance testing is actually meant to test the durability of the furniture.

You see because different furniture we have different depend on design it might have different strength, it might fail at certain point, we do not know that so we need to carry out test. Like hot cold test, static loading test, static test, stability test, every test about this. Every possibility that the furniture is going to failed, we have to test it. And then if all the tests are passed and then we will be going for launching. If the test failed, we have to go back the drawing board. The designer will have to discuss with the engineer and come out with the new improved construction. All these are govern by the ISO system”.

Company A’s commitment to design appears no different from other companies in terms of expectation of design for manufacturing which is a fine balance between design creativity with the practicality and functionality of the products. This is required in order to achieve good product sales. Speaking from someone who knew exactly the market needs, Company ‘A’ emphasised this point in the following statements:

“I am little bit practical in doing business. If the design don’t sell no point of having the design. Design would have to be able to sell. That is why I stated earlier – the four criteria. The design of the product, specification of the product, the finishing quality of the product and the performance (practicality) of the product. Those are very important. No point of design for the sake of design but design to sell. Design for manufacturing. If you design for design that work, yes but maybe for one or two people. But we are here doing business we would prefer design that sell. Design that sell only sell spec, good finishing, quality and performance of the product that sell. It is not solely on based on design”.

Despite the positive efforts by Company ‘A’, one surprising statement was made that brought up an element of bad practice, even though it appeared as a

suggestion on how other companies can invest in design without worrying about the budget required in setting up a small in-house design.

In regards to funding or injecting fund into design I think I can tell you that what the companies need to do is to inject certain amount of money into design. Then only can help and this amount I can tell you is not a big amount because designer in Malaysia now is about RM2000 – RM2500 for one designer and what the designer need is the software like Corel Drawn and everything. These people are available in the market but without experience but never-mind. You can always get employed them RM2000 – RM2500 and get them and buy RM5 illegal software. So you no need to invest so much if you really concern about the fund. Because if you talk about one Auto Cad software that will cost few thousand Ringgit right?? So with is small amount of setup with one designer and one 3D software. You can come out with a lot of things already without a big investment.

Looking at this statement, it reflects a contradiction with the participant's earlier statements pertaining to the value of design and designer's roles. However this practice can be considered common in many companies in Malaysia judging by anecdotal evidence. The importance of design in influencing a company's bottom line cannot be ignored as shown by Company A that had grown from an OEM to an ODM company with the aim to be an OBM by 2010.

The idea of employing inexperienced designers as a means of minimizing costs is shortsighted, since the company will not enhance its reputation, and will not be able to properly exploit the opportunities that an experienced designer can contribute to a business. It is important to build up a pool of effective and experienced designers. This can also be achieved through providing new designers an opportunity to work closely with experienced designers. An example of bad practice to be avoided is the use of pirated or illegal software in

business. Such unethical practice is akin to directly copying products from elsewhere, and is to be discouraged. Any business venture should respect Intellectual Property Rights (IPR) as an important part of business practice. Although IPR policy by the Malaysian government has been in place, however the enforcement is still very much lacking. On the other hand, perhaps software manufacturers could review their product pricing to discourage this practice by making it less advantageous to indulge in software piracy.

6.5.1.2 Case Study 2 (Company ‘B’)

Incorporated in 1993, Company ‘B’ is one of Malaysia’s leading water heater manufacturers. It operates a comprehensive business chain; from design, prototyping, manufacturing, assembly to supply of complete products (Fig. 6.4) according to their OEM and ODM customers’ requirements. In order to provide their customers with good products, the Company has to minimize manufacturing and material costs. This was achieved through strategic alliances with local suppliers such as mould and tool makers, plastic injection moulders and PCB assembly. The collaborations enable Company ‘B’ to accelerate their time to market and allows volume production by increasing flexibility, turnaround times, and new design, as well as reducing product cost compared to companies that do not have such alliances and respond to customers’ orders on ad hoc basis. Haberberg and Rieple (2001) stated that companies that focus in innovation and product development structured such strategic alliances as a critical success

factor. Furthermore Company 'B' also offers contract design services to meet their customers' design needs.



Figure 6.4; Company 'B' overall business process. *Source: Company 'B'*

A participant in Company B described the design process as follows:

“Normally the design will start with an idea ok, then we talk to the top management about the ideas and if the idea is accepted then the whole process of design will start. During the process of the design, flexibly is very important because we cannot only fix a conventional way of doing a design but we have to find out the way out of the conventional methods. Then later after the Design testing I think the most important part in the whole process of design. Testing will to make sure the product freebugs design and no problem and in good quality”.

The company's mission is to focus on continual product innovation and design development, producing higher quality and safer products for their customers (Figure 6.5). To achieve this mission, Company 'B' claims that it provides products of the highest standards in quality, safety and performance, modern product styling and innovation. For example, the Company was a pioneer in the incorporation of safety innovation features, such as the built-in Anti-shock Electronic Earth Leakage Circuit Breaker in 1995.



Figure 6.5; Company 'B's Sample of Products Range. *Source: Company 'B'*

Company 'B' has also earned the ISO9001 quality management system certification and the ISO14001 environmental management system certification for its head office and manufacturing plant at Shah Alam Industrial City, just outside Malaysia's capital of Kuala Lumpur. This is where their design, product development and manufacturing are based. The well-equipped and modern manufacturing plant facilities enable Company B to serve both domestic and international markets for water heater shower and accessories. They also claim that market research has assisted in developing innovative designs to cater for diverse markets. Hence, they are able to promote their own brands and other client OEM brands in electric water heaters and home appliances for international markets.

Company B's commitment to design was rewarded by winning the Malaysia GDM award for three consecutive years from the MDC/MRM as well as the Special Award for Industry Excellence from Malaysia's Ministry of Trade and Industry (MITI). They also take pride that their products have also been tested and certified for international standards such UKAS Quality Management.

However the researcher felt there were some disadvantages in terms of Company 'B's R&D department setup. They have a small team of six (electrical engineers, mechanical engineers and graphic designers), therefore they need to use external design consultants for the aesthetic designs of their products. This implies that there could be a disconnect between the external design consultants and the rest of the team as the former were mainly working only on an individual projects basis. The effect could influence continuity, branding of the products and overall team identification and commitment to the product.

Although there are advantages in having an external design input that may bring fresh and perhaps more versatile ideas into play, the existence of in-house designers can have greater impact because design and review can take place in a more speedy way allowing frequent communication and speedier decision making between of designers and engineers in a company.

Company 'B' not only promote and sell their own product using their brands, but also for their OEM and ODM customers as they can personalise the products into

the customers' own brands. For example they produce a series of product with differing features such as the Ultra Slim Series (see Figure 6.6), Supreme Series, Trance Series, Ovalza Series and others to accommodate customers request. This is one way they sustain their products in the market without only highlighting their own particular brand.

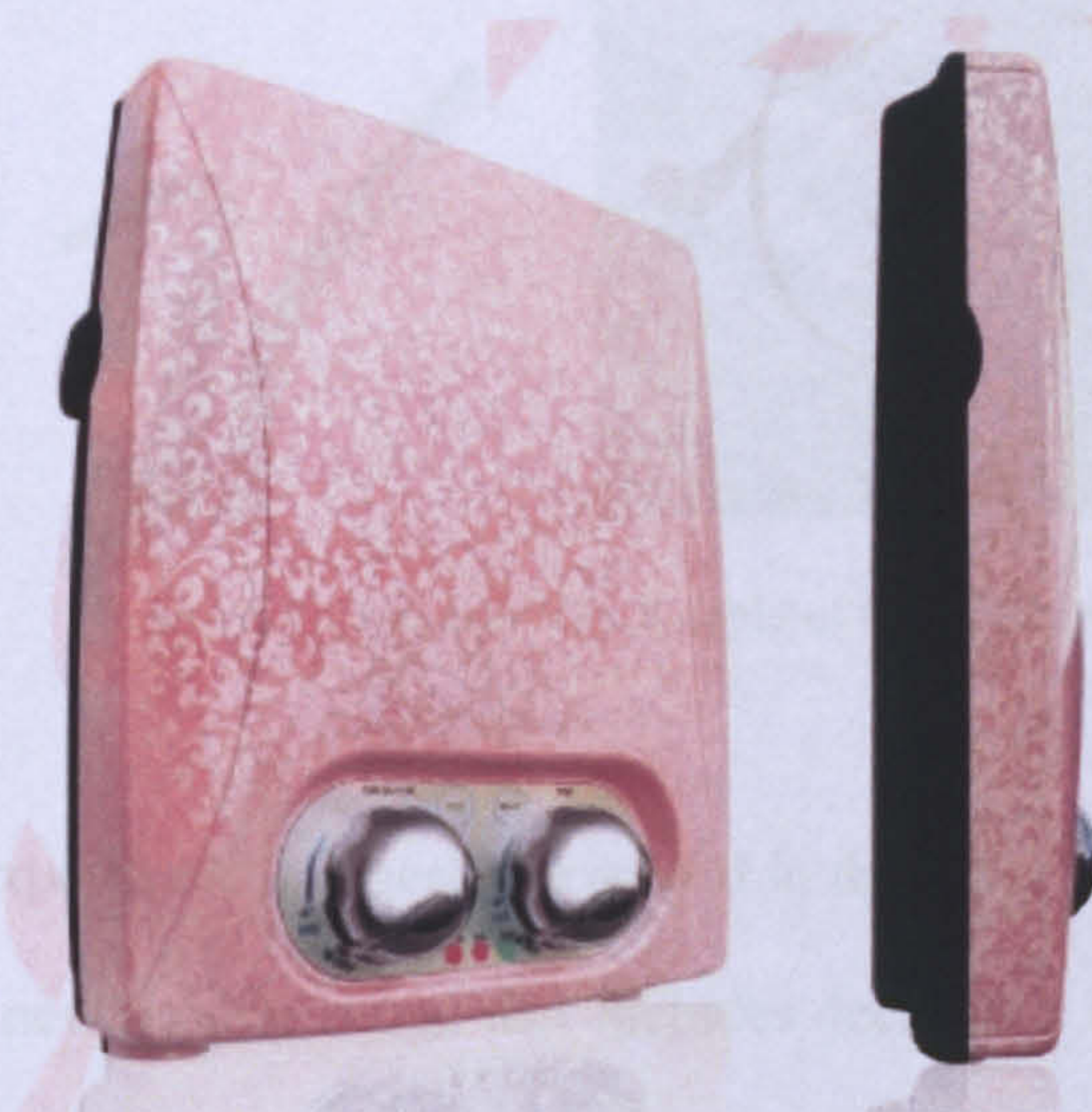


Figure 6.6; Company 'B's Sample of latest model - Ultra Slim Pump Range.
Source: Company 'B'

6.5.1.3 Case Study 3 (Company 'C')

Company 'C' was incorporated in 1990 as a joint venture between the principal company in Belgium, and the local partners. They initially started as a trading company but quickly moved into local assembly of selected light fitting types under license and with a transfer of technology agreement made in September 21st, 1990. However, within a year, Company 'C' officially started manufacturing

light fittings (figure 6.7) and has now established itself as a specialist lighting system provider with manufacturing facilities in Bukit Rahman Putra Sungai Buloh, thirty minutes from Malaysia's capital of Kuala Lumpur. The company now provides a full range of street and floodlight fittings.

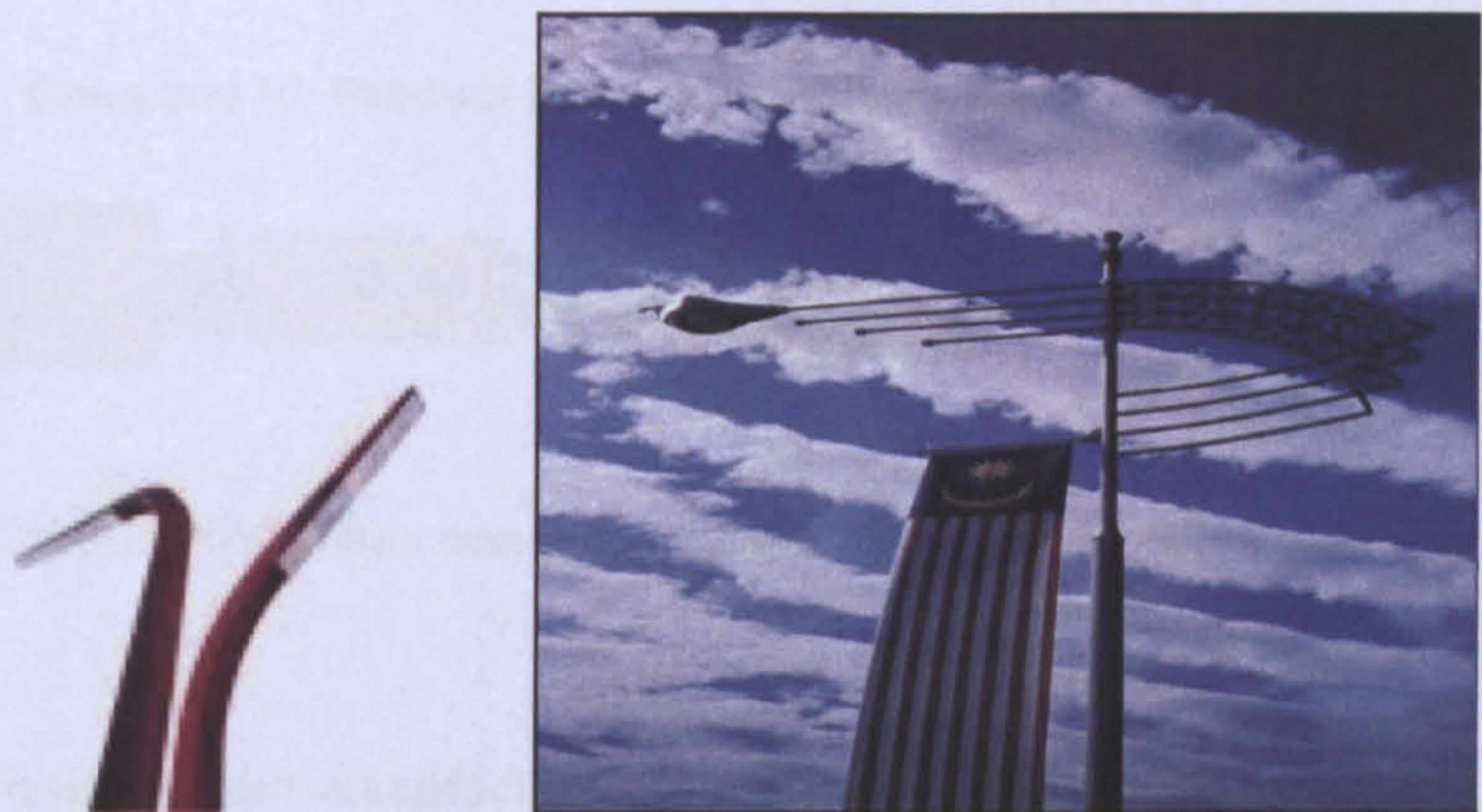


Figure 6.7; Company 'C's Sample of light fittings. *Source: Company 'C'.*

In addition, the expertise and experience gained in this area has enabled Company 'C' to develop a new product range that includes decorative lighting, lighting for building facades and tunnels as well as sports and industrial lighting (see Figure 6.8, for product development process). As well as manufacturing and supplying lighting fixtures, Company 'C' also offers a design service for placement of lights for optimum lighting levels. It is claimed that they have a team of highly trained personnel who are conversant with international design standards and practices (see Figure 6.9 for more sample lights fittings). Company 'C' objective is to be a market leader in Malaysia in public lighting design and engineering while maintaining their principal company brand. Possibly Company 'C' prefers the use of their principal brand name in their products, as it is a well established and

recognised brand. It is therefore the focus of Company ‘C’ to design, produce and supply its customers with products, which are suitable for purpose and in compliance with relevant national or international standards and the customer’s own specification criteria.

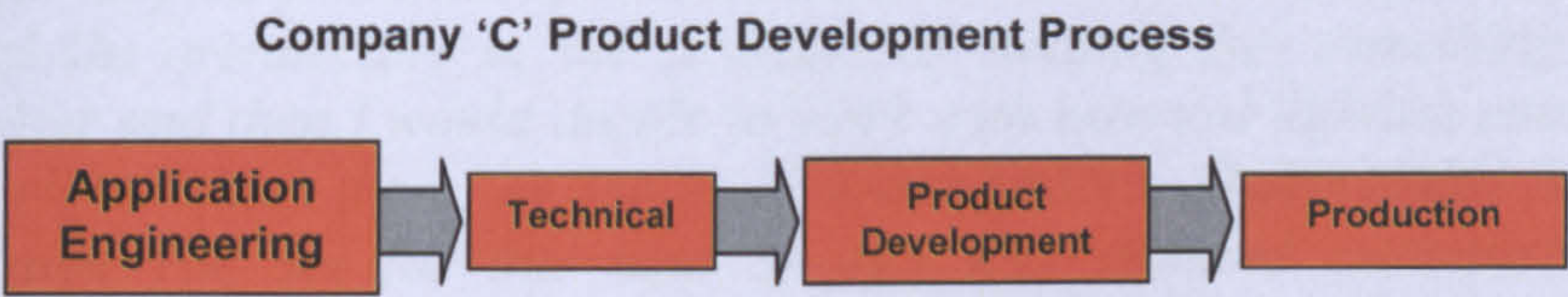


Figure 6.8; Company ‘C’'s product development process. *Source: Company ‘C’*

The products are designed and manufactured for quality and performance and to ensure a high level of customer satisfaction. They must, under no circumstances present a hazard to the user. Company ‘C’ also intends to increase the quality of lighting systems in Malaysia through the use of their products and also to create greater awareness of the importance of good lighting systems through regular seminars and workshops. In this case study, Company ‘C’ was asked how they managed design in their company:

“Well there are two type really of in term of design I would say they are two types of design 1. Is technical design. We are strong that is our core business. So... we have for example an application engineers who does nothing but study into what are the best. How best to used particular fixture, how best to put them you know for the lighting system that we provides. To this all our team 5 to 6 of them are equally trained to be conversant in the design system and then of cause in another section which is more creative they would be asked to create a design to light a building or to creative an ambient for the lighting of specific area that we normally work a lot with external designers but using our own products”.

Company 'C' was also asked what factors influenced them to engage either in-house or external design consultants and the response was:

"I think that factors that influence me whether I will use my in-house capabilities or to engaged design consultant. The most important factor is the demand of the clients really. The first is the demand of the clients. How demanding he is? At which level does she want us to provide? Provide the lighting design? And then, of course on our part, our own capability. You see... if the building we know if this particular building will be best very well saved by using our own or majority part our own range of products. Then, they very confident, that we could deal with it ourselves. But if we think the architecture or the structure of building that something that is trickier and then I would decide to work with external lighting consultant. All right I think these are the main major factors. That's right! And also because you see for this kind of jobs they demand customization of products. So... you may have range of product existing but because the job or some job called for already been more characteristic, you know... additional characteristic. So this kind of customization will influence very much whether we need to do it in-house or we need to get outside help".

Therefore, it seems clear that Company C appreciates creative fresh ideas regardless whether it comes from internal or external designers.

The participant's view was sought as to whether a good design solution is more likely to reduce cost of production, or whether this would push the price up. Thus:

" I think there is very hard to keep it... let say competitive on the cheap level and still be able to give a high design input because when you are a designer you automatically are obligated to look at material in another lights, isn't it? You wouldn't want to work with too cheap material for example because the problem will come back to you so that is why the perpetual cycle that as long as you have design input or even your basic cost of material cannot be too cheap".

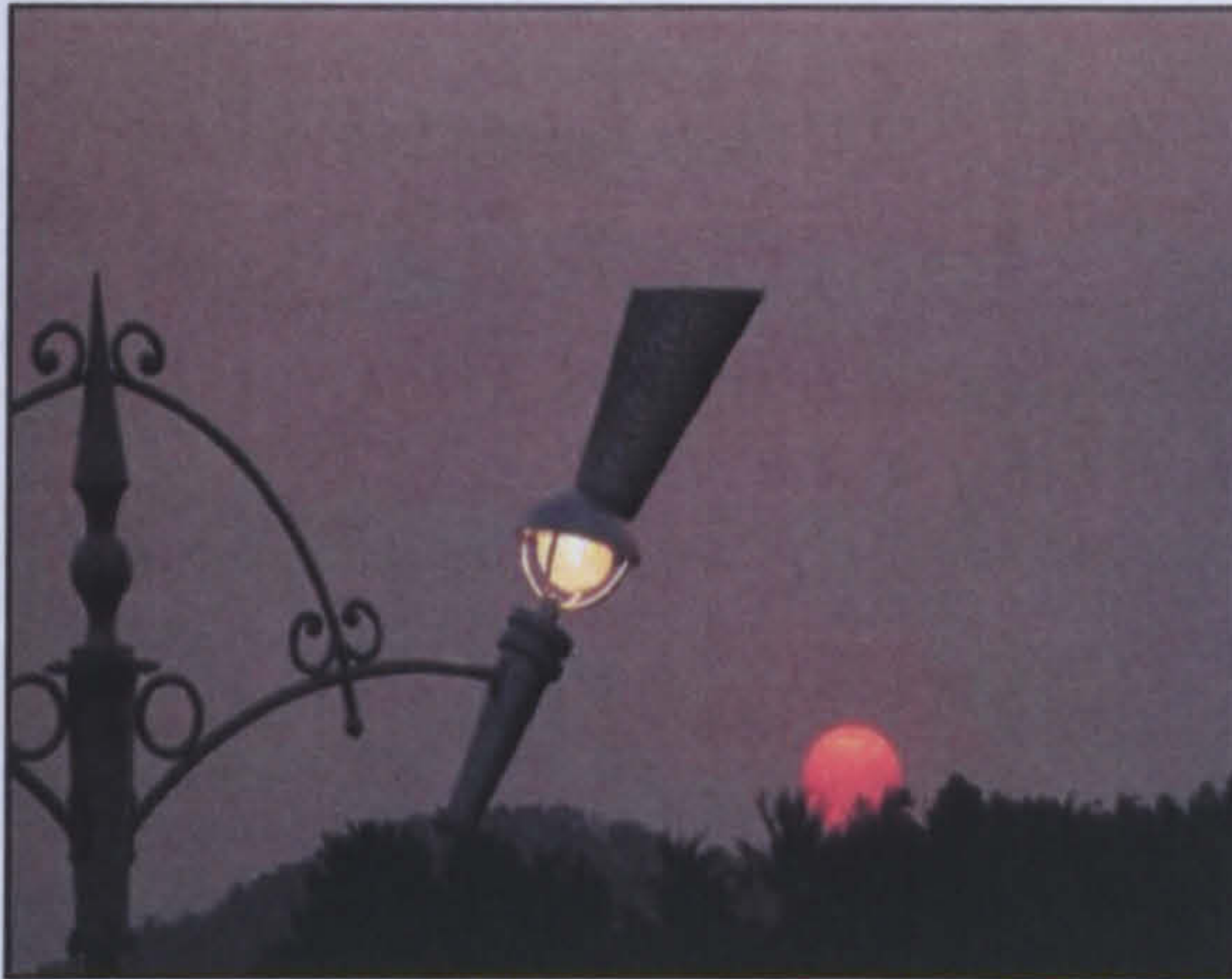


Figure 6.9; Company 'C's Sample of light fittings. *Source: Company 'C'.*



Another aspect that is important to highlight in this case study is the question of imitation as a part of business culture, not only in Malaysia but also in Asia as a whole.

“I think that if you are in Asia, there is no such thing as no competitors. Even if at our level, I would like to say that we tried to be at higher range, which means my competitors are not so many but we have a lot of copier. So you may put in the design and it might be copied. That means is your design but finally is not your products. We struggled with this all the times because I think is that in this country there is not enough awareness of the advantages of good lighting system and at the moment a lot of them believed a light is just a light so what are the difference if I buy a light

from Puchong for example and Puchong can reproduced anything if you have something for them to copied they can copied but they do not know basically much of what they are coping. So other aspect like reliability of the equipment, for the long term concept and use of the clients. Always that something that would be lost. So, Yes! I think that the private part how to keep the design confidential but is not possible Puan Noorhayati. Is extremely difficult in Asia”.

Reviewing the above statements on design practices in Company ‘C’, it is clear that they have made a big effort (whenever possible) to ensure a well-managed quality policy within the business. Although the actual illuminating or bulb parts are products supplied from their principal partners, Company ‘C’ is focussing its efforts on localising or ‘Malaysianising’ the design of the light fittings. Another important aspect highlighted in this case study is, even though Company ‘C’ has not been involved with the Malaysian GDM awards, they exhibit good design practice whereby their designs would have good market value as they are copied by others.

6.5.1.4 Case Study 4 (Company ‘D’)

Company ‘D’ has been involved in the development and design of playground equipment for about 20 years. The company is one of the pioneers in creating, designing, manufacturing and marketing its range of playground systems in Malaysia (see Figure 6.10 for Company ‘D’ design process and Figure 6.11 for ranges of sample playground).

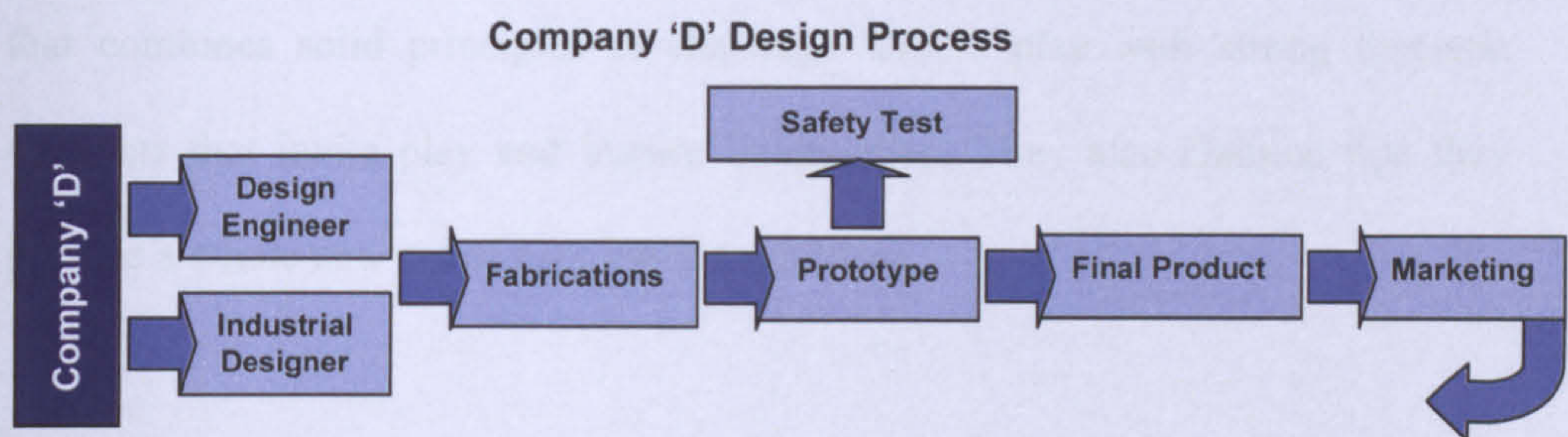


Figure 6.10; Company 'D's Design Process. *Source: Company 'D'*

The philosophy of Company 'D', always places the child-user as the ultimate focus of all that they do. Every product and system that they plan, design and produce is intended to provide fun and challenge for children. Company 'D' believes strongly that childhood experiences leave a lasting imprint on the child and that the environment, forms the basis of intellectual, social, emotional and physical development.



Figure 6.11; Company 'D's Sample of Playground Systems. *Source: Company 'D'*

Therefore Company 'D' claimed that the products they designed would help to make the process of growing up fun and educational for children of all ages. Company 'D' so far has developed and built much unique playground equipment

that combines solid principles to challenge child's play with strong thematic elements that invite play and inspire imagination. They also claimed that they provide a whole new era of play value to children.

Safety in design is claimed to be a key aspect that cannot be compromised by Company 'D'. The safety to the child is extremely important so every effort is made to ensure that foreseeable hazards are removed. Risk of injuries through height, head and neck entrapment, sharp protrusion, shear and pinch points is eliminated. There is also a stipulated safety zone for each Company D playground system in compliance with international standards to develop a fun-filled and worry free environment for the children, parents and guardians, as well as the government agencies and owners. Company D claim that it continuously puts in efforts to create the optimal playground environment to inspire children in their intellectual, social, emotional and physical development (see Figure 6.12 for sample playground system).



Figure 6.12; More Samples of the Company 'D' Playground System. *Source: Company 'D'.*

As design and safety are the major factors in the production of the playground systems as highlighted above, the participant was asked how Company 'D' managed design to include design and safety issues. Thus:

"Okay we have at this point in time, we got 3 creative designers. And then 2 technical designers more or less they are industrial designers lah. Okay, and then we've got fabrication manager and, I'm not sure how you call it a, she's more on the research kind of guy lah. She will touch up the product. So normally, from idea conception to actual product sometimes is the creative people will have to come up with the design of the product okay. Then the industrial designers and the technical people must figure out, how to make it a reality, how you are trying out those products, what material do you use to join all this kind of things okay. From there, they draw out the technical drawing okay. Then it's passed back to the fabrication people and before that it's the technical people already realised that certain things cannot be done, it will relayed back to the creative people, and tell them ...no...you've got to change this because it cannot be assembled this manner, or to get this kind of shape and all it will not be stable and all goes back to the creative team.

So if the technical people have already approved it then they will pass down to the fabrication people. Fabrication people do up the product okay, then they will see again if the product is technically viable to do or if the process for them to do it is too difficult, it will be too costly and all its get passed back again to the technical people to figure out a new way how to do the things okay? If will pass through the fabrication people, and then the product later, they will do a prototype and testing lah okay. Then they do... the testing guy will do it and look at it... and this is a bit too stingily, here not good enough, here there is safety standard there, then it gets passed back all the way to the creative people again, one by one".

The main challenge that Company 'D' is facing continuously is their clients. This is because their clients are not (the children) using the playground, but are the sponsors such as the government, property developers and kindergarten owners. The problem is that since the buyer is not the user, often the key aspect in the decision to purchase the playground system is heavily based on price. Their main criterion was the supply of reasonable goods at reasonable price. Even though

quality, design and safety were featured as criteria in the purchasing process of their clients, the open tender system applied to Company 'D' and their competitors means the real value of the products is not taken into account. This is a common problem faced by Company 'D' and they constantly attempt to educate their clients on the important benefits of the playground system rather than using the issue of price as the only measure of the value of the products.

Company 'D' consider their business to be in a tough and competitive area where their products must offer the highest quality in terms of design, durability without compromising safety features. Previously, Company 'D' has succeeded in persuading the planning authorities to consider early child development applications for infrastructure and playground systems, and that this should be made obligatory. They hope in time that such enforcement would be taken seriously, particularly the parameters concerning safety criteria in any playground system. Company 'D' feel that this aspect of safety is very important and should take precedence over price issues.

The aspect of design management in Company 'D' that appears to need priority attention is the coordination between different departments in the organisation. Haberberg and Rieple (2001), Borja de Mozota (2003) and Rieple (2004) have raised this point that common inter-department conflict frequently happens in many organizations.

“I believe therefore that, on balance, for many organizations most of the time, there is a tension in reconciling the new and established that both the organizational mainstream and designers have to overcome” (Rieple, 2004).

This conflict can be extracted from the comments of a Participant:

Improved coordination, I would say ...Yes lah but in a way... trying to lah. I mean previously they do cause huge amount of headache ok. Coming out with design, ok all this sort of things, at wrong colour combination ok. The sales people sell it, the fabrication people cannot do it. At the end of the day, delivered to site and client is not happy with it. The marketing people all get screw for it, or got blame for it and this sort of issue come out. So I say if the coordination works well ok, within the three guys. And the design department can relate well to this kind of things, it should improve lah but like I said it such in the stage where we beginning to see some kind of improvement lah. But I would say the past it was very messy lah.

It seems clear, from the participant (SMB) statement, that there was a need that designer and marketing share the same mind-set, particularly in developing an understanding of customer needs and views in order to improve customer relations. However in reality there is always a gap between the two players (designer and marketing). This could be due to lack of understanding of each other's profession. The designer may ignore or underrate marketing roles and expertise. Whereas in the eyes of a marketer, design may be seen only as an add-on, or a source of better packaging of a product, and not as a process.

Despite not being involved with the Malaysian GDM award scheme, Company ‘D’ claimed to maintain whenever possible the quality of their design and safety features. This effort remains as a core factor in their business alongside strong

promotion of selling their product idea so as to overcome the obstacle of ‘price as benchmark to clients’.

6.5.2 Malaysia Good Mark Design Awards

In the international business arena, the differences of price, quality and functionality of products are getting narrower. Hence the only way to achieve product success in the marketplace is through ‘good design’. As we undergo rapid changes through globalization, more and more emphasis is placed on design, in particular by the well-known brands. With changing lifestyles, products and design constantly face new challenges in continuously delighting consumers. In addition, studies have shown that ‘good design’ is competitive by influencing consumers in choosing certain products over others (Powell, 2006, Clarke and George, 2005, Bruce and Bessant, 2002).



Figure 6.13 Malaysia Good Design Mark Award logo and Sample of Wining Product.
Source: MDC/MRM (2007)

Further, design adds value and permits product differentiation. Understanding that need and to assist Malaysian manufacturers to compete in this global challenge, MDC/MRM has initiated the Malaysian government design recognition programme and organised the Malaysian Good Design Mark (Malaysia GDM) awards since 1997 (see Figure 6.13).

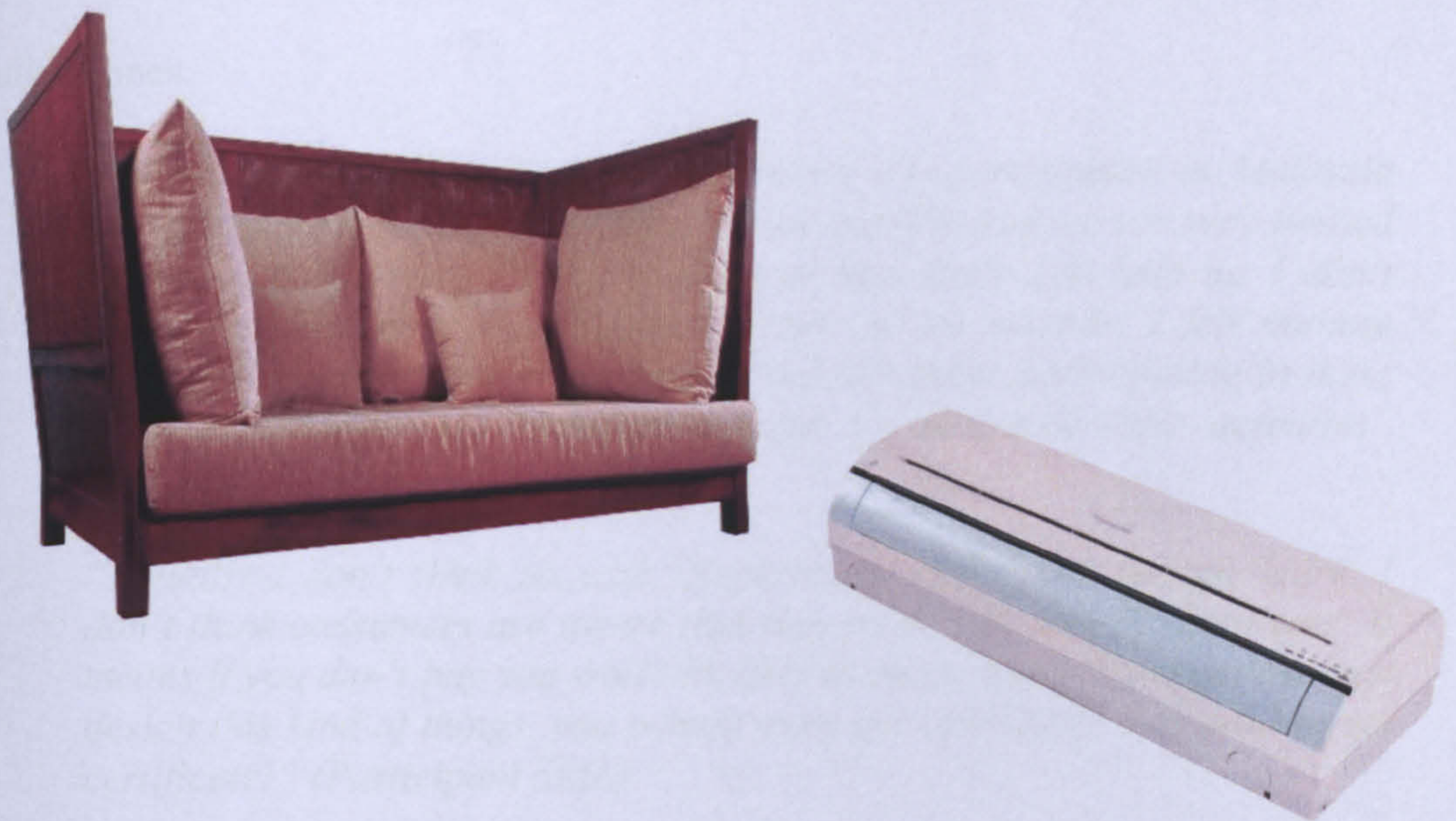


Figure 6.14 Malaysia Good Design Mark Award Sample of Wining Products.
Source: MDC/MRM

Products that receive the Malaysia GDM are judged not merely on aesthetics, but also on functionality, price, quality and safety (Figure 6.14). Furthermore the Award also takes into account overall design contribution and benefits to the user and the environment at large. It is expected that the Malaysia GDM award would act as an effective marketing tool. In addition the ‘Mark’ is recognition and endorsement that the product has gone through evaluation by professional design

bodies with a set of specific criteria. However, after all the above statements, how far has the Malaysia GDM award played this role and achieved its purpose?

In the view of the study, evidence collected from the case studies indicate a divergence in views, both from those companies having entered the Malaysian GDM Award from those who did not. The value of this award as a marketing tool, and as a means of raising customer awareness of good design was debatable. However, in spite of some negative comments, there were also some positive ones.

“Talk about Malaysia Design Council we did participated in Malaysia Good Design Mark Awards. But after we participated we see very limited exposure of Malaysia Design Council or how there can help us. I don’t really see that even though we won two of the awards. I felt nothing happened, nothing special. So I don’t see any point participating in these activities, MATRADE, Malaysia Design Council and their activities” (Participant SMC).

“Actually I don’t think so..eem.. Superbrand and Good Design Mark, I don’t think consumers are aware that they made this type of certificate. It means if you don’t pay you won’t be able to enter. Even if you get the best design this kind of things, you cannot even get certificate. You paid to get certificate!” (Participant SME).

With regards to the need to pay in order to earn the certification, MDC/MRM claim that the payment requested by them is mainly to cover logistic expenses, and companies are only required to pay a minimum rate per entry for the nomination. The need for an entry fee was related to budget constraints faced by MDC/MRM every year despite the government’s intention to promote greater

design awareness to the Malaysian public. Further discussion on MDC/MRM limitations can be found in the next section (6.5.3).

It is believed that the participant's remark on this payment issue was perhaps due to some misunderstanding or misleading information. It is also possible that the size of the SME determines their willingness to incur such expenditure for an award that has not produced a clear indication of better market recognition. A remark made by participant SMD shows a contrasting view;

"In fact ever year when we won the good mark design award. So to say, other products that we[...company name omitted] normally we to eligible for this we have entered... a company to submit a product to Design Council. So we submit what we think the product are[...company name omitted] because it is the criteria is design and make locally. So all the award we won are in-house design and make locally[...company name omitted] So all the product we won are genuinely design by us la.."
(Participant SMD).

Surprisingly, when the participants were further asked regarding MDC/MRM, some of the SMEs that were not involved in the Malaysia GDM awards, were not even aware of the existence of the Malaysia Design Council, making it further obvious that the Malaysia GDM awards are not well-known. A further surprise is that some of these selected SMEs have been established for almost two decades in Malaysia and are among companies that promote good design value within their designed products, yet they were not aware of the existence of, MDC/MRM.

"I personally are not aware of the Malaysia Design Council"
(Participant SMA).

In reviewing this aspect, it is important to evaluate participants' perception on

how far MDC/MRM has been an effective organisation in promoting design as an important business priority in the country. Further, to what extent do manufacturing companies in Malaysia have an awareness of the role of MDC/MRM ? In addition, how do these companies make use of their (MDC/MRM) services, which claims to lead and coordinate design activities? What more with MDC/MRM's aim to enhance the competitiveness of Malaysian manufactured products in local and international markets and to promote good design generally. Participant AMA stated;

"MRM we are looking towards... we are become a agency which is for under directly the government Ministry of Science of course under that going to be promotion and then we also looking for you know helping those people relate to design and we are expending our activities towards at this particular moment we are focusing on manufacturing products" (participant AMA).

For their part, the MDC/MRM claimed there were a lot of enquiries from Malaysian companies about the awards but that these companies had simply not met the competition criteria; hence,

"... Through our experiences of getting good mark, approaching the companies because we get a lot enquiries from industries but then we have to reject them just because their product is not locally design or not locally produced and then we can see some imitation of the products" (participant AMA).

However the value of the awards was considered debatable by one of the participants who stated,

"Malaysian Authorities awards not prestigious enough, requirements too low... like Malaysia Superbrand and Malaysia GDM awards given too frequently to too many people... diminishing its value and prestige" (Participant SMB).

As contradiction to the above argument MDC/MRM restated their view:

“Basically they couldn’t meet the criteria because as I said, most of our manufacturers that produced product, they don’t have designers and then don’t really produced that product on their own. Meaning the designs are not theirs. So this are the things that really problem for us that’s why as I said because we have experience in Good Mark started since 1997 until now. We about almost 9-10 years, we running this programme. So, running this programme, end up the same company will appear again with their new products. That is no new companies. Of course they are big companies also. In fact we also did approach them by visiting them. Yes, of course we can see that, that not their products. It is a lot... especially like furniture companies as I said consider becoming multinational company but yet their products copied from other design from overseas” (participant AMA).

As part of these case studies, participants were asked whether the emblem of the Malaysia GDM awards that are commonly placed on the winning products gives any positive impact towards sales or has gained any consumer recognition.

“I think some how or rather we have to start from somewhere, and I think they are doing correct move, a good job. Like what you said, good design mark, we want the product or we want the... how to say, the Good Design Mark, and we put the sticker on it and there is an impact there. So normally, example my experience when I do my survey, asking the dealers about our products, the dealers will say that some customers they asked “what is this symbol? “ so, then we will say “this is from the Malaysian government Design Mark like Japan’s Good Design Mark. They will buy it... this concept...” (participant SMD).

Looking at the findings, some of the participants were very optimistic that the awards emblem sooner or later will have an impact. Despite the slowness of public recognition of the awards since its (Malaysia GDM) establishment in 1997, they said that this effort would indirectly promote better design awareness to the Malaysian public.

“I think there is... in a way there is impact once we put the logo mark on the products. Because right now we put a small logo of this good design

mark on our iron, blender and fan. We have this sticker, some form of sticker put it on our products. Other company also they put it like some other brand... (Hometower... They put it...) One thing is that it is good to promote design awareness. But in Japan if you know about how the good design mark logo, in Japan for 30 years they have been more then us. It think what in Malaysia Design Council is doing with this type of practice”(participant SMD).

Participants' comments highlight major discrepancies in views about the role played by MDC/MRM and in particular the usefulness or otherwise of the Malaysian GDM awards. The findings threw up more negative views than positive. And some comments indicated doubts about the genuineness of the selection process. The researcher has observed some factors that could impinge on the way that MDC/MRM aims to stimulate good design on design importance and its promotion within the country. The next section of this chapter discusses the interrelated factors towards these disagreements.

6.5.3 Political Issues

In many ways Malaysia is an attractive prospect in term of its infrastructure. Malaysia strives to be a business friendly environment and English language has been partly in place at the centre of education since 2003. However people are starting to ask whether Malaysia is really prepared to pay the price for a knowledge economy. A K-economy needs a highly educated labour force where workers contribute to ideas, skills and knowledge by using the latest technology. Furthermore a K-economy, is open to free trade and is highly competitive. The most successful K-economies are those where knowledge flows most freely, but Malaysia is not strong on freedom of expression. In the opinion of the researcher,

having grown up in the country, the press in Malaysia is tightly controlled, political opposition is not encouraged and the level of debate on public policy is very low. The common scenario is that, if you would ask a student for their opinion on any important contemporary issue, many will have nothing to say. Based on the researcher's own experience as a student at state school and public university, it seems that the education system does not teach people to think for themselves and to 'think outside the box'.

It is similar in the public work environment, where too many employees would rather do nothing than take the risk of doing the wrong thing or going beyond what they are expected to perform. In the business organisations, it was also a common scenario that when the business is confronted with a problem, and the staff would have to go through a lot of bureaucracy to resolve it, and the standard statement "Cannot-lah" was received. This phrase with the combination of English and Malay dialect is commonly used to describe uncooperative attitudes in Malaysia. Furthermore the lack of press and political freedoms can be expected to undermine Malaysia's long-term attractiveness to foreign investors.

Another issue raised by one of the participants was the challenge that companies are facing in relation to the rising costs and availability of materials.

"Talking about material say actually material cost is about 60% of a product. What people can do is to produce and control the material that we have in Malaysia itself. Actually we have about 3 conversation with Dato' Peter Chin is the Minister of Prime Industry in this material shortage we cannot still allow to export of our resources to our foreign competitors. But it seem that the Minister can't understand this. He still

thinking that material is OK and it should fine to export the raw resources to the outside people. It is based on MTC input and made this decision. It is no good to our industry” (Participant SMC).

Looking at this statement it appears that Malaysian SMEs feel that they are confronted with a frequent shortage of natural resources that are also in demand for the export market. It is paradoxical that Malaysia is obliged to import raw materials to its own use, and export its own raw materials for use in other countries. It is unfortunate that Malaysian companies have to face such obstacles and pay more for imported raw materials. Consequently, their ability to provide competitive pricing for their end products is limited.

“We have a lot of rubber wood and we still export the rubber wood to the foreign competitor whereas we are in need of them. I really don’t know why! Either making more profit or you don’t want to help your own local industry. These are the main current challenged that we are facing now. We have very limited source of materials available now in the country” (Participant SMC).

It could be that this situation may be down to an individual ministry or government authority acting despite political influence. It is also possible that the Malaysian Timber Council (MTC) generates better revenue by exporting the wood. However the importance of considering the difficulties faced by local industry and manufacturing does require further argument and attention.

The participant said that when requesting resources needed for their production, the Minister they spoke to required a minimum of six months to conduct an in-depth investigation toward resolving this issue. In spite of this delay, from the recent communication that the researcher had with the participant, it seems they

have yet to see any positive result (Participant SMC). Haberberg and Rieple (2001) further said that due to governments' position in authority, they are capable in achieving their own objectives such as in control over certain 'critical resources'. This situation reflects that "strategy-making is a political process", in which whoever in the organisation that have a final say perhaps with little consideration, able to bargain and negotiate (*ibid.*).

On a slightly different matter, participants were asked about the effectiveness of financial incentives provided by the government to help Malaysian SMEs to have more involvement in R&D. These incentives are made available by MITI through agencies such as SMIDEC. At times, the situation may lead to mishandling of the incentives provided, as expressed by participant SMF:

"I am aware but sometime very hard to get the grant, loan what they call it lah. Sometime we have to do a lot of paperwork but in the end you don't get anything because they said... 'ah tak layak' [well! not qualified]. Maybe political reason I don't know what..." (Participant SMF)

Further in section 6.4, the case studies highlighted the political aspects that influence the business environment and company practices. They showed that the relationships between the various organisations and government agencies impacted on the selected SMEs in Malaysia. This is reflected in small issues such as the Malaysia GDM awards, where one of the participants expressed the view,

"This type of a government certificate or whatever la, actually the design this kind of things, sometime if you do the best design, but you can't even enter. You know what I mean. Ha...ha... Not Fair!!! (Participant SME).

The finding also revealed the traditional ethics of ‘who you know rather than what you know’ that had become a norm, sometimes referred to as cronyism, particularly when dealing with the government or even NGO agencies. These unhealthy practices may have affected the design enhancement process and procedures organised by government or other related agencies. As a result, interest in participation and commitment amongst SMEs has declined (Malaysia Design Council , 2006), as expressed by participant SMC and participant SME (see Figure 6.15), and even among some participants who have participated with those activities previously. This has been further elaborated by a participant’s statement concerning how political issues affected the private and government sectors,

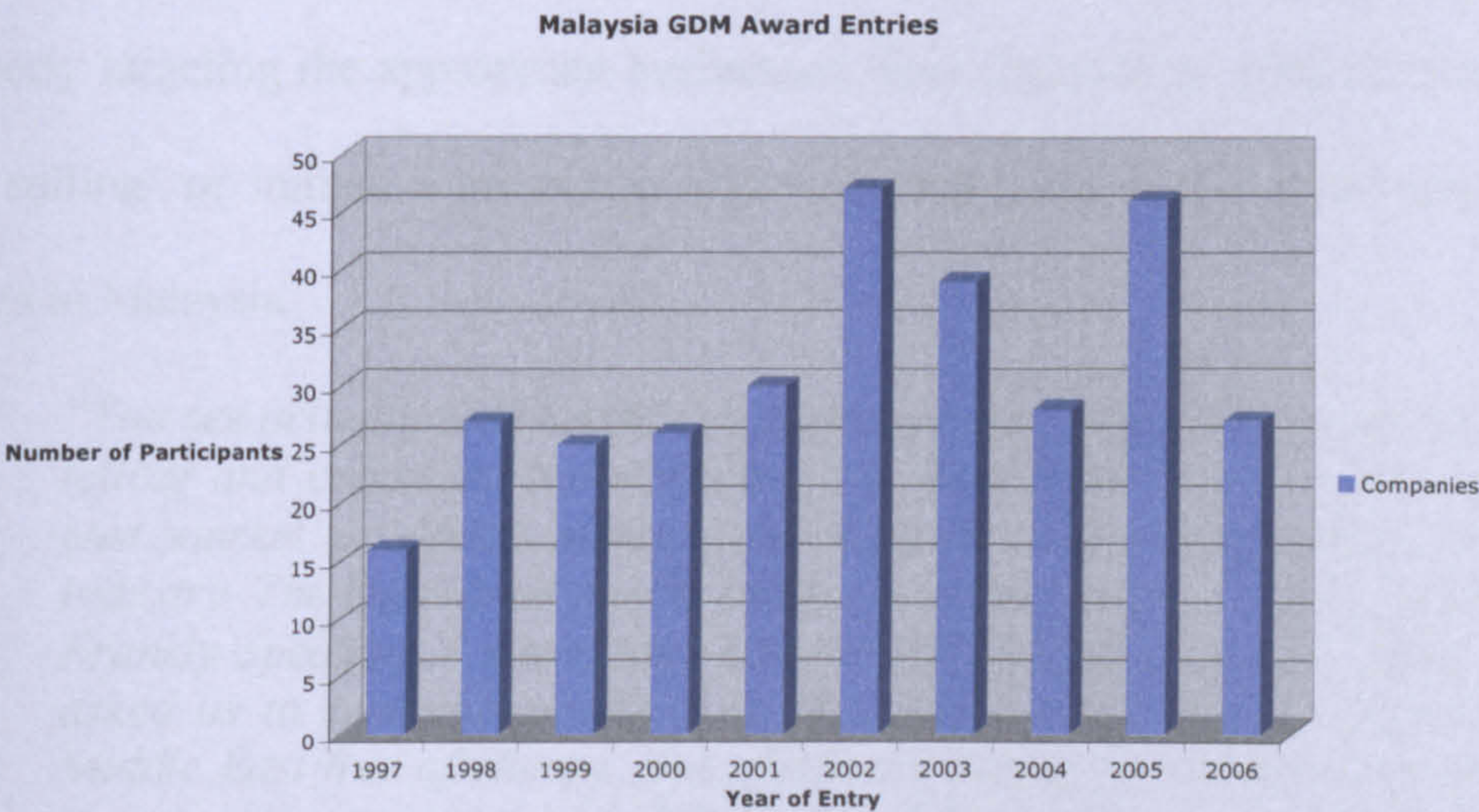


Figure 6.15; Malaysia GDM Award Entries: *Source: MDC/MRM (2006).*

“Er,...I can say so yes. It’s all about money la... So it’s all about money and its all about in getting into the right appropriate group of people then you get the recognition” (Participant SME).

In arguing the above statement, MDC/MRM had justified the issue over payment in the earlier discussion in section 6.5.2. However, that statement was intended to raise certain hidden issues related to payment to enable one to be the winner in this award, this is denied by MDC/MRM. There are many anecdotal views and having grown up in the country the researcher understands the issues related to corruption in Malaysia. However in this section the focus of the particular discussion relates only to the Malaysia GDM awards. Looking at the overall picture involving design knowledge, as explained in section 6.3.7, the participants mainly had a negative view of the possibility of a working collaboration with the Malaysian Design Council. It was also felt that MATRADE or in particular MITI could identify certain design institutions to assist SMEs in design knowledge. These government agencies could also aim to assist the SMEs as they were not properly targeting the appropriate businesses. This could be an idea to ‘start the ball rolling’ or initiate a project to inject much greater design awareness into SMEs in Malaysia.

“You see actually MATRADE did approach us to identified our design and telling and organised the workshop but their focus actually are middle-east market or Africa market and these are not a big market for the industry. The big market for the industry would Europe, USA or Australia. Frankly speaking I never take part of MATRADE activities. They often asked us to send our products so that they can exhibit our products in Middle East free of charge. But...I am not saying no point but the market is not so strong compared to US, Europe. That is why we don’t take part in these activities” (Participant SMC).

It was common also for participants to express dissatisfaction with the attitude of government employees and officials, who seems to be very constrained in their

work ethics when it comes to dealing with SMEs. Government officials are seen in general as not proactive or efficient in meeting the goal of their tasks. This may be a contributing factor to one of the limitations or constraints in MDC/MRM.

“After all it is back to the individual head, what they think and what they want. We want business, we want a product that can sell. To us everything that we do for the business and to ensure that the products sellable and make money. Anything that are not bring revenue we cannot do it. Sorry to say but sadly I can’t agree to support MATRADE or Malaysia Design Council. There hardly any good result!” (Participant SMC).

Reflecting on MDC/MRM limitations raised in the earlier section (6.5.2), there could be four major constraints: 1) Hierarchical structure of reporting 2) Budget limitation, 3) Personnel capability within MDC/MRM and 4) Lack of utilizing channels of communication for promotions.

MDC/MRM is a secretariat under SIRIM Berhad which was formerly known as Standard and Industrial Research Institute of Malaysia (SIRIM). Whereby SIRIM is as an agency under the Ministry of Science, Technology and Innovation. Having to go through the hierarchy of communication does appear to limit effective communication. Navigating such a hierarchy also requires strong political influence as stated earlier in this section about the culture of the Malaysian government’s way of management, with the concept of ‘who you know rather than what you know’. Hence participant AMA confesses this limitation.

“As I said, this is like ‘chicken and egg’. Of course, the government say that we already been existing for quite sometime. I think more than 10 years. So more than 10 years, what have you done? So they want to see the progress throughout these years. So, throughout these years, as I said we have another difficulties. Where the secretariat in fact as I said the council is not running by its own. Its running by the secretariat which the secretariat they put it under SIRIM. Now SIRIM become a corporate body. A corporate body they have their own ways of running their activities. But

then, Malaysia Design Council bound by their regulation. Meaning, the secretariat cannot simply running the programme because of certain limitation of rules and regulation by SIRIM because we have difficulties in term of reporting. One, we have to report to government. Secondly, we have to report to SIRIM Berhad. So, these are the things that made we really cannot get additional staffs, we really cannot get additional budget. For your information, at this particular moment, the government already launch the Malaysia Innovation Council. Sorry, National Innovation Council which is MRM going to fall under this council”.

In addition, such hierarchy not only limits the effectiveness of communication but also limits the budget allocation by the Ministry, despite the aim to ensure that MDC/MRM as a design council plays an aggressive role to promote design, creativity and innovation nation wide.

“We don’t have boundaries. In fact that is our task we need to promote of course. But then we have a limitation. Yes, of course in term of budget. Our budget definitely we have about RM1.8 million [approximately £276,950] for operating as well as running the programmes because we have many programmes. So, we have to rely certain agencies to work with for instance we conduct a seminar...

...So, this are the things that really limit us in term of disseminating of information to the public as well as to industries and of course running our programme because for instance as I said I have about 40,000-50,000 [approximately £6,200 – £7,800] for running the workshop or seminar. Cost of running is very expensive as you can see because we are now moving from state to state. Then due to the limitation of budget we cannot produce it more. We can only limit for this year for instance we do only 4-5 programmes but not more...

...So we have to find a way by getting some funding from companies itself. But now we having problem because all this companies they are kind of reluctant to all this kind of activities....

... So, these are the things that Malaysia Design Council we have a problem. Of course the other things our staff also. We don’t have many staff compare to let say Red Dots [participant meant Red Dots as Design Singapore Council] for instance. Red Dots they have about 60 manpower or 60 staff to run their activities mainly on promotion, seminars and workshop. But then for Malaysia Design Council, we have about only 13 people including me. So, of course as I said just now in earlier discussion,

we are working with other agencies to provide but of course with the limitation of staff definitely we cannot have many programmes. As I said if let say for instance each and every month we should have a seminar, workshop, present talk running through out Malaysia. But then we can't afford to do it because 2 things. First is manpower. Second is the budget" (Participant AMA).

The above example is similar to the issue of MDC/MRM lacking in relevant manpower competencies. Multi-tasking role in any organisation particularly in Asia is considered common. However it does disadvantage the outcomes of that organisation as it takes away focus and specialisms. In the interaction with industries one is expected to be very prominent, persuasive, confident and therefore capable in handling such industry demands. Particularly, certain strategic approaches such as networking and exchanging design reviews need to be in place to enable positive results for such interaction with companies. Further, such charismatic personnel is highly required to ensure MDC/MRM is able to convince the industries, since their main aim currently is to promote and increase the awareness in the use of design in industries. The participant said:

"So, these are the things that we have to educate the manufacturers. Of course as I said just now, we are revising all our content how to promote good design to public and manufacturers" (Participant AMA).

Despite their aim to convince the industry on the significant impact of design to enhance business growth, MDC/MRM has failed to gain wide industry acceptance particularly among SMEs.

"But then for local company, local company the acceptance is very-very low because especially for SMI because we are struggling in fact promoting, design to be the main task for the company for expending, for promotion for looking new market and so on. But acceptance by this all

this SMI is not that great because they are looking on the fast profit fast income what we call it” (Participant AMA).

Further, the inability to persuade the industries to participate in their annual design reviews and surveys resulted in limited feedback. Perhaps, in order to conduct such a nation-wide study required proper research capability with the appropriate methodology and personnel. However it can be suggested that due to budget constraints, such allocation to engage experienced researchers or to commission the research to specific research company, might not be possible. In either of that scenario, the appointed personnel for such challenging roles need to be adequate in term of his/her strategic approach to industry as well as knowledgeable and strong inter-personal skills to convince the manufacturers to participate.

“We are in the process of compiling all this data, doing the surveys but of course definitely we haven’t come out with the exact figures for that survey so on. We are still in the process of compiling because the problems for us that we facing now, we don’t have good commitment from industries supporting this survey. So, that’s why the responds from the manufacturers is very low” (Participant AMA).

Based on the researcher’s own observation in relation to MDC/MRM limitations, they lack the sophisticated use of media as a means of communication. Inevitably such promotion to create greater awareness to the public about MDC/MRM roles and particularly Malaysia GDM award failed mainly due to budget constraints. However, the weaknesses on the MDC/MRM website in terms of technicality (debug) as well as inadequate of information that has been uploaded, have to be seriously considered and resolved. Furthermore, for a long interval of the website has been ‘under construction’ which was a major drawback to MDC/MRM. It is

best to suggest that the maintenance of the website be the responsibility of dedicated internal personnel (webmaster) rather than commissioning the website to external providers. Further, it will enhance the cost of effectiveness in the operation of the website.

To conclude the MDC/MRM limitations, the above constraints hindered the effectiveness of MDC/MRM as the only government body that endeavours the initial aim of the setup as a nation's design promoter. The consequence of these limitations and inability to be proactive in the promotion of design in the country, has driven the initiation of the private organisation such as Malaysian Design Innovation Centre (MDI). Despite the controversial issue of its existence based on anecdotal evidences, MDI with such strong political influence inspired the realisation of its set up which claimed to be a landmark government-private sector initiative (Limkokwing, 2004). MDI strives to drive creativity and innovation to advance business in an intensely competitive globalised environment (*ibid*). In addition MDI also claimed that it has a pivotal role to play in driving national competitiveness through superior design, branding and innovation (*ibid*).

“Essentially, national competitiveness depends on the creativity and innovation capability of a people. The Malaysia Design Innovation Centre has been set up specifically to focus on this particular area and provide the support that will help individuals, organisations and companies build their resources and sharpen their responses to local and global challenges.....To foster growth in the areas of education and content creation, MDI sees the need for extensive public acceptance, understanding and awareness of the important role played by creativity and innovation in building economic competitiveness”
(Tan Sri Lim Kok Wing, President of Malaysia Design Innovation Centre, 2003).

6.6 Chapter Summary

This chapter presents in-depth interviews and case study results with selected Malaysian participants. Data was gathered through in-depth interviews with senior management staff directly involved in the companies' design process. Further meetings were held in the UK and documentary sources were reviewed. In-depth interview results were categorised based on the interview questionnaires as listed in Appendices 3, 4 and 5. The in-depth interview findings were then examined, and tabulated to fit into the "explanation-building strategy" defined by Yin (2003) for the case studies. The result from the in-depth interviews discussed in this chapter enabled the development of the case studies which focused mainly on the design practices in the four companies, on the Malaysia GDM awards role in promoting design in Malaysia, and on factors related to political influences that affect Malaysian industry in particular.

The process of these analyses has also expanded the understanding, in a detailed and comprehensive manner, of the scenario of design practice in selected companies. They also highlighted salient issues related to the actual practice in selected Malaysian companies. Furthermore, the in-depth interviews and subsequent case study findings can be used as supportive evidence for the elements of best practice and assist in fulfilling the aims of this study.

The results have acknowledged the importance of design and the designer's task within the selected SMEs. Design can be considered as having significant and strategic functions that provide a powerful impact on consumers as recognised by the participants. This suggests that not only is design key in determining factors that influences the customer, but also the relationship of design with brand has a real value and market impact. The outcomes of participant perceptions in this study can be expanded and can contribute to various aspects of design, and become an important element in the development of knowledge on best design practice. This new empirical knowledge can become a fundamental resource in the evaluation and assessment to the activities of design knowledge, practice and management in Malaysia, particularly among SMEs. In the following chapter, the element of best practice in Malaysia SME will be examined based on the recent findings, and best practice in the UK will be examined based on published literature.

Chapter 7
Design Best Practice and Conclusion

Chapter 7

7. Design Best Practice and Conclusion

7.1 Introduction

This research has explored design practice in Malaysia and the UK with special reference to brand creation in Malaysian SMEs. The research intention was to investigate the role of design and to establish the significance of design presence to the brand creation in Malaysian SMEs. The investigation and data collection was made through an extensive literature review, surveys, interviews and case studies with the intention of gaining an insight into the importance of design within the Malaysian SME.

Following the lack of literature in regard to design practice within Malaysian SMEs as discussed in *Chapter Three*, this study therefore depends on the information contributed by the participants. Their views and perceptions on design importance and practice, particularly on the manufacturing sectors within the Malaysian SMEs was used as evidence to achieve the study aims. While the design importance and practice in UK SMEs was considered established, the issues which related to, or had direct relevance to design practice were used for comparison with Malaysian SMEs. The information gained through available literature and surveys was compared and contrasted to create and establish the *proposed model of best design practice* for the Malaysian SMEs.

This chapter begins by describing the overview and rationale of the method adopted. Then, selected literature on design best practice is provided in support of the proposed model. The literature on utilization of best practice and on benchmarking is then used to contextualise the model for design best practice. Having reviewed the comparative elements of design best practice within the two countries, Malaysia and the UK, the discussion examines and highlights design management issues, product design and development, customer marketing and branding. Following this, the discussion identifies and evaluates the circumstances of design practice in selected Malaysian manufacturing SMEs.

This chapter also shows how the findings from the quantitative, qualitative and case studies contributed to the creation of the proposed model of Design Practice. Subsequently, conclusions based on the five research questions raised in *Chapter Four* are responded to for research verification. The entire body of the information gained in this research leads to the research conclusion and contributions that have been made to new knowledge in design practice within the study scope are presented and discussed. Further, this chapter elaborates, compares and contrasts findings from the evidence presented in this research which subsequently leads to discussion of potential for future research relevant to this topic.

7.2 Methodological Overview

A mixed method was used in this study involving both quantitative and qualitative research. Quantitative methodologies are able to provide more consciously explicit and justifiable solutions, despite the limitations of providing a more detailed conclusion (2007, Creswell and Clark, 2007, Bryman, 2004). Also quantitative surveys can be constructed to identify how views differ between participant subgroups. In particular, the results of the cross-tabulation between UK and Malaysia shows up the importance of design in those countries (see Chapter Five, section 5.9). In addition, quantitative survey methodology was used to obtain evidence and provide good demographic details in order to expand on the research intentions and the participants' general perceptions.

The use of qualitative methodology allowed the discovery of in-depth insights based on the design practice issues (Chapter Six, section 6.3), therefore mixed methods were used. These were used to extract various kinds of information regarding design importance and practices in selected Malaysian SMEs and improve the accuracy of the findings arising from the quantitative data. Additionally, the in-depth interviews, and the subsequent case studies described in Chapter Six (section 6.4) were used to gain insight into underlying or hidden issues that could be considered to have influenced design practices in selected companies. Furthermore, it was intended to ensure that the information obtained was contextualized and that the research questions were fully answered. In particular, participants' views and statements of practice derived from the

interviews and case studies contributed most to this research, with depth and richness of data as discussed in Chapter Six (In-Depth Findings).

Pilot experiments using both quantitative and qualitative methods had revealed some concerns over the way the questions were structured. The pilot studies formed the basis for the development of the questions and their revision, and facilitated the segregation of the question themes. Subsequently response bias was eliminated in the way questions were structured. Furthermore, due to the dissemination of questionnaires over the internet, regardless of the operating system of the participants (such as Microsoft XP or Vista, Mac OS and Linux or using different browsers application e.g. Internet Explorer, Mozilla Firefox or Safari), the questionnaires will visually appear the same as what was designed as stated in Chapter Four (section 4.7.2.1).

As well as providing useful data with different types of participants, the questionnaire surveys have also produced an overall picture of general perceptions among the participants. Descriptive statistics supported by contingency tables illustrate how the initial interpretation of findings was reached. The response to the surveys and interviews was important and therefore very useful in producing comprehensive data, even though a high level of commercial confidentiality within a company's R&D policy could raise some difficulties. While qualitative figures were used to support the quantitative data, a more in-depth understanding of the issues, as discussed in Chapter Five (Analysis Process

and Initial Research Findings) was revealed. In fact, the participants' views and statements gained from the interviews provided data which clearly confirmed the relevance of the research questions and of the initial findings that were critically discussed in Chapter Six (In-Depth Findings). Subsequently, this led to the case studies approach and greatly enhanced the findings in relation to design practices in selected companies. As a result, they revealed hidden issues on Malaysia GDM awards and other related political aspects. This valuable information, allied to the in-depth findings and the case studies approach was considered important in evaluating the current business practices in Malaysia within the selected SMEs.

7.3 Comparative Elements in Design Best Practice

Using previous findings as guidelines in developing a best practice model was an advantage because of the existence of concrete examples whether extracted from UK literature or derived from the interviews from the SMEs. However there are certain limitations. Firstly, the literature reviewed and analysed is entirely from secondary sources. Secondly, although there is much literature discussing the elements of best practice, the review could not adequately collect specific information regarding design practice that focuses on durable products because it could not provide direct comparisons. This is particularly so regarding electrical appliances, furniture and playground equipment, is the main thrust of this research. Thirdly, there is a limited amount of literature relating specifically to Malaysian SMEs' design practice. Much of the general best practice guidance to companies cited in the literature is influenced by the activities of larger

companies, for example Whirlpool, Sony, Lego and others. However, the previous Dyson case study (initially as SME) is a good reference for best practice in design and innovation before a company develops into a larger organisation (Walsh, *et al.* 1992). The Dyson company and brand is of British origin and competing successfully in the global market. The Dyson brand gained recognition and captured strong consumer loyalty mainly as the pioneer in cyclone technology in the vacuum cleaner market. Since the Dyson Appliances manufacturing plant was also set up in Malaysia in March 2003, Malaysian industry are recommended to take that opportunity to learn and apply similar capabilities to expand their own design capacity innovative (MITI, 2004). Therefore Malaysian SMEs also are encouraged to learn from case studies conducted and published on how Dyson succeeded as the leader in the vacuum cleaner market.

Finally, the literature could not focus specifically on design activities in UK companies, as the companies are UK based but not UK owned and the parent companies are located in countries such as France, USA, Germany, Japan and Italy. Moreover the recent top ten UK brands are among service companies (BrandRepublic, 2007) such as Tesco, Barclays, Vodafone rather than product manufacturers.

However, despite these limitations, it is believed that these broad studies have generated insights into the rich complexity of the elements of best practice, which are relevant to the main aims and research issues involved. This study seeks to

evaluate three core elements; 1) Design Management, 2) Product Design and Development and 3) Customer, Marketing and Branding, in relation to the specific requirements underlying them. These three elements were used as interpretative themes across all the research stages (questionnaire survey, in-depth interviews and the case studies) and were adopted as guidelines to define best practices in design as discussed below.

7.3.1 Design Management

Design can be seen as the purposive application of creativity to all activities that bring ideas to products, services and the process of innovation (Cooper and Press, 1995 and Borja de Mozota, 2003). These items therefore give rise to a competitive challenge to manage this application over time. According to Borja de Mozota (2003) design management originated in Britain in the 1960s, when the term initially referred to the relations between design agencies and their clients. Subsequently, Michael Farr described the new function of design managers in 1966 and in his book, 'Design Management' explained how the design manager is expected to implement the smooth coordination of a design project with his clients with the objective of keeping lines of communication open (Borja de Mozota, 2003, Press and Cooper, 2003). In post-industrial and developed countries, it is believed that design management has been incorporated in business practice in the strategic management of a company, particularly in those countries that have implemented design policy. Further, Jerrard and Hands (2007) stated that with the involvement of design in other business functions, the management

of design has become more significant in company strategy. With better **appreciation** and understanding of design management by personnel at all levels, **conscious actions** can be taken in even the smallest decisions (Dahlin, 1998).

The research findings from the in-depth interviews in Chapter Six (section 6.3.3) and case studies on the design practice (section 6.5.1) in selected Malaysian SMEs, indicated that there is a lack of understanding about the significance of **design management** as a tool of strategic management. Therefore, design management has not been recognised and practiced in the Malaysian SMEs surveyed. One of the reasons could be that design managers failed to facilitate and **manage** the relationships between users and suppliers. In contrast, evidence from **one** of the UK companies (Renray David Baker Ltd) indicated that a strategic **approach** to design has contributed to an understanding of the market. This means **Renray** can face the future with much greater confidence. Better design is a matter of long-term survival for this hospital furniture manufacturer (UK Design Council, 2001). However, Press and Cooper (2003) argued against overgeneralizations of terms. They suggested that this term is to be defined further on its “purpose and direction” as their investigation threw up the idea that design management should be broken down in terms of research, education, training and **professional activity** (*ibid.*).

Cooper *et al.* (2004) stated that understanding an organisation and how design **contributes** to the overall company strategy would add value to its business. They

added that design champions in an organisation are among successful design managers (*ibid.*). Therefore, when the leaders define the roles of design champions, design managers and designers in the most flexible and dynamic way, innovation thrives in their business (*ibid.*). This research has found that the practice of design management in larger Malaysian or multinational companies is in place as part of their strategic management practice (Participant SMD, 2007). However, there is currently no documentation or study of design management in Malaysia by other researchers to support this.

Bruce and Bessant (2002) argued that design is not just styling but is more a style of thinking and therefore in the most forward-looking companies, design is woven into the management process. Having said that, however, according to the UK Design Council (2005a) there are still some senior managers who believe that design relates only to the superficial appearance of products in the way of just making things look appealing, and they only use design in the initial stage of production. There appear to be three requirements as part of best practice in design which are relevant within design management; 1) Management Style, 2), Senior Management Involvement and 3) Role of the Product Development Manager.

Johne and Snelson (1990b) claimed that best practice in management is seen through open or transparent processes, imaginative as well as creative senior

managers. This will encourage middle management to function more effectively (*ibid*). They also claimed that any successful product development relies very much on the role played by the person responsible at the most senior position (*ibid.*). Senior management support is also vital to promote new products in the marketplace. Many top global brands such as Apple, Renault and Dyson have shown the involvement of their senior management in the process of NPD and they are open to new ideas, as well as being aware of the technological aspects of new products for the next generation series of products (UK Design Council, 2007). Examples of this include Carlos Goshn (President and CEO of Nissan and Renault), Steve Jobs (Chairman and CEO of Apple Inc.) and James Dyson (CEO of Dyson Ltd) where senior management involvement in best practice in the management of design is evident within these organisations. The examples used refer to large organisations primarily because of the insufficiency of references to best practice in management within SMEs.

Senior management in an organisation has a significant role in making a success of managing product development (Oakley, 1990). They can structure their organisation in ways to encourage inter-disciplinary tasks and to expand imagination, talent and ideas. Moreover, senior management have the capacity to shape their organisations, recognise and reward excellent standards in the company (*ibid.*). Some companies in UK claimed that promoting design was a fundamental plank in a company's competitive strategy, integrated into its management skill set (UK Design Council, 2005a). According to the findings of

the survey commissioned by UK Design Council (2005b), where design is integral, 44% of companies saw a resulting increase in competitiveness and turnover. Design is the second most important ingredient for the success of rapidly growing businesses. Fifty percent of manufacturers said that design is increasingly important to their competitive edge (*ibid.*). In further comparisons to the findings discussed in Chapter Six (6.3.1) it would appear that despite the early lack of understanding in relation to design management as stated earlier in this section, some companies surveyed admitted that there has been some improvement in their management's attitudes. Echoing this change, it is expected that the role of design manager and design team be clearly defined as part of a management strategic formulation for better integration. Borja de Mozota (2006) suggested that business leaders need to know the significance of design management's power in creating value for companies.

The DTI (1991b) suggests that senior management to be involved in and responsible for managing product design. Thus, 1) as design is the fundamental aspect of manufacturing success or failure, ultimate responsibility for design is to remain with the chief executive; 2) the foundation of the company's corporate objectives reflect upon the companies' product strategy. Regardless of excellent company performance in other areas, if the product design fails, eventually it will jeopardise the company; 3) integration of the design process with other activities in a company is essential for any successful design management. Following these points, the DTI (1991a) further recommended that the chief executive plays a role

in ensuring that the design activities in companies are managed correctly. Therefore, the involvement of senior management in design management cannot be ignored.

Another aspect of best practice in the management of design is looking at ways to achieve product success in the marketplace. Johne and Snelson (1990a) highlighted the 'Seven S's' as criteria by senior management in meeting the objectives of product success (see table 7.1).

1	Strategy	Senior management should set broad objectives for organic growth.
2	Shared Value	Senior management must foster understanding of the need for genuinely new products.
3	Style	Senior management needs to be intimately involved, on a day-to-day basis.
4	Structure	Senior management requires new organisational forms, such as business teams, to nurture important developments outside the mainstream organisation.
5	Skills	Senior management should take interest in techno-commercial idea generation, screening and testing concepts since development work is often based on new technology.
6	Staff	The product development manager should be allowed to select his/her own team with whom rewards are shared.
7	Systems	Requirement for systems to be loose-tight using simultaneous approach.

Table 7.1, 'Seven S' criteria for senior management. *Source: Adaptation from Johne and Snelson (1990)*

To summarise the statements made by Johne and Snelson (1990) about the role of senior management in an organisation as they relate to the management of design,

he/she needs to be 'ubiquitous' to envision, energise and ensure the smooth start of a project. Therefore management's contributions to the product development environment are essential in the following ways:

- 1) to encourage and communicate the long-term strategic vision for product change.
- 2) to take the lead in product development.
- 3) to select appropriate market-based product development strategies.
- 4) to facilitate product development work with appropriate organisational designs.
- 5) to be responsible for the strategic vision of development and communication.
- 6) to accommodate long term objectives of strategic planning.
- 7) to be proactive in approach for product development and
- 8) to managed and cultivate the product development teams (designers) towards producing cross-functional, user-centric and market-led design works.

Press and Cooper (1995) also raised the issue of the responsibility of senior management to design in an organisation. Senior management need to support and value the contribution design makes to the organisation's activities, as well as to communicate the company's philosophy (*ibid.*). Their further view on these responsibilities includes:

- 1) creating innovation and design-supportive structures and climate
- 2) choosing design advisors, external consultants and design directors and
- 3) setting a clear hierarchy of design responsibility

Another important aspect of best practice is that the senior management play a role in identifying a responsible individual that is capable of managing product development. This person will also manage the whole product development process as well supervising the team involved in the department. He or she needs to be versatile, knowledgeable and in agreement with the company business endeavours in order to provide specific leadership in these areas. Inevitably, the appointment of this individual as the product development manager has to be on the basis of his/her skills which could inspire the team to produce a 'product champion'. Such distinct products when well researched and developed tend to result in better customer satisfaction ReVelle *et al.* (1995). Further, the role as manager requires close liaison with inter-departmental teams across the mixture of disciplines. Therefore, it is essential for the product development manager to understand various technological aspects within the product, as well as to identify critical obstacles and make proper judgements on technology (*ibid.*).

In order to achieve particular targets of the product development process, the product development manager needs to be experienced in certain aspects of his role. According to Rosenthal (1992), a product development manager is to be responsible for targeting the entire process involved in product development. To conclude this section, the role of the product development manager appears to encompass to the attributes detail below:

- 1) an informed and committed leadership

- 2) direct and frequent communication between all levels
- 3) clear strategic direction from the leader
- 4) established directions for team development
- 5) the making of major decisions for the team and
- 6) the setting of objectives for team tasks and development.

7.3.2 Product Design and Development

The fundamental elements for product design and development have changed, to take into account market demand and in particular the aspects of market-pull, technology-push, platform product, intensive process and customisation of products. This is because the goal of engaging design provides a competitive advantage and is therefore commercial in nature. Inevitably, product design and development stakeholders would ideally look for a high return on investment as a measure of successful product development. Product design and development processes will vary depending on the kind of product and the intended market. Therefore product design and development concerns the creation of and adding value to the product in relation to cost and doing this in an efficient manner. Walsh *et al.* (1992) added that a well-designed product can increase or add to its perceived value since research has shown that customers will often pay more for a product if they consider to be of a “high quality design”. Furthermore, it is important to evaluate product design development business strategies such as:

- 1) time to market
- 2) growth in branding

- 3) market segmentation
- 4) sustainability and social responsibility, and
- 5) flexibility and diversity of choice for customers

With escalating changes, time to market is becoming increasingly important. Based on the DTI's (1994) survey, six months late to market can reduce profit up to 35%. Furthermore, in some competitive markets, extreme trend sensitivity has persuaded companies to launch new products rapidly, particularly in clothing and consumer goods. Based on the same survey also a timely release, even with a 50% overspend on development of the product, may result in just a 5% reduction in lifetime profits for a given product. Therefore, speeding up product design development is a goal for building competitive advantage (*ibid.*).

The importance of branding is also growing. Customers these days purchase the products that are inline with their personal identity and their value base. The aim and goal of branding is to establish customer loyalty; in product design development, branding is how the image and values of the product are communicated to build up brand awareness.

Market segmentation is becoming more precisely defined and the market tends to divide into even more segments, representing sub-cultures with their own product preferences. Therefore, successful market leaders understand the different segments and are able to meet their specialised needs and preferences.

Another important consideration in product design and development is the aspect of sustainability and social responsibility. There has been an increasing emphasis on industrial ecology in the last few decades, but in recent years this aspect of design has expanded to the point where issues of social responsibility are included. This is particularly so in the western world, where it is emphasised in a much wider sense. At the moment with no commercial arguments and no legislation requirements, this issue has not yet been prioritised. However, with the implementation of legislation, this aspect is becoming more significant in product design development as social awareness increases.

In Malaysia, the awareness of the ecological aspect of design has not developed so strongly as we can see from interpretation of the findings' discussed in Chapter Six (section 6.3.7). As a developing country Malaysia is still struggling with the issue of imitation as part of the design culture, as discussed in Chapter Six (section 6.3.3 and 6.5.1.3). The surveyed companies might have designed a product that can reduce energy consumption, but this is likely to be unintentional without considering the sustainable and social aspect of design. Surveyed participants believed that it would take some time before the industry can put the consideration of ecological factors into practice. The researcher believes that the public are required to also be aware of this issue and the government have to initiate this at school level.

With global competitiveness, product design and development are further challenged to provide flexibility and diversity of choice for customers, in combination with price sensitivity. In meeting the contradictory demand for lower prices in a diversified market, modularisation of the product portfolio has become an important strategic agenda across many industries. The aim is to offer the customer more diversity or even focus the product to a particular segment of the market, while securing a lower price through standardisation in production.

7.3.3 Customer, Marketing and Branding

In today's competitive market the customer, marketing and branding are the aspects used to assess a company's products and to determine how these products satisfy the customer. Borja de Mozota (2003) emphasised that modern marketing focuses on 'customer orientation'. To provide long-term profit, customer satisfaction is required and thus coordinated efforts by all departments of a company are essential. Trueman and Jobber (1998) stated that value is the concept that underpins the ultimate company goal of developing high quality products which meet customer expectations.

Therefore any new product development would look at success as an important aspect in accordance with best practice. DTI (2005a) emphasised that companies are to produce goods that are;

- 1) right for the customer
- 2) available in advance of the competition

- 3) offer more enhanced features, variety and better performance and
- 4) provide value for money not only in terms of cost but also design, quality and reliability.

Haberberg and Rieple (2001) said that differentiation advantage in an organisation is achievable if it can develop products or services with good design and reliability that meet customers' needs. They also noted how Sony emphasised the features and design of their products to create the differentiation. Marketing strategies on the basis of value for money or image can create the difference by associating the product with the brand values or the company's reputation (*ibid.*).

Many successful companies consider that good communications and an understanding of user needs in developing new products is a 'common sense' practice. In particular, a dynamic design process has to be based on the best possible information in meeting changing customer needs and market demand. However, according to Walsh *et al.* (1992), some companies in the UK apparently previously did not adopt this common sense approach. Now, however, market demands and the aggressive role of the UK Consumers' Association with their frequently published systematic product comparisons in *Which?* Magazine, have largely changed most companies' attitude and forced them to put in place a 'common sense' concept (Bruce and Bessant, 2002). In addition, Walsh *et al.* (1992) confirmed in the case studies they conducted, most successful companies were shown to have established close interaction with customers and/or end-users

to obtain market information, thus helping them in the design process. In comparison, based on the findings discussed in Chapter Six (section 6.3.6), the Malaysian participants surveyed claimed that they have yet to consider the possibility of integrating customer views into their work for developing future products. At the moment, the majority said that they rely totally on views from their product's dealers for market and customer input.

This method would possibly minimise costs compared with conducting specific market surveys, since SMEs are often concerned with budget constraints. With current competitiveness and market demand, an awareness of this aspect would further encourage these selected SMEs to put into practice the understanding of user needs by conducting comprehensive and insightful market surveys. Involving customers in identifying user needs was practiced within larger and other multinational companies in Malaysia.

Inevitably, design needs marketing information to detect trends, define user needs and provide cost parameters. Bruce and Cooper (2002) highlighted problems associated with capturing customer requirements for any new design: an end user may not be able to express his views in relation to a totally new product if he has not seen or used the product. Bruce and Bessant (2002) described various tools and techniques used by market research agencies at different stages of early idea development; thus

- 1) Desk research to identify trends and market changes

- 2) Group discussion to stimulate ideas on future product development and assess reactions to specific concepts,
- 3) Creative tools as projective techniques to introduce feelings and responses in relation to the new product, and
- 4) Visual stimuli and creative drawing to generate ideas in a group or game playing situation.

They claimed these approaches enable the consumer, the client, design and various other professionals to express their views and bounce ideas around to stimulate creative response to concepts much more effectively (*ibid.*).

Logan's (1997) study also stressed the importance of customer requirements as a source for new product ideas. Subsequent studies by Cooper (1987), Bruce and Rodgus (1991) and Walsh *et al.* (1992) have found that the factors which distinguish new product success from failure are consideration and understanding of user requirements. So customer involvement in design and innovation is vital to product development; thus it 1) provides invaluable market know-how to convert an idea into a commercially viable product and gives guidance on the best performance or price blend, 2) results in a flow of user-initiated improvements to the original design, and 3) provides an 'opinion leader' to endorse the design in the market-place, so enhancing the likely success of the product (Walsh *et al.*, 1992).

This aspect of customer, marketing and branding knowledge, as well as proficiency, appears to play an essential role in the philosophy of best practice. Added to that, companies that produce successful goods mainly understand the role of marketing and its vital value in the total design process (Bruce and Cooper, 1997). Branding strategies will subsequently make the product known in the market. Furthermore, comparative findings in the UK about the power of brand based on statistical results shown in Figure 3.5 Chapter Three (section 3.2.4) have been highlighted.

7.4 Proposed Model for Design Practice

One of the aims of this study is to propose a model for design best practice for SME manufacturers in Malaysia. Based on key findings of the surveys (Chapter Five), interviews and case studies (Chapter Six) discussed earlier, the proposed design best practice approach looks for the important underlying issues applicable to Malaysian SMEs in the manufacturing context. Current design approaches in the UK and Malaysia were compared and contrasted (Chapter Five) and in-depth participant views on design practices (Chapter Six) contributed to the formation of this proposed design best practice. Both countries' approaches are important because they have practical implications for each country, SME sectors, specific company business and the culture. It would be unwise to put forward a generalised design best practice proposal based on the number of SMEs surveyed in this study; a general pattern may, nevertheless, be observed. It is hoped that the

proposed design best practice can be used to improve further current design practice in Malaysian manufacturing.

The rationale for adopting the three key factors stated earlier have been identified as central for design practice in manufacturing SMEs and thus the model itself was based on the same factors. 1) Design Management, 2) Product Design and Development Process and 3) Customer, Marketing and Branding. Furthermore, it can be said that all phases of product design and development in the manufacturing process represent one or more activity in the whole design process. These three factors were used as stated earlier in this chapter as interpretation themes across all the research stages (questionnaire survey, in-depth interviews and the case studies) and appear to be appropriate as a focus for best practice evaluation in this research (see Figure 7.1).

PROPOSED DESIGN BEST PRACTICE MODEL FOR MALAYSIA SME

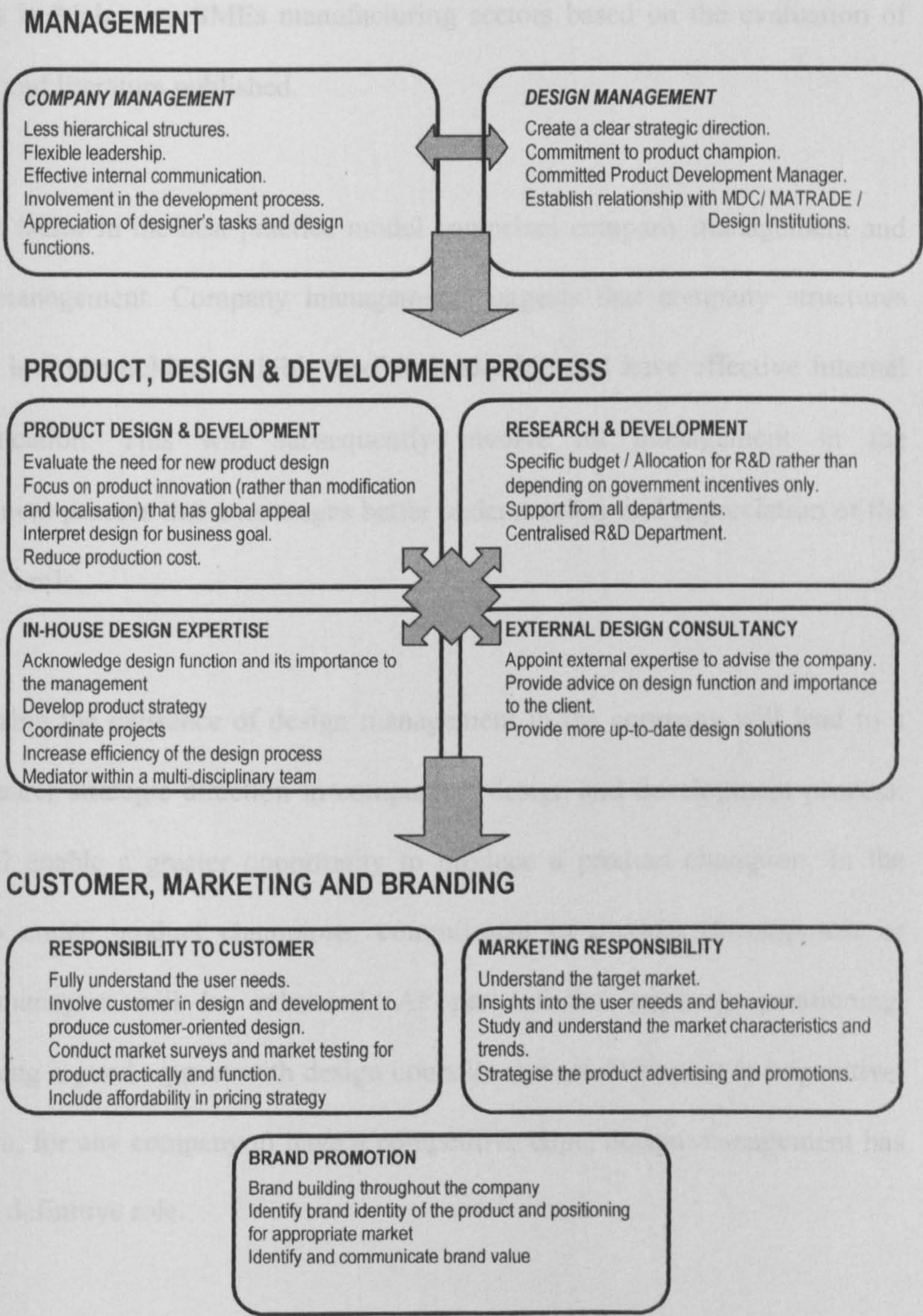


Figure 7.1; Proposed Design Best Practice Model for Malaysian SMEs Manufacturing Sector.

The model illustrated in Figure 7.1 is intended to display the interrelated role of the three factors that can be used to describe the proposed model for best practice elements in Malaysian SMEs manufacturing sectors based on the evaluation of findings and literature published.

The first factor in the best practice model comprises company management and design management. Company management suggests that company structures must be less hierarchical, exhibit flexible leadership and have effective internal communication. This will subsequently involve all management in the development process that encourages better understanding and appreciation of the designer's role.

Recognizing the existence of design management in the company will lead to a much clearer strategic direction in companies' design and development process. This will enable a greater opportunity to produce a product champion. In the effort to create product champions, commitment of product development or design managers will be enhanced. As part of the company positioning, establishing a good rapport with design councils and establishment is imperative. Therefore, for any company to have a competitive edge, design management has to play a definitive role.

The second factor involves product design and development process. Ideally, companies need to involve all the following;

- 1) the tangible product design and development that consist of new product design evaluation, focus on product innovation that has global appeal, interpret design for business goal and reduce production cost
- 2) the intangible and necessary research and development which include specific budget / allocation for R&D , support from all department and centralise R&D department
- 3) in-house design expertise would acknowledge design function and its importance to the management. In addition, product strategy is developed, efficiency of the design process is increased, projects coordinated and a multi-disciplinary team mediated
- 4) external design consultancy can provide design expertise , advice on design function and importance to the client, provide more up-to-date and more user-centric design solutions

The third factor encompasses customer-oriented aspects as the following:

- 1) responsibility to the customer through fully understanding the user needs, involving customer in design and development, conducting market surveys and market testing for product practically and function, and including affordability in pricing strategy.
- 2) marketing responsibility through understanding the target market and the insights into user needs and behaviour, studying and understanding the market characteristics and trends and strategising the product advertising and promotions.

- 3) brand promotions through brand building throughout the company, identifying brand identity of the product and positioning for appropriate market, identifying and communicating brand value

7.5 Conclusion to Research Questions

The next stage concerns the literature reviews, discussions and opinions and perceptions provided by participants in Chapter Five (Analysis Process and Research Findings) and Chapter Six (In-depth Findings). The research questions were used as a basis to form the categorisation of the various themes. From these findings, examined according to a number of themes, it is now appropriate to review how the individual research questions were answered and conclude this study. In Chapter Four (Research Design and Methodology), five interrelated research questions were raised and used.

7.5.1 Question 1

What identifies design best practice in successful brands in Malaysia?

Based on the 'open questions' in the survey questionnaire, the research findings showed that most participating companies surveyed were aware that to succeed in business, their product has to be different. The main concern was whether they really know how to create such differences, and how to implement them in their business model. Findings from the data suggest that most Malaysian companies chose to quote lower prices as a means to obtain better sales. This is a short term

strategy as pricing may not be the key differentiator, and only serve to encourage price war at the expense of product brand value. Moreover, the findings also show that if good and practical design is developed and well-received by customers, they will inevitably promote the products. Therefore, when brand is valued, it can be maintained or sustained. Comparative findings about the power of brand in the UK based on statistical results showed in Figure 3.5 Chapter Three (section 3.2.4). However it seems that the surveyed SMEs are lacking in knowledge in the role of design management, the comparison with best practice appeared to suggest some weaknesses in their practice. Furthermore the design activity in the selected Malaysian SMEs focused more on product modification and localisation, thus subsequently they appeared unable to develop total branding and product differentiation.

7.5.2 Question 2

What was the level of understanding among corporate managers who were surveyed on the role of design in their company growth?

Generally, all participants and in particular the senior managers revealed much greater understanding than was expected on the role played by design toward the company's business growth. This shows great improvement compared to Malaysia almost fifteen years ago based on the findings from Dzulkifli (1995) and Marzuki (1999) research. As discussed in Chapter Six (section 6.3.1), Table 6.2 described the interpretation of the findings on the role of design within the

selected Malaysian SMEs. Further, the level of understanding among senior management in selected SMEs has improved rapidly. This has been described as changes implemented by the new and younger generations in senior management teams, which appear to have driven much more strategic thinking particularly in identifying the role of design in a company.

The literature reviewed in Chapter Two (section 2.2.4) describes the role of design as a strategic resource and a company's management asset. The evidence shown in the literature emphasised how the use of design in various industry sectors has increased company turnover and profitability. This is clearly confirmed by participants in Chapter Six section 6.3.1.

7.5.3 Question 3

How does design play a role in modelling the future of the company?

The literature review in Chapter Two (section 2.2.3) described how the role played by design now has greater significance in a company's performance and thus, can model the company's positive future. The studies described by DTI (2005b), Trueman and Pike (2003), Hertenstein *et al.* (2001) , Roy *et al.* (1994) indicated that UK companies which placed emphasis on design, resulted in a positive return of investment.

Results shown in Chapter Five (section 5.8.3 point 7) and Chapter Six (section 6.3.1) indicated that the selected participants in Malaysian SMEs are committed to the statement that ‘design models the company’s future’. Participants perceived that design has become an important strategic instrument. They felt that investing in design not only improved the product’s appearance but also added value to the organisation. Thus,

- 1) as a inventive design, it can give added personality to a product
- 2) design improvement eventually increases customer satisfaction
- 3) excellent design output helps to promote the brand itself and
- 4) design will add value to the product and enable the company to use it as a desirable product that can compete in a global market.

Subsequently all these factors will help, modelling a positive future for a company. It may be suggested that Malaysian SME senior management have to first believe in design differentiation for their products rather than lowest price differentiation. Furthermore, with the emergence of China as a world leader in low cost manufacturing, SMEs in Malaysia have to use design to give themselves a distinctive advantage. Similar perceptions by selected UK participants reflected a positive result in relation to design, in having a significant role in modelling the company’s future, as shown in Chapter Five (section 5.8.6 point 7).

7.5.4 Question 4

How does design elevate a brand to evolve?

The literature in Chapter Two (in section 2.7) has revealed the relation between design and brand, and indicated the role and contribution of design towards a brand's personality. Additionally the findings from selected Malaysian and UK SME participants positively agreed that design directly helps their brands to evolve as reflected in Chapter Five (section 5.8.3 point 11 and section 5.8.6 point 11). Brand evolution appears to have greater significance through design as it plays an important part in the improvement and management of brand identity. Furthermore participants believe that a brand will evolve while design behaves as an extension to marketing and promotion, and this subsequently gives character to a brand.

In relation to how design helps a brand evolve, the selected Malaysia SME participants also related design evolution to brand evolution in a way that eventually benefits the consumers. This can be seen through the statements described in the findings revealed in Chapter Six (section 6.3.6). It can be concluded from the literature review and the findings on 'how design elevates a brand to evolve' that design is a key element in brand positioning and differentiation. There is a collective belief by participants the brand has to stay constantly fresh with the current times in order to be competitive.

7.5.5 Question 5

How design capability influence Malaysia SME brands?

In Chapter Six (section 6.3.4) participants have given their views as to how design capability can influence Malaysian brands. Even though the participants' views were varied, there was a consistent view that design has its significant role in influencing a brand. In contrast their views appear to suggest that in the Malaysian context, in most situations, product success at times still appears to depend on prices and favourable terms and conditions. These are perhaps expressed within the payment terms, warranty and material specification. Eventually design gives the edge only when the initial terms are matched. In addition it can suggest that design is a 'branding activity' tool.

7.6 Research Conclusion

The UK has been chosen for comparison, as there is a substantial amount of literature on best practice in relation to product design and development in promoting UK brands. The large body of knowledge in the country recognizes the importance of design to business success, and thus is adequately used to benchmark the product design development process.

The results however have further acknowledged the importance of design and the designer's task within the selected SMEs from Malaysia and UK. Design can be considered as having significant and strategic functions that tactically and

physically provide a powerful impact on consumers and this was recognised by the participants. This suggests that design is not only becoming key in determining factors that influence the customer, but the relationship of design with brand also has a real value and market impact.

The postulation of five hypotheses was constructed in order to further enhance the research intention. The testing of the hypotheses has provided an answer that enables one to understand and gain insights into the intention of this study. Therefore, the hypotheses outcomes will conclude the related issues discussed earlier in the thesis.

7.6.1 Hypothesis 1

The understanding of design among corporate managers provides a valuable advantage contributing to future company performance.

There are differing attitudes and approaches which have an important influence particularly to design decision making. From the surveys (Chapter Five, section 5.8, 5.10 and Chapter Six, section 6.3) it shows that individual needs and preferences are complex, but having an understanding of design becomes an important value added factor. The case studies (Chapter 6, section 6.5) revealed that if corporate managers or decision makers understand that design can be as important as engineering or marketing, it appears to influence the process of defining the future company direction and company performance. In fact, the design task and activity became a fundamental resource if design was

acknowledge by senior management. Therefore, hypothesis one was supported by the findings.

7.6.2 Hypothesis 2

Design plays a role in modelling the future of the company.

Discussion in Chapter Five and Six established the importance of design as a tool or device in communicating the brand, to increase customer satisfaction, improve product appearance and to compete in a global market for Malaysian SMEs. In fact, an earlier discussion of the participant perception shows that design has an impact on the customer and affects sales.

It can be suggested that design can be delivered and controlled through specific characteristics and direction that enable the management to use it in modelling the positive future of their company. Therefore, design can be considered as a management asset for Malaysian SMEs, but will also be successful in modelling the future of the company if its importance is valued by the rest of the company or organisation. In participant response to design, they believed that design has become more important in leading the SMEs. Hence, hypothesis two was also supported by the findings.

7.6.3 Hypothesis 3

Design elevates a brand to evolve, in particular among Malaysian SMEs manufacturing products.

Participants positively believe that design influences are the key to compete in the local or global market. Although design may change overtime to fulfil the needs and customers requirements, for participated Malaysian SMEs, the brand has to be constantly fresh in order to be competitive.

Design appears to have a greater significance influence in marketing, promotion and management of brand identity. Therefore, the evidence from this research, particularly the Malaysian participants believe that design helps their brand evolve. In which, hypothesis three was supported by the findings.

7.6.4 Hypothesis 4

Design has a capability in influencing the Malaysia SMEs brand

Design involves knowledge, experience and most importantly originality in promoting brand recognition. Although prices and favourable terms and conditions in most situations appear to be the key reference in Malaysia, the result shows that design has a significant role in influencing a brand. The result also proved that design is increasingly recognised and important to most companies, particularly the Malaysian SMEs.

Therefore, emphasising the brand image, showing the product distinctiveness and stressing the identity recognition have become key elements in the design process either for the in-house designer or design consultant. For these reasons, design is

seen as a branding activity tool that has the capability to influence the Malaysia SMEs. Therefore, hypothesis four was also supported by the findings.

7.6.5 Hypothesis 5

A good design practice aids Malaysian SMEs in creating successful brands

The research findings revealed that there is a lack of understanding about the significance of design management as a tool of strategic management. However, senior management do acknowledge the need and roles of design and designers in the company. In reality, it appears that with the current situation in Malaysia, the need for design and designers increases just as more design institutions were created to cater for industrial demand. This indicated that the value of design is considered as a key determining factor that may not only provide aesthetics, but also link closely with a brand that has a real value and market impact.

While participants recognised that designers and their design activities would create product differentiation, design also could become the image and brand communicator to the consumer. This would also indicate that good design practices are factors that contribute to successful branding. For this reason, good design practice is able to make the specific brand known and recognised amongst competitors. As the recognition and identification of the specific brand is justified, then a good design practice aids Malaysian SMEs in creating successful brands. Therefore, hypothesis five was supported by the findings.

The outcomes of participant perceptions in this study can be expanded and contribute to various aspects of design, and become an important element in the development of best design practice. This new empirical knowledge becomes a fundamental resource to evaluate and assess the activities of design knowledge, practice and management in Malaysia and particularly the SMEs.

From the outcomes of the survey, the perception of the roles of design within the selected Malaysian SMEs does appear to be considered important when the design task and activity became acknowledged by senior management. While participants believed that design gives personality to a product, gives satisfaction to customers, promotes the brand and reaches the global market, it was revealed that design can also show its value through the rational characteristics of the product as well as enhancing the users' experiences. In addition, design strongly influences customers in their purchasing. This may be because the design and appearance is visible to the customer, and therefore catches the attention first.

Although senior management does play a major role in final decisions they do acknowledge the need for design and designers in the company. The awareness, consideration and application of design are becoming essential and are increasingly in practice in the surveyed Malaysian SME management. By comparing with previous academic and anecdotal reviews (Marzuki, 1999 and Dzulkifli, 1995) it appears that design practice lacked in value since most

designers have been seen as draftsmen in the company rather than playing a designers' innovation role. However this study has revealed the significant changes in perception of management, where designer roles are now (more recently) considered important. Design activity; R&D and in-house design is becoming the focus in participating Malaysian SMEs. However it seems that design activities in selected Malaysian SMEs mainly involved modification and localization rather than entirely new design and innovation for specific markets.

In relation to other aspects of the findings, Malaysian participants surveyed were generally agreed that government incentives were substantially important factors that could help to contribute towards enhancing the significance of design to the SMEs. Government incentives have been highlighted in the literature review in Chapter Three (sections 3.1.3.2 and 3.2.3) and appear to support participants' perceptions that these can have a great impact in supporting both Malaysia SMEs and UK SMEs.

Although, there is a view that the development paths of a design organisation are not rapid, nor easy, where the role of design is not self-evident, these difficulties can be overcome through persistence and perseverance. In fact, this study has revealed both recognitions, by most of the Malaysian SMEs and design consultants' participants of *design awards* which has been organised by the MDC/MRM. All of these design awards are intended to promote greater design awareness and to contribute to the understanding of what exactly 'good design' is,

as well as providing manufacturers with ‘good design’ exemplars. These efforts targeted the Malaysian public and Malaysian manufacturers (as indicated in the findings of Chapter 3; 3.1.3 and Chapter 5; 5.8.3 item 9). Up to date the number of SME participants, according to the design importance survey conducted by the MDC/MRM may not yet have reached the targeted figure. However the integration and coordination in design activities that were aiming solely at the industrial sectors, educational institutions, craft industries and public would be able to nurture the new creative generation.

Hence, the role of design has slowly evolved and developed within companies. This can be seen through the development shown in the different studies cited earlier, where design has become a vital part of the companies’ competitive edge and a driver of new innovation. As for branding, the Malaysian participants surveyed seem to understand the importance of branding as a tool to promote their products locally or globally as discussed in Chapter Five (5.8.3 point 11) and Chapter Six (6.3.4). Branding has played a role in their positioning of the products and in creating an identity for that particular market.

Therefore, branding is used differently in Malaysia; it is used to project post-industrial value, for example, through investment in affluent icons such as PETRONAS Twin Towers or Kuala Lumpur Convention Centre (KLCC) and Kuala Lumpur International Airport (KLIA). Furthermore, this can be concluded that an improvement can be clearly seen in the respected surveyed companies.

Thus,

- 1) Design has played a significant role in selected Malaysian companies through management's increasing understanding towards design.
- 2) The significance role played by Malaysian designers in promoting design is more recognized compared to previous studies according to Marzuki (1999) and Dzulkifli (1995).
- 3) Design has been incorporated in the surveyed SMEs.
- 4) Branding has been recognised in promoting products in the surveyed Malaysian SMEs.

The four preceding points were found as important improvements. Nevertheless the implementations are varied from one company to another, and may not necessarily represent standard practice across Malaysia. There are other aspects of poor practice that could be improved further.

- 1) There appears to be a lack of understanding on how the management of surveyed SMEs can introduce design management into their company strategy. Perhaps one of the roles of design management is to stimulate imaginative thinking processes involving creativity and innovation through design, which requires a combination of logical and intuitive thought.
- 2) Hardly any new design and invention was seen. Development mainly focuses on product modification and localisation. This appears to be based mainly on

reverse engineering and relies on existing products and foreign technology.

- 3) Very limited numbers of surveyed SMEs use external design consultants to seek fresh and innovative ideas.
- 4) Most surveyed SMEs exclude a customer-oriented approach such as market research in the process of new product development, as they totally rely on their product dealers' feedback on the customer trends.

The contribution made by this research, centres on the compilation, description and interpretation, of evidence on the importance of design and practice, and the documentation of the same in a scholarly manner. Therefore, the research thesis has provided several in depth issues and valuable references, particularly for SMEs and design agencies. The research has generated novel insights and understanding of design practice; highlighted salient issues and provided evidence of best practice in selected Malaysian companies. The outcome from participant's perceptions becomes a fundamental resource explaining the impact of design on consumers, and illustrates the real values at work surrounding market impact and the relationship between design and brand.

Overall, this study has been able to determine to a certain extent the level of commitment in design and practice towards the promotion of the individual brands in selected Malaysian SMEs.

7.7 Research Contribution

The most significant contribution of this research is the development of understanding of current design practice in the selected SMEs, particularly for its roles and functions in the creation of SMEs brands. The transformation from a copying or imitating culture to a creative design culture signifies an important change in the design perceptions and practices of the surveyed SMEs. The research provides new knowledge of current practices, of design awareness and evidence of an acceptance of the role of design in Malaysia, particularly within the SME manufacturing sector. Furthermore new knowledge and original insights into particular aspects of elements of design practice in Malaysia have also been created in this research as describe below:

- The identification of success factors in the selected SMEs through the use of design practice.
- The identification of key influences on design capability for the creation of successful local brands.
- The documentation of design related information from the comparison of design practices between the two countries.
- The significant relationship between the roles of design, design understanding and design practice from the comparison between the two countries.

- The establishment of factors that contributed to how Malaysian brand strategies relate to global strategies.

Further to the research finding, and the significant contribution of design practice to the SMEs, selected findings were utilised in the organisation of the ‘Branding Transformation through Packaging Design Forum’, a collaboration project with TESCO Malaysia and SMIDEC for Malaysian SMEs. The responses gained from participants in this Forum confirmed the usefulness and veracity of the findings and their applicability to SMEs, particularly in the manufacturing sector. This research therefore is being used as a useful reference in educating SME management on the influences of design on consumer purchasing decisions. The contribution of this research may be accessed by those involved in SME management, in-house and consultant design practitioners, government agencies, design organisations and design institutions.

While this thesis provides an understanding of the way the consumer and the public recognise and value design, it also would assist and encourage SME management to appreciate the importance of design to their company. In consequence, the research would also provide a reference and guidelines to best practices for the Malaysian SMEs especially in the manufacturing sector and thus help establish the role of design in this competitive market.

7.7.1 Novel Aspect of the Research

The research looked into design practice in selected Malaysia SMEs, focusing on the management approach and particularly designs management in company to identify the factors that contribute to and affect design practice. The survey finding contributed to the formulation of the interview questions. The outcomes of the research have identified key differences and similarities between Malaysia and UK in regards to design maturity, cultural representation and design practices (see Table 7.2 and Table 7.3).

Differences Between Malaysian SMEs and UK SMEs	
MALAYSIA	UK
<i>Design Management</i>	
<ul style="list-style-type: none">▪ Majority of surveyed companies were unaware on the role of design management▪ Lack of understanding in the contribution of design management as strategic driver for business▪ Lack of efforts in incorporating role of design in strategy.(eg. failure to incorporate design managers as part of strategic management team)▪ Decisions on design commonly overruled by senior management	<ul style="list-style-type: none">▪ Has established the role of design management in company▪ Greater understanding on impact of design management on business▪ Implemented necessary efforts to ensure design is given due recognition in the company (eg. involve design managers in strategic management team)▪ Decisions on design are control by design manager and senior management

Product, Design & Development	
<ul style="list-style-type: none"> ▪ Engaged designers as multi-disciplinary team ▪ Lack of design consultants that specialise in product/industrial design. ▪ Maximise the use of in-house designers, ways to cut down company's expenditure and stop the leak of information to competitors ▪ Based on reverse engineering, localisation and product modification ▪ Majority surveyed companies claimed a modification on existing products and foreign technology ▪ Various quality products (low and improved quality), however they are limited choice of designs ▪ Lack of willingness to develop novel products despite the appropriate design knowledge 	<ul style="list-style-type: none"> ▪ Engaged specialised designers ▪ Many design consultants that specialise in product/industrial design. ▪ Besides employed in-house designers many UK companies also engaged external design consultants for more fresh or up to date ideas ▪ Based on market demand and customers trends ▪ Development of new own products with specific markets needs ▪ Upgrade quality and release new range of product lines ▪ Constant efforts in developing new novel ideas in meeting global competition
Customer, Marketing & Branding	
<ul style="list-style-type: none"> ▪ Customers or end-users excluded in the NPD process ▪ Most surveyed companies do not conduct comprehensive market research to determine customers demands ▪ Price as a factor to determine market capability ▪ Improved awareness on the important of branding 	<ul style="list-style-type: none"> ▪ Customers or end-users oriented (commonly involved customers in the NPD process) ▪ Market research was conducted to determine customers demands ▪ Quality and product differences as main factors to determine market capability ▪ Upgrade effort to branding new products and re-branding of established products

Table 7.2; Differences Found Between Malaysia and the UK Based on the Research Findings

Similarities Between Malaysian SMEs and the UK SMEs

Design Management

- Design practice shown improvement in the way design is managed. Hence, this positive practice placed design as an important agenda in the industry within the two countries
- Some participants suggested that management of design in company should include all levels of personnel not just designer or design team only

Product, Design & Development

- Similar factors used in the selection criteria for design consultants – quality of work, previous work experience and the reputation
- Surveyed companies in the two countries involved design throughout all stages of manufacturing process
- Designers and design consultants roles similarly defined – aesthetic specialist, project co-ordinator and design mediator within the multi-disciplinary team
- Surveyed participants agreed that design has a significant role in contributing and modelling their company future

Customer, Marketing & Branding

- Due to lifestyle improvement, customers are willing to pay higher prices for better quality products
- This lifestyle improvements also have raised the bar for companies to increase marketing efforts
- Branding influences purchasing decisions

Table 7.3; Similarity Found Between Malaysia and the UK Based on Research Findings.

Therefore, the contribution of this research has provided a novel compilation of the participants’ views, perceptions, description and suggestion as related to design, particularly on design practice within the Malaysian SMEs, hence;

- The survey in this research field.
- The case studies results which were compiled and written.

- The identification of elements in which the approach of the two countries is compared and contrasted.
- The creation of the model that was synthesised and adopted for its applicability to the Malaysian context (see Figure 7.1 in this chapter).
- Creating a record of the research by introducing the thesis.

In consequence, the research result would provide a reference and guidelines for best design practices for the Malaysia SME not only in the manufacturing sectors, but also in government and private bodies and thus establish the role of design in this competitive market.

7.8 Future Research

The mixed method approach undertaken in this research has established an example of academic documentation that provides in-depth analysis of design practice in selected Malaysian manufacturing SMEs. The investigation can be extended to potential further in-depth research, looking at design management in larger Malaysian companies. This would lead on from the current research which identified that design has not been a part of strategic management thinking in selected surveyed SMEs. Further to this research, it is essential to learn more about the issue of the integration of design in management. This would appear to suggest that perhaps it is the most fundamental design issue of all.

Future research could discuss why design management matters to Malaysia's international competitiveness. The challenges come not only from China and

India but possibly neighbouring countries such as Vietnam and Thailand. Much evidence shows that the management is the key skill that can make a clear difference in business. Subsequently the strategy can turn into action and make things happen in a way consistently in line with the objectives of the company. It is hoped that the in-depth discussion in this thesis will provide the impetus towards furthering a design management study.

Furthermore, with the announcement made by the Malaysia government to place Malaysia Design Council directly under the newly established National Innovation Council (MRM, 2006) a more proactive role is expected. In addition, more aggressive role mainly by MDC/MRM in developing a certain standard of best practice in companies' management may makes Malaysia more competitive in world markets. Subsequently the expected, new reporting structure and hierarchy can ultimately form a distinguishing design policy for the country which will ensure industry acceptance of the importance of design.

As a continuation of this study, further research proposals would provide a comprehensive view of research related to design management. In fact, the proposed Design Best Practice Model can be further tested and verified for its applicability. More case studies would be useful as this would assist in providing valuable insights and information concerning the design management, and relating this to other design research and practices.

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Appendix 1

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A COMPARATIVE STUDY OF DESIGN PRACTICE IN MALAYSIA AND THE UK
WITH SPECIAL REFERENCE TO THE CREATION OF SME/SMI BRANDS.

SURVEY QUESTIONNAIRE (Manufacturing Sector)

Your views and answers may not represent the common practice in your project or company. A brief report of the findings will be made available for those participants who are interested. Complete confidentiality is assured and the survey result will be used strictly for the academic purposes of this study.

Your Details

Name	
Email	
Phone Number	

Gender	Male	<input checked="" type="checkbox"/>
	Female	<input type="checkbox"/>

Ethnic Group	Malaysian	
	• Malay	<input type="checkbox"/>
	• Chinese	<input checked="" type="checkbox"/>
	• Indian	<input type="checkbox"/>
	Other:	<input type="checkbox"/>
	European	
	• White	<input type="checkbox"/>
	• Black	<input type="checkbox"/>
	• Asian	<input type="checkbox"/>
Other:	<input type="checkbox"/>	

Age	Below 20	<input type="checkbox"/>
	21 – 30 yrs	<input checked="" type="checkbox"/>
	31 – 40 yrs	<input type="checkbox"/>
	41 – 50 yrs	<input type="checkbox"/>
	51 – 60 yrs	<input type="checkbox"/>
	Above 61	<input type="checkbox"/>

Occupation / Previous Experience:

Design Manager	<input type="checkbox"/>	Type of Business:	CHILDREN PLAYGROUND EQUIPMENT
Designer	<input type="checkbox"/>		
Marketing Executive	<input type="checkbox"/>	Company Name:	DSP (M) SDN BHD
Branding Consultant	<input type="checkbox"/>		
Other: Business Development Manager	<input checked="" type="checkbox"/>		

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ABOUT YOUR COMPANY

1. Do your company have its own in house design department?

Yes ☒ No ☐

2. If Yes, how many employees are there in that department?

Below 5 ☐ 6 - 15 ☒ 16 - 30 ☐ 31 - 50 ☐ Above 51 ☐

3. If No, does your company out source or engage any needs of design to any design consultant?

Yes ☐ No ☒

DESIGN, BRAND and INDUSTRY

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important.

4. How do you rate the following criteria when selecting the design consultant?

	1	2	3	4	5
Reputation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Service fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Previous work experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Market knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Quality of Work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional comments.	do not engage design consultant - all in house				

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

5. How important is design in your company?

Please rate this question.

Additional comments.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Please tick all the boxes that apply for the following question.

6. In positioning the brand image of your product or services, does your company outsource branding consultant expertise?

Yes ☐ No ☒

Please tick all the boxes that apply for the following question.

7. At what stage in your operation are design considerations brought into play?

- Initial idea generation stage ☒
- Development of prototype stage ☒
- Production stage ☒
- Commercialisation stage (after product has been launched) ☐
- Throughout all stages ☐

Additional comments. (Please specify)

Research - looking into latest development and trends in play equipment world wide.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

8. How do you rate the role of the designer or design consultant in the process of the new product development in your company?

	1	2	3	4	5
Aesthetic Specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Marketing and sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	1	2	3	4	5
Design mediator in the multi-disciplinary team	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Project Co-ordinator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Brand identity creators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional comments (Please specify).

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Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

9.

Design has a significant role in modelling the future of your company?

1

☐

2

☐

3

☐

4

☐

5

☒

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

10.

To what extent do you feel design contributes your company's products or services?
Please rate the question.

Improving the brand identity

1

☐

2

☐

3

☐

4

☒

5

☐

Increase sales

1

☐

2

☐

3

☐

4

☐

5

☒

Recognisable to users

1

☐

2

☐

3

☐

4

☒

5

☐

Cutting cost

1

☐

2

☐

3

☐

4

☒

5

☐

Additional comments.

Increase value of products.

Please tick the boxes based on the scale, 1 indicates very low – 5 indicates very high

11.

Which between brand and design is given the highest priority or investment by your company?

Brand

1

☐

2

☐

3

☒

4

☐

5

☐

Design

1

☐

2

☐

3

☐

4

☒

5

☐

Additional comments.

Local sales - brand more important Exports-
Designs and quality more important - strong
branding controlled by only few major players in
Europe and US.

ORGANISATIONS and DESIGN ENHANCEMENT

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important.

12. To what extent do you think following organisation or awards contribute to enhance the significance of design to the SME/SMI?
Please rate the question.

(a) Answer for the UK participants

	1	2	3	4	5
Government Incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Department of Trade & Industry (DTI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Business Service (SBS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The UK Design Council (DC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The British Design Initiative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Queen's Awards For Enterprise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design Business Association (DBA Awards)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional comments.

(b) Answer for the Malaysian participants

	1	2	3	4	5
Government Incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ministry of Trade & Industry (MITI)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia External Trade Development Corporation (MATRADE)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Medium Industry Development Corporation (SMIDEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia Design Council (MDC/MRM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Malaysia Design & Innovation Centre (MDI)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good Design Mark Awards (GDM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Design & Innovation Awards

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional comments.

Malaysian Authorities awards not prestigious enough - requirments too low - like superbrand and GDM given too frequently to too many people - diminishing its value and prestige.

DESIGN IMPORTANCE in BRAND CREATION

Please tick the boxes based on the scale, 1 indicates not influenced – 5 indicates extremely influenced

13. How much are you influenced by design?

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

14. Do you think design is important in influencing the customers when they choose a product?

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

15. Do you think design plays an important roles in creating a successful brand?

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Additional comments.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

16. Do you agree or disagree with the statements below regarding the importance of design in brand creation.

Design is playing an important role in brand improvement.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Design is playing an important role in brand

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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management.

Design present brand character for key consideration.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Design behaves like an extension of marketing promotion.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional comments.

In malaysian term - most still depend on prices and favourable terms and conditions - payment term, warranty, material specification - design gives the edge only when the initial terms are matched.

PERSONAL PERCEPTION on DESIGN

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

17. Design helps brand to evolve.

1	2	3	4	5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please write why you think so.

In my opinion, in many occasions, designs and styles make such an impact on brand and identity that make its rigid to evolve to cope with the changing taste and environment. Changing the designs at times could change the brand or loses its identity.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

18. Corporate executives think differently from designers in promoting good design values.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please write why you think so.

Corporate executives looks at what is marketable and sellable. Designers looks more at what is nice. Some times what is nice might not be sellable due to cost or functions - The best designers would be those with creativity and a commercial mind.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree.

19. Corporate managers overseeing design must have an artistic sense or creativity.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Please write why you think so.

AS said above, it helps realise a product from concept to reality- and keeps it in reality through proper marketing and brand management techniques.

Please state your opinion in the following question

20. How do you perceive the brand character of your company?

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree.

20. What is your perception on the views below in regards to design and brand?

	1	2	3	4	5
Design is a powerful instrument in establishing a brand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Design makes a brand distinctive in a crowd.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
Design determines a brand's success.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional perception and comments.

In malaysian context, design are important but do not last. There are a lack of respect of intelectual property and patent rights and authorities are not doing enough. Designs are easily copied, concepts are easily replicated with minimal changes. A good design can be copied (at 90% similarity) and sold cheaper and get more results than the original.

Please state your opinion in the following question.

21. Do large corporations place a great emphasis on design than smaller ones?
(Please write)

Not necessarily. I think large corporations go by reputation and branding through previous design success. Individually, design quality may drop but the association or application of the brand to it make its sellable. It's the smaller ones that really have to emphasis on the designs and build a brand around it to grow.

Please state your opinion in the following question.

22. How can awareness of the role design be raised in Small Medium Enterprises (SME) or Small Medium Industries (SMI)?
(Please write)

I think the Malaysian Design COuncil and SIRIM and MITI are a good thing. However efforts are still lacking in getting to the SMEs on what they can offer to the SME. I think the higher education sector have also put much emphasis on the designs education. Emphasis on designs are low due to the ease to "steal" designs (easier to copy people than to think of designs) making many designers redundant are not paid that well here - hence less will be interested. Originality much be protected for the SMEs to stress on human capital and creativity as the lack the economies of scale, the financial power and presences of large corporation. I also think that the quality of designers must improve - many just assume that just because they are good in art or draw well- they take up design courses. I think universities and colleges should work more with to corporate world -especially the SMEs in symbiosis through vocational training and joint development programmes. Sent the students to help the SME in design and branding with lower or no cost - in providing the SME a chance to more incline in design and brand

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building and on the other hand, provide the student more practical training to be more commercially inclines in coming up with practical and applicable designs.

Please **state your opinion** in the following question.

23. How do you maintain the brand character of your company?
(Please write)

Our products - children playground are under the brand "manjaku". We have maintain the brand over the past 10 years. We come up with numerous designs using the highest quality materials - safe for children and durable to last over time. Our designs stresses on strong color combinations and creative plays that provide educational value, excitement and physical development. Over time our designs improve and varies to customize to customers needs and everchanging taste and trends and updates of safety standards. However, the company DSP have always overshadowed our brand name due to our positioning as a park and playground solution provider rather than a marketer of a branded product.

Please **state your opinion** in the following question.

24. Drawing from your experience, please briefly suggest ways in which, in your view, the management of design can be improved.
(Please write)

In many ways, children playground industry in Malaysia have become a standard product - developers buys them, councils and government are all aware of its importance and the players in the market. However, due to lack of enforcement and creativity - designs are always matched fbetween competitors to provide "equivalents" and most are drawn to the concept of following the trends overseas.
I think we need to break the cycle - start thinking how to tell the world how the playground should be rather than playing second fiddle.
We should break free from the constraints of regulations and safety limitation to design what children really wants, not what we suggest they should play in.
THe designers should look more into working with children, child psychologist, sociologist and education experts to give the children what they want. - educational and moral values through fun and excitement.

Please place a tick in this box ☒ if you would like to receive a brief report of the findings of this study. Please provide me with either your postal or email address that I will use **ONLY** for this purpose:

a) Your postal address:

Or

b) Your email address: *(for an electronic version)*

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Thank you for your cooperation for taking the time to answer this questionnaire.

Please now return this questionnaire to me via email at:

Email: - noorhayatisaad@yahoo.co.uk

or alternatively you may also post the questionnaire to:

**Noorhayati Saad,
Researcher,
Birmingham Institute of Art and Design,
University of Central England (UCE),
Cooperation Street, Gosta Green,
Birmingham B4 7DX,
United Kingdom.**

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A COMPARATIVE STUDY OF DESIGN PRACTICE IN MALAYSIA AND THE UK
WITH SPECIAL REFERENCE TO THE CREATION OF SME/SMI BRANDS.

SURVEY QUESTIONNAIRE (Design Company)

Your views and answers may not represent the common practise in your project or company. A brief report of the findings will be made available for those participants who are interested. Complete confidentiality is assured and the survey result will be used strictly for the academic purposes of this study.

YOUR DETAILS

Name	
Email	
Phone Number	

Gender	Male	<input checked="" type="checkbox"/>
	Female	<input type="checkbox"/>

Ethnic Group	Malaysian	
	• Malay	<input type="checkbox"/>
	• Chinese	<input checked="" type="checkbox"/>
	• Indian	<input type="checkbox"/>
	Other:	<input type="checkbox"/>
	European	
	• White	<input type="checkbox"/>
	• Black	<input type="checkbox"/>
	• Asian	<input type="checkbox"/>
Other:	<input type="checkbox"/>	

Age	Below 20	<input type="checkbox"/>
	21 – 30 yrs	<input type="checkbox"/>
	31 – 40 yrs	<input checked="" type="checkbox"/>
	41 – 50 yrs	<input type="checkbox"/>
	51 – 60 yrs	<input type="checkbox"/>
	Above 61	<input type="checkbox"/>

Occupation / Previous Experience:

Design Manager	<input type="checkbox"/>	Type of Business:	Design Consultant
Designer	<input type="checkbox"/>		
Marketing Executive	<input type="checkbox"/>	Company Name:	Idea Seed Desgin Sdn Bhd
Branding Consultant	<input type="checkbox"/>		
Other: General Manager	<input checked="" type="checkbox"/>		

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ABOUT YOUR COMPANY

1.

How many years the company has been established?

Below 3

☐

4 - 9

☒

10 -15

☐

16- 20

☐

Above 21

☐
2.

How many employees are there in the design department?

Below 3

☐

4 - 9

☐

10 -15

☒

16- 20

☐

Above 21

☐
3.

How many designers, engineers and marketers are employed in your company?

Designer

6

Engineer

2

Marketer

1

DESIGN, BRAND and INDUSTRY

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important.

4.

How do your client rate the following criteria in selecting the design consultants?

Your company reputation

1

☐

2

☐

3

☐

4

☒

5

☐

Your company service fees

1

☐

2

☐

3

☒

4

☐

5

☐

Your company previous work experience

1

☐

2

☐

3

☐

4

☐

5

☒

Your company market knowledge

1

☐

2

☐

3

☒

4

☐

5

☐

Your company quality of work

1

☐

2

☐

3

☐

4

☐

5

☒

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

5.

Do your clients knowledge in design is important and contribute in the task given?

1

☐

2

☐

3

☐

4

☒

5

☐

Please rate this question and additional comments.

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Please tick all the boxes that apply for the following question.

6. In positioning the brand image of your client's products or services, does your company provide branding expertise or advice?

Yes ☒ No ☐

Additional comments

Please tick all the boxes that apply for the following question.

7. At what stage in the operation does majority of your clients bring design considerations into play?

Initial idea generation stage	<input checked="" type="checkbox"/>
Development of prototype stage	<input checked="" type="checkbox"/>
Production stage	<input checked="" type="checkbox"/>
Commercialisation stage (after product has been launched)	<input type="checkbox"/>
Throughout all stages	<input type="checkbox"/>

Additional comments. (Please specify)

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

8. How do you rate the role of the designer in the process of the new product development in company?

Aesthetic Specialist	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Marketing and sales	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Design mediator in the multi-disciplinary team	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>
Project Co-ordinator	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>
Brand identity creators	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Additional comments (Please specify).

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Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

9.

Design has a significant role in modelling the future of your client's company.

1

☐

2

☐

3

☐

4

☐

5

☒

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

10.

To what extent do you feel design contributes your client's products or services?
Please rate the question.

Improving the brand identity

1

☐

2

☐

3

☐

4

☒

5

☐

Increase sales

1

☐

2

☐

3

☐

4

☐

5

☒

Recognisable to users

1

☐

2

☐

3

☐

4

☒

5

☐

Cutting cost

1

☐

2

☐

3

☐

4

☒

5

☐

Additional comments.

Please tick the boxes based on the scale, 1 indicates very low – 5 indicates very high

11.

Which between brand and design is given the highest priority or investment by your clients?

Brand

1

☐

2

☐

3

☐

4

☒

5

☐

Design

1

☐

2

☐

3

☐

4

☐

5

☒

Additional comments.

*Branding is a long term investment, it involves also sales and marketing .

*Design investment can be only for short term and every design project comes with a target, it can be cutting cost, product material replacement, or a new design that is able to help in manufacturing processes.

ORGANISATIONS and DESIGN ENHANCEMENT

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important.

12. To what extent do you think following organisation or awards contribute to enhance the significance of design to the SME/SMI?
Please rate the question.

(a) Answer for the UK participants

	1	2	3	4	5
Government Incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Department of Trade & Industry (DTI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Business Service (SBS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The UK Design Council (DC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The British Design Initiative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Queen's Awards For Enterprise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design Business Association (DBA Awards)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional comments.

I am not sure.
However, government incentives is a big encouragement to SME.

(b) Answer for the Malaysian participants

	1	2	3	4	5
Government Incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ministry of Trade & Industry (MITI)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia External Trade Development Corporation (MATRADE)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Medium Industry Development Corporation (SMIDEC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia Design Council (MDC/MRM)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia Design & Innovation Centre (MDI)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good Design Mark Awards (GDM)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Design & Innovation Awards

☐

☐

☒

☐

☐

Additional comments.

i believe even these bodies have put great effort, but it is still not enough.

DESIGN IMPORTANCE in BRAND CREATION

Please tick the boxes based on the scale, 1 indicates not influenced – 5 indicates extremely influenced

13. How much are your clients influenced by design?

1

2

3

4

5

☐

☐

☐

☒

☐

Additional comments.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

14. Do you think design is important in influencing the customers when they choose a product?

1

2

3

4

5

☐

☐

☐

☒

☐

Additional comments.

However, it is very depending in what , where , which and who.

Please tick the boxes based on the scale, 1 indicates not important – 5 indicates extremely important

15. Do you think design plays an important roles in creating a successful brand?

1

2

3

4

5

☐

☐

☐

☐

☒

Additional comments.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

16. Do you agree or disagree with the statements below regarding the importance of design in brand creation.

Design is playing an important role in brand improvement.

1

2

3

4

5

☐

☐

☐

☐

☒

Design is playing an important role in brand management.

1

2

3

4

5

☐

☐

☐

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☐

Design present brand character for key consideration.

1

2

3

4

5

☐

☐

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1

2

3

4

5

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Design behaves like an extension of marketing promotion.

1

☐

2

☐

3

☐

4

☐

5

☒

Additional comments.

PERSONAL PERCEPTION on DESIGN

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

17. Design helps brand to evolve.

1

☐

2

☐

3

☐

4

☐

5

☒

Please write why you think so.

APPLE computers is a very good example to answer your question.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree

18. Clients think differently from designers in promoting good design values.

1

☐

2

☐

3

☒

4

☐

5

☐

Please write why you think so.

they may be a product expert, but they are not design expert.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree.

19. Clients overseeing design must have an artistic sense or creativity.

1

☐

2

☐

3

☐

4

☐

5

☒

Please write why you think so.

Please tick the boxes based on the scale, 1 indicates strongly disagree – 5 indicates strongly agree.

20. What is your perception on the views below in regards to design and brand?

Design is a powerful instrument in establishing a brand

1

☐

2

☐

3

☐

4

☐

5

☒

Design makes a brand distinctive in a crowd.

1

☐

2

☐

3

☐

4

☐

5

☒

Design determines a brand's success.

1

☐

2

☒

3

☐

4

☐

5

☐

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Additional perception and comments.

Design makes a brand to be value added.
Design helps a brand to grow.

Please **state your opinion** in the following question.

21. Do large corporations place a great emphasis on design than smaller ones?
(Please write)

Well.... in my opinion, there is nothing to do with size of a company. Depends on a company's direction and enhancement.

Please **state your opinion** in the following question.

22. How can awareness of the role design be raised in Small Medium Enterprises (SME) or Small Medium Industries (SMI)?
(Please write)

Education for SME and token from government for SME . Also promote ODM in stead of OEM.

Please **state your opinion** in the following question.

23. How do your clients maintain the brand character of their company?
(Please write)

Insist of producing products that are able to represent their brand only.

Please **state your opinion** in the following question.

24. Drawing from your experience, please briefly suggest ways in which, in your view, the management of design in SME/SMI can be improved.
(Please write)

Normally these companies do not have a plan for the design of their products, they will start to look for someone to develop new design only when they find their product appearance is too far outdated.

So in order to improve the design management;

1. To understand exactly how industrial design can benefit them
2. Understand the right timing to develop a new design
3. To have product planning and forecast development
4. To look for a professional design company for design advises.

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Please place a tick in this box ☐ if you would like to receive a brief report of the findings of this study. Please provide me with either your postal or email address that I will use **ONLY** for this purpose:

a) Your postal address:

Or

b) Your email address: *(for an electronic version)*

antonio@ideaseed.com.my

Thank you for your cooperation for taking the time to answer this questionnaire.

Please now return this questionnaire to me via email at:

Email: - noorhayatisaad@yahoo.co.uk

or alternatively you may also post the questionnaire to:

Noorhayati Saad,
Researcher,
Birmingham Institute of Art and Design,
University of Central England (UCE),
Cooperation Street, Gosta Green,
Birmingham B4 7DX,
United Kingdom.

Appendix 3

Semi-Structure for In Depth INTERVIEW QUESTIONS to Manufacturing Companies

1. Please describe your position and list your responsibilities at *Green Continental Furniture (M) Sdn. Bhd.*
2. Please describe the way you manage design in your company or department.
3. Please describe the roles played by design in your business.
4. How do you see the value of design in your business?
5. What are the factors that influenced your company;
 - (i) to have an in-house R&D unit? or
 - (ii) to engage a design consultant or the design consultants?
 - (iii) Another (please describe)
6. What difference do you think on the impact of design for your company between having an in house designer, or outsourcing it to a supplier or to a design consultant?
7. Have you experienced any changes in the amount of growth of design within your organisation in the past year or so?
8. Having to use design, do it effect the change in your products prices or compete in the new markets?
9. Would you say design is a tangible or intangible asset to your company?
10. Do you think design will play a role in maintaining your company's future? If Yes or No, please explain!
11. Does investing in design improve coordination between marketing and production in your company?
12. Do you think that design provides consumer benefits?
13. Does design have a natural connection with consumers?
14. Is design seen as a core competency in your company?
Please expand on your answer.
15. Is the success of the brand solely dependent on promotion?

- 16. Does design have a role in marketing a brand?**
- 17. Does design capability influence Malaysian SME brands?**
- 18. Do you think senior management have a different view of design from professional designers they employed?**
- 19. Does your company need more 'design knowledge'?**
- 20. Where might this knowledge come from?**

Appendix 4

A COMPARATIVE STUDY OF DESIGN PRACTICE IN MALAYSIA AND THE UK WITH SPECIAL REFERENCE TO THE CREATION OF SME/SMI BRANDS.

In Depth INTERVIEW QUESTIONS To Manufacturing Companies

(With (M) Sdn. Bhd – Manufacturer and Supplier of Lighting System).

Today, Wednesday, 8 November 2006 at 4.30pm Malaysia time, I'm having an interview with Miss who currently working as a MANAGING DIRECTOR at (M) Sdn Bhd.

Thank you very much for your time. As I mentioned over the email, this particular conversation is recorded to enable me to transcribe the information that you will provide and if you agreed that I could disclosed this information in my thesis that would be great or if you have any hesitation, then you could say no to disclosed this information. As I will only name it after participant e.g.: A, B or etc.

Yes!

You may hear some echo coming from your voice due to the system of recording I use.

Let me begin this interview by expressing my gratitude for your valuable time especially coming from a managing director of Straits Design Sdn Bhd and I believed you must be very busy throughout the year and now... this interview is taking place with me (Yati) the researcher and Ms Tay Chooi Moon the managing Director of Straits Design Sdn Bhd a manufacturer & Supplier of Lighting System.

Ms Tay, if you wouldn't mind, could you please describe your position and list your responsibilities at Straits Design Sdn Bhd.

I am the Managing Director of Straits Design Sdn Bhd. Basically responsible for all administration, sales & marketing activities in this company.

I am aware that Straits Design Sdn Bhd has a parent company called Shedder in Belgium. Could you please explained further on that licence or transfer technology sort of agreement that you have in Sept 1990.

Yes! We have a joint venture not an agreement setup in 1990 to manufacturer and market range of public lights fixture. Of course to support this Joint Venture we assign a transfer of technology agreement to manufacturer this setting under licence and so in such working arrangement all R&D matters comes directly from head office in Belgium and all other operational and manufacturing matters are taking care by the local management here in Malaysia.

IC! Would you mind to actually on the number of employees in the company and what will be the percentage of ownership that Straits Design (M) Sdn Bhd owns in general?

Ahhh the principal own 30% of Straits Design the rest being local partners We have staff strength between of around 30 people in the administration office side and we have fluctuation 30 to 35 factory workers on the production floor side.

IC That is still consider under the category of SME in Malaysia by definition of SMIDEC

Yes!

You did mentioned that... because it under licence and most of the design coming from Belgium directly. So is there any such thing as you would have initiate or invent any new products meant for local market basically?

The principal has a very wide range of products. So in the local market we are the one who decide which one of this... I mean within these rangers are suitable for our country, and then we localised them in the matter of cause to make the goods more affordable, that we can afford to offer better delivery time and

also better follow up service in the future. I think that is the reason why we even bother to do this locally. Otherwise, like most people trading activities would be sufficient.

IC so with this extra challenges do you actually setup your own in-house department in Straits Design Ms Tay

Yes because our business is rather specific, meaning our customers are basically consultants, they are the designers and so when we sale our products we have to give design supports for the reason that if the product are specific So we must tell people how best to used this or optimised the used of these products from the point of view of performance, from the point of view of maintenance, point of view of energy efficiency. These are all very pertinent and important subject to look into whenever we offer our lighting system to consultants.

IC so...maybe with the existing of design team in your department be it whether is small or big figure. Maybe you could actually describe the way you managed design in the company.

Haa... well there are two type really of in term of design I would say they are two type of design 1. Is technical design. We are strong that is our core business. So... we have for example an application engineers who does nothing but study into what are the best. How best to used particular fixture, how best to put them you know for the lighting system that we provides. To this all our salesman 5 to 6 of them are equally trained to be conversant in the design system and then of cause in another section which is more creative they would be asked to create or design to light a building or to creative an ambient for the lighting of specific area that we normally work a lot with external designers but using our own products.

IC so would this design tend to be much more important sort of factors in company maybe you could describe furthers on the role-played by design in your business.

Yaa...It is everything actually if you talk about important or not important is everything, we don't like to go out and say do you want to buy one fitting for example and this is the price. We don't start with that we always start with what is the lighting problem? Are you looking for a solution? So we start with design to overcome or to provide a solution to the client's needs or requirement if we could assist their problem. So for us design is everything because our products are sold with a premium in the market.

Emmm..I mean I thought very enlighten you know, an eye opening from someone who know very much on the business part of it and can make a certain decision from this sort of discovery. Because quite a number of situation when I interview participants sometime they are not or maybe unsure of what sort of design significant can design play into their business role. So is very refreshing to get very valuable point of views on that particular statement you mentioned earlier. So in the other hand you would see they are different value on design in your business they are more valuable stuffs that you would be able to see right?

Yes! That's right. I mean if we would have to managed design like this on the large scale. When I say large scale almost every single sales personnel is at least knowledgeable to certain level. So we actually spent a lot of time and effort in the resource training. I mean to training, continuous training of our staffs, our sales staffs. Not just in commercial matters but in other aspect of the work. Whether is technical or creative?

IC When you mentioned about the technical side of the design. They are among engineers as well as sales people who are be able to give your consultants or your clients a direct solution to the system lighting that they want. So purely 100% on creative or aesthetic part of design you definitely engaged the outside consultant as you mentioned earlier. So is there any single creative person in the department itself?

At this moment we are actually don't. If we really need some for critical creative input we have to liaison with firmly lighting consultant. For prestige job for example: If you have a very high profile building. Reputation is everything so we will not try to do it with ourselves although for a simpler design we probably have enough experience in the group even if is not within Malaysia, within our own group, the international grouping we can handle it ourselves. But no if is something that is high up profile in nature

for example Lake Garden project in Kuala Lumpur. This is high profile area. It is a prestige area so we work with lighting consultant.

Something like the one you have than in KLIA?

As Well. Yes!

So since you have both sort of service provider, engaging design consultant or agency to provide you with creative input fresh ideas as well as your technical capabilities in-house R&D unit. What will be the factors that influence to have both sort of to engage both units for that instant?

Err. I think that factors that influence me whether I will use my in-house capabilities or to engaged design consultant. The most important factor is the demand of the clients really. The first is the demand of the clients. How demanding he is? At which level does she want us to provide? Provide the lighting design? And then, of cause on our part, our own capability. You see... if the building we know if this particular building will be best very well saved by using our own or majority part our own range of products. Then, they very confident, that we could deal with it ourselves. But if we think the architecture or the structure of building that something that is trickier and then I would decide to work with external lighting consultant. All right I think these are the main major factors. That's right! And also because you see for this kind of jobs they demand customization of products. So you may have range of product existing but because the job or some job called for already been more characteristic You know additional characteristic. So this kind of customization will influence very much whether we need to do it in-house or we need to get outside help.

So with the engaging outside agency for example do you have any time efficiency problem in the sense? That to speed up certain things for example... because outside agency would definitely may have their own time frame and limitation in getting back to you earlier.

Yaa. That is why actually or that is one of disadvantages of using the outside consultant. They have their own schedule whereas if I use my own in-house I can prioritise and I put special attention or put them in the queue or I can jump queue for my own project. Yaa I would say the is one of the major factors.

In the other hand a lot of other company who actually develop more innovative products. Emmm I not saying that the light system won't be innovative in the sense. Would you have any worry about confidentiality in term of leaking information across to your other competitor around? Or maybe there won't be so many competitors around basically?

I think that if you are in Asia, there is no such thing as no competitors. Even if at our level, I would like to say that we tried to be at higher range, which means my competitors are not so many but we have a lot of copier. So you may put in the design and it might be copied. That means is your design but finally is not your products. We struggled with this all the times because I think is that in this country there is not enough awareness of the advantages of good lighting system and at the moment a lot of them believed a light is just a light so what are the difference if I buy a light from Puchong for example and Puchong can reproduced anything if you have something for them to copied they can copied but they do not know basically much of what they are coping. So other aspect like reliability of the equipment, for the long term concept and use of the clients. Always that something that would be lost. So yes I think that the private part how to keep the design confidential but is not possible Pn Noorhayati. Is extremely difficult in Asia.

So imitation is become part of the design culture in Asia! Would you agreed with this statement?

Yes! I think there is of cause just because we are so afraid that we would be copied of that does not mean we not press a head to do what we should be doing, which is to lead the market. So if you would say I try to be a little bit optimistic. I am teaching the market something.

We need more people like you who think this way rather than just looking at short-term profit making.

Yes! Yes! In a way I see this is the way helping the industry grow, somebody has to lead. So if all of us are so afraid to be copied and keep all things close to our chest than there are nothing to develop. You know!!!

Emhmm..Well the arguments factor is that a lot of my current respondents they are always claimed that the seeing things of being copied is one issue, but imitation is something that they accept the fact, something that they don't deny. That is part of the culture, part of their industry lifestyle in the way that because innovative idea is not last long due to the patent system enforcement that take longer time and there is no sort of level of respect to intellectual property is much less compare to some other European countries. So the fact that copied as part of strategy in their business.

Yes! That is right! So the only one strategy to fight back and for me is education. We just continuously try to educate our customer. Is the advantageous of buying original against copied these to buy from people who know what they are doing from buying from people who really maybe know only 20% or 30% of what they are doing.

Well I believed with your efforts, God Bless You. You know hopefully the business growth as much in future.

I need that!

You may have answered some of these questions especially in regards of my question number 6, which is what difference do you think on the impact having to have your own in-house designer or out-source to a supplier or design consultant. On the other impact that you may foresee because you are fully aware of the two. Maybe you can elaborate further on this?

I didn't get you.

You are fully aware as you mentioned earlier on optimizing or make full used of the two between your in-house people and out-source with other supplier. What are the further difference on the impact from having both services?

Well! Beside time factor you know, that you can control if you doing it in-house, the other factors is that we know our products best. So we know which is the most economical solution. If we use our own products, which is the best performance in term of performance and the optimization of the system and the most energy saving for example. So if we do in-house we are able to actually utilize the strength, entire strength of the particular product of that project. Whereas, a lighting designer might not able capitalised the strength of the fitting because they could not. It is impossible for them to know the products of the suppliers. You know what I mean? So I think that is the impact differences between the designs that done in-house by the manufacture with the one that we have to ask the lighting consultant to do.

That is fair enough! You understand in term of making the best or giving the best solution in term of material plus the design itself.

Yes! Because we know the philosophy of the design that goes into... The philosophy and the concept of the design that goes into the particular model. Why we make it like this? You know, and not like that. So therefore these are the strength of that equipment. And used this strength to maximised let say, the job/project.

Ehm Added to it based on your experience being the Managing Director and own certain amount of share in the company. I mean if you make... May I OK to ask you personally how long have you been in this business beside the want that I knew since 1990 since you signed an agreement with the Belgium parent company. How long have you set up Straits Design Company itself?

Straits Design was setup in 1990 as a joint venture with the principal. But you know, we were... I am involved in lighting since 1983.

That's long.

And we were working with the principal under multinational for the last, let say 3 years maybe 1987 to 1990. Before... that means my principal was represented here by a trading company before we took it off and start it as joint venture operation.

So as a trading company you was the sub contractor by the parent company?

No! No! I was working previously in the trading company as the Manager of the Lighting section.

IC it was not starting as a sub-manufacturer by the Belgium company. So it was purely a trading company.

At that time, Yes!

Emh. So you have been in lighting business for long. Having you to experience any changes in the amount of design growth in your business within your organisation alone in the passed years?

Well! Yes! Before we came in, people were selling fitting by voltage you know, because our core Business is Streets Lighting for example. People were selling...what do you want? 150 watt lantern or 200 watt lantern and we go and notified, why do you want 250 watt lantern and not the 150 watt lantern? Why not 400 watt lantern. We tell you why need these voltage. So we reverse and we change the style of looking at street light in the country. Of cause this is the result of monopoly earlier that was 1 brand you know that is either Philip or Sont. Philip is no longer interested with street lighting so left the whole street lighting market to Sont. So is easy, everybody will go for this brand. Quite monopolistic at that time.

Emhh .OK!

So nobody question anything you, if you know what I mean. Dealers, it was sold through dealers for example. Dealers do not want to know anything, they want to know the least and make the most. That what dealers are there for. So when we came in we change that and in my business dealers figure is very-very low in the important of my marketing structure.

Emh so you are doing the reverse sort of marketing strategy in the way to educate or energy saving rather go by voltage.

Yes! That's right! You see public lighting is for the public. So for the public there are a lot of considerations in term of safety consideration, there is economical consideration, there is efficiency consideration, there is maintenance consideration. All these were never discuss in the 'earlier way of doing or selling say streetlight and we reverse that.

So it is totally new sort of things in the market when you deal and strategise the selling concept.

It actually is not new is just that those involved not doing it right.

Or maybe there are not well educated enough to put it right for the benefit for the Malaysian public.

Yaa! That is right! That is right!

Maybe as long there got the big tender and their pocket is fill up that is the main thing. Without considering the factor in term of economical factor or safety factor, maintenance factor that the council or the "bandaraya" (council) would have to go through.

Yaa! That's right! That's right! On one hand the dealer don't want to know so much, on the other hand the designer was not really aware of what they should be looking for when they were doing, dealing with public lighting project. So we came in to create the awareness that they have very important designer very important role to safeguard the interest. Public lighting is to take care of safety of people and also tax payer money. You know we all pay assessment! Ya! We are all deserve good lighting.

Something... Inline with the surrounding of the area. If I may ask you to... beside maybe I am not too sure what sort of expose to your website. So your main clients are directly JKR or the council or the developer?

Mostly government sector because government pays for the public lighting So JKR for example all the projects. JKR is our major customer or Electricity Board because they maintain the street lantern for all the rural area and all the developers because when they built home they have to provide street lights. JKR takes care of projects the airport, the ports, tunnels and all these things.

IC so only the housing area that will be deal directly by the housing developer?

Yes but ultimately they have to hand over to the authorities so the authorities do have the say.

And I believed that looking at some of the SIRIM specification that your sort of products will go through the SIRIM sort of certification and...

Well in street lighting, SIRIM is just the testing board for our case. They are not an approval body. SIRIM just test. I mean if you tell them to test according to certain specification standard. They will test for you but they are not an approval body. They do not say...I do not approved for this use...NO

So your main approval body is who??? JKR?

Yaa! The respective authorities, JKR, TNB you know!

OK! So having to use design do it effect to change of your product prices or compete in the new market?

Yes off cause! When you have to package with the design you surely have to sell it to a certain premium because you have to amortise cost...the overhead cost of people, the design time needed. So... yes we sell our products to a certain premium in the market.

So basically with design it actually increased the product prices rather then decrease. Even though you may give a solution of using different material which is cheaper material, and economical way with good aesthetic design and technical design.

Yaa, I think there is very hard to keep it... let say competitive on the cheap level and still be able to give a high design input because when you are a designer you automatically are obligated to look at material in another lights, isn't it? You wouldn't want to work with too cheap material for example because the problem will come back to you so that is why the perpetual cycle that as long as you have design input or even your basic cost of material cannot be too cheap.

In term of durability consideration.... that you are looking at??

Yes! That's right, that's is right. You cannot be a designer than don't pay attention to all these things.

But some good designers able to resolved or solve the problem in the way that suggesting because they have good understanding of material processing or engineering skilled based processing are good enough.

Yes! Yes! That is provided that your competitions are all at the same level.

Emmhhh

Right! But in our case for example; our competition unfortunately they are very few parties here that will compete with us on that level.

Emmhhh

They just go... you know is cheaper for me to go to China to buy the whole complete illumine and then I just stuff in a lamp and some control gear and I sell it out and is cheap. You know, they do not...my competitor they do not say, ok we also manufacturing now, we also using aluminium now, lets look at certain grade of aluminium perhaps or maybe it is this material that just as good as maybe engineering material are with competitive pricing you know, unfortunately most of our competitors here find the easier way out. Which is to and not pay attention to this and always be pressured by the price.

So the main competition is still the pricing issue so if your clients putting a tender between 2 companies...your company and other company for example, will it boils down back to the price issue or to the design issue?

It will boil down to the price, if there is no consultants who there with certain specification that means there should be a consultant watching to see that all products offered must meet a certain benchmark. I mean there is a certain sort of specification. If there is no consultant to do this then the client cannot be protected from cheap products. They can't! Because...they will just look at the price. But, if the project has a consultant who is more or less familiar with the different type of fitting or different grade of fitting that available for the client's used and to consider the client long and short term goal...then yes I think that will be very difficult it will only be the price. Fortunately in Malaysia, we still have a big engineering middle level people, who is willing to listen and who is willing to pay the attention to specification.

So that sound good because at the end of day, Straits Design Sdn Bhd work basically with the positive vision towards the best for the public will end up receiving the tender which is good in the way because rather than just at the end of the day it is not so much on what you know especially like you competent/fulvous enough with the specification what is the need in the public and compare to who you know...some sort of political issues sometime does effect the business sort of development.

Yaa... That is right! You know the thing is that...these are... I find that basically thing. It all boils down to knowledge. Even a lot of consultant not had enough knowledge and when you don't have enough knowledge, you cannot convince the clients. And we never fail to convinced the clients if we see them directly ourselves. I think that, it all boils down to that is why we spent a lot of time, trying to give knowledge and trying to give information to consultants.

Thank you very much, yaa... I felt very small like small fish in the big ocean by talking to you having very fulvous person that I am talking too now in the area of what you are doing and I feel an honour to be given the opportunity to speak to you personally ..I mean I learned a lot within a short moment I talked to you now and I got the feeling that you have the charisma of being the Managing Director, taking the lead and convinced your clients and I hope most asset/profit come you.

It is very tough...I tell you! Well I won't give up isn't it haa...At this point Pn. Noorhayati, weather we sell or not I find that is my responsibility to do the right thing.

Not everyone would have the same sort of mindset like you... I mean, as you said if you didn't start initiate them, who will? If no one wants to take the lead to do the right thing, nobody will. At the end of the day what is going to happen to Malaysia. So...we need... You know is very rare from business point of view, people who wants to think on the soft part of it. They will just looking at revenue making and I hope you are not offended with me over my statement over this... Revenue is always the bottom line of any sort of business.

No...off cause...I mean, it is understood that I also have to balance revenue with this but I always believed that for the same number of people who are stubbornly refusing to learn, we would always have an equal number of people who are willing to listen and willing to learn. I don't try to concentrate my resources on finding these people and staying with them.

Good! Rather than I got off tangent, go out of the questions, let me just continue with my research. Would say design is tangible or intangible asset to your company?

I think it is an intangible asset! You can't really push a finger to it but is everyday there.

Is there any further information that you would like to elaborate on this statement?

No! I think this a very straight forward question and in the sense that you do not see design you know and if you would study our account we don't have a faction that say...designers fee or design fee or things like that but it is incorporated in every cost of the company. I think is not something tangible but is there.

OK! Being intangible is there any such allocation or portion in term of percentage that you would put into in term of investment in design in the company?

No, we don't!

So...Do you design playing a role in maintaining your company's future? Could please explained.

It is definitely more and more important. Design will play more and more important role in the company future simply because I think that the market place in the future will become more and more demanding you know and they can demand that clients knows more than few years ago. Salesman 15 years ago not much information but not today, we have and expected to be expert in our field. Because customer has been become more and more...yes they are more demanding in term of advice, in term of value for what they going to pay for, you know so... I think that not just my company I think any companies who want to survive in future. Design has to be more and more important.

OK...That's good! When you realised there are a significant role played by design because it is a part of education as you said, level of education in Malaysia increasing higher but there still a group of companies who have not see the value of design for the core business so this is a part of other things that I may ask you further on suggestion of other things in regards to that but let me just continue.... Does investing in design improved coordination because you're the leader there in the company, but investing in design would it be improved the coordination between production and marketing in your company?

Yes! Surely, Yes! Because when you do that also we do special design or whether we customisation required we have to communicate with the production. So our production people cannot just know ok this the standard production you know to make model (A), this is what you put in first and then the second and then the third. So we have to actually educate them, to have meeting together, we have to explained to them why this particular portion is required or why this part has to be done first and not the other part, why do we want this to be done this way but not the other way. So there is a need. There is a very, very strong need when you do project that has a big design input for communication between marketing and production. And it is good because it means that the production people are force. In my company they have to know a little bit of about the sales activities, that means what the customer want. Must not be doing things because we want to do it like that. Everything we are doing because of the marketplace so we are force to learn that this because of the market place and not just to do things seek of doing for example. And then of cause the marketing people will probably told by the production people hey is not so easy you know, just simply draw and we have to consider this we have to consider this you want a piece of metal here I have to consider (A) I have to consider (B) or (C). So there is a lot more learning process when you have this higher designing input between the two departments.

So may be not directly to your lighting products, which is meant for the public. But do you think that design provide consumer benefit. I mean definitely lighting per say yes but direct public benefit/consumer benefit.

Yes! When you said consumer benefit you mean we are still coordination part isn't it?

No! No!

Or you mean consumer benefit... Aah...OK!

In your opinion! Not as a designer.

I think so because when you design something your concept for the new design whether is design for a product or designer persistent, there is always a concept isn't it. When there is a concept, we design something that design is always into consideration, isn't useful for the people, isn't it practical you know and when we put in this pot then there is a lot of value added in the product and these products as they get more and more value in their own design in their own manufacturing of a particular model for example they will always automatically then to be passed on to the consumer. And this is very clearly seen in the products that just come out in market. They evolve! Design allowed evolution as well to be able to adjust to new lifestyles. And all these definitely all these are done to benefit the consumers.

How about design has a natural connection with consumer? Earlier is about providing consumer benefit but how about design whether has a natural connection with consumer? I mean in team of car for example...

Yes! I think there is natural connection. It is a very natural connection because whenever we buy something you always thinking in term of our need and our environment in which we wants to use them isn't it? So subconsciously we will all be doing that so it is a very ingrained things, it is very natural connection ya.

Unless with certain low standard of living someone would just doing it for the means. But when you would have the purchasing power you would have to see the natural connection with consumer.

Definitely yes! Of course, if you talking really very base need than you cannot afford to have too much design input I suppose.

Emmhh! The reason of asking this question is just simply to ask the personal perception over design and how consumer relate or design relate to consumer. So thank you so much for that perspective because, different people would have different perspective all together and you know it is very valuable in the sense that someone who knows the market. You have been dealing with things and when I look at your parent's company sample of different, different lights that they have produced, tremendous among of lighting system they have there. Just for seek of getting opinion, that 's very valuable. Thank you for that! Is design seen as core competency in your company basically?

Yaa! As I explained earlier we are very much a value add company. And because of that the design has to be the core competency.

So in a lot of situation, the success of brand normally solely depending on promotion and I am not too sure now as I got no access to your website because the other website seems to be down. The server is down and only assessing your parent's company website where your company URL is linked to it, which is the schreder.com. What would be or is there any specific brand like last time you know that Philip or the other company brand being in the market. If I may ask you because I a bit ignorance to actual discover your licensing system, is there any specific different brand name for your different product lines?

Actually No! I think that for Schreder they have always use that brand name, single brand name. OK maybe in certain countries they have to have little change in the name but we are always consistently Schreder, we are known always consistent with Schreder .

So Straits Design Sdn Bhd is only the provider or the supplier for Schreder basically?

Yes! We are the company but we go out and sell. We are known as Sheddor.

IC! So Schreder has been known longer based on the parent company, is the success of Sheddor brand solely depending on promotion or other things?

No! No! In Schreder case their success is actually depended on (how should I say) the acceptance their willingness to trained staffs, to core high level of competency so that we able to target our customer and we definitely not are just focus on promotion alone. No!.

Does design have the role in marketing a brand in your opinion?

Yes I think very much the design play a very important role here in the brand because the design carry image the design communication between the manufacturer the people and the consumer so definitely I think that it is a very important role in fact.

This is another perception that I would require favourable from your end. Do you think design in Malaysia especially will influence the Malaysian individual SME brand in your opinion with the current marketing change and with the development in Malaysia?

I think that the government in Malaysia especially the SME section community is really very aggressive now in trying to encourage SME to also learn how to brand sort of because most of the time we are very preoccupied with just following, establish things or even making things for other people so they are out of branding. So I think that we are learning now. I think that Malaysia is putting a lot of answers now on teaching the SMEs to put in design in perception make product for yourselves you know. Create a main for yourself; develop an image for your product. I think that the government is very much on that track now so I think awareness amongst the SMEs for thin I quite, building up quite well. Let see if they can take of, if truly we will, but its just at what speed, It depends really on the attitude I supposed of the people of the SMEs circle.

So basically that is the vision of the country or the mete effort in term of making sure or suggesting influencing SMEs, but how about certain enforcement, certain text incentive, they claim that there is a lot of allocation can be provide if the company is willing to put investment in design, so certain text incentive can be provided or certain grand can be provided for SME. Are you fully aware of that Miss Tay?

Yeah! But I think that its you see SMEs we are very entrepreneur in fact at sense, we are very busy and a lot of us, we think that we are that we are a spoiled company and you know we are also going up the network and we don't know actually what the SME section has all this grant and all of this programmes to help a smaller company. This is changing, for example, we have taken advantage of the grant to SME wanted to put in our portable design system for 3D models and all that, we were able to get the full use of the SME grant but we somehow appointed by someone else you know and the we didn't really know so we were not in the natural king circle, we didn't know that there were such things. I see now that the, I think this year in particular meeting SME section is very aggressively, meeting up with the SMEs trying to tell them they have organised a lot of networking possibilities, a lot of networking designs even, if they were to participate they go they will alters and they you that this is what you should have and this is what will come and get help. So Yes I think that the awareness is very good now.

So we as a Malaysian will be looking at some major drastic changes in what before the vision 2020 come basically now its 2006 coming to the end so do you think with the effort put now the possibility of changing just in what, closes 5 years time possible?

Regardless seeing the design as a . to influence the SME brand? I think that the we should, I mean we are better because we are not we will never be able to cheaper than India we are not able to be cheaper than China, Vietnam. So Malaysia must survive by giving added value and design is as added value to product. we must put in more stuff to be one step over countries like China and India. If we don't do this is see it as only means to survive in future in Malaysia as a Malaysian industry. Otherwise there's a penalty to really give up you know. Give up and the government need to protect by they have already did a very good step like for example, pay attention and supporting pension manufactured products which they have which means that if you are a low manufacturing product the government project gives us extra points, favour, a sort of premium and if you are a good product you know if you are a good product and we sell that to our own engineers it is not easy for them to consider buying from over seas because

we are equally good for example. We must put it in this way otherwise I do not see how we can survive against the globalisation in the future.

Good. I mean thank you for that. As the managing director, do you think the creative team or the one that you employ the one that you outsource often had the different point of view especially in term of the way design is managed in you company?

Yes! They usually have. I mean a designer a few designer will usually looks and pay a lot of attention to the creative side and we tend to, we tried to balance the creative side with the technical side. A designer for example will want to create a very spectacular design he want to have attention to durability maintenance you know how to make and all this.

But a good design or a good industrial designer or lightning designer would have to consider all of the general engineering or it. Would you put a design without a good functional aspect?

Yes that's right you have to balance that so when I client, does a client looks badly at the design then really really the poor guy could ended up paying very, he thinks that its very not a good value for money for example. That is the problem,

Well very much when I look at the industrial designer process, the embedded between engineering components as well as material processing in term of looking at functional aspect of manufacturing goods. So a good manufacturing designer graduate would have all the not looking at the ecstatic part of it and it is always the better unless we actually capture students who actually just purely creative without optimising the combination between art and science. So this is the issue that is quite common from an artistic point of view, they would rather slanted it to look at how the value in term of the appearance of it rather than functional, but a good design does the definition comes across under design it has to be functional and it has to be a solution to a manufacturing capability as well as a added to other value added?

In a search development, I mean, internet marking I think the only people who can have the luxury appeal created from an artist maybe? From-

Yes it has to be in our own design

Or in a very high and luxury business, you know, it's a matter of one and um, you do not consider it anything else then. Apart from these 2 sectors, I think all other sectors need to balance it design function.

Well I think that the British designers for Dyson when he comes up with the latest um ball vacuum cleaner. It's all about producing thousand of prototype to look at the functionality of it. Plus not losing section of what you clean. So that makes a good designer all about but obviously this is difficult sometimes ah.. when you actually have purely a creative person not combining what are the effect to consume the benefits durability etc etc... well I believe that you have agree designers always think different if they are purely creative without considering the other engineering factor of marketing factor of it ah.. But in the other hand their input is valuable in term of looking at the nitty-gritty of the creative side of it, right? So you know with all the situation happened now and with the competition and maybe, I mean, your type of business have less competition compare to other sort of business like home-appliances or other things for example. Um, do you think your company would need design knowledge? More design knowledge?

More and more

If you don't deny-

Continuously it would have to be, the pursuit of design knowledge must be a continuous process.

So if you don't-

Pardon?

Oh yes continue.

Yes?

You were saying that if you don't stop it would be continue.

It has to be a continuous process, yes.

So if this would be continue, where are the solutions of this knowledge might come from actually?

Well, I think that it can come from establish parties, in my case it comes from my principles. We've had it in our business for the last 15, 17 years and they are, I'm happy to say they are quite generous sharing their knowledge with us. So, because we are doing manufacturing. So in this process we learn a tremendous amount, we do not like you say, have to reinvent the beam okay, we just ride along with them and in the process we learnt a lot of things. And now, to actually, if we want to be independent today, we can. And I've got this one section that you can learn. There's certain area I think in that you must be very open to participations in terminals for conscious that's happening all over the world. I mean, I think that the market place today is really, a lot of new stuff for you to um, seek knowledge. You know, and if you're aware there's a big sale anytime there's always a big fair organised and if you are willing to participate in these, well we must participate in these to see the amusing offers, what are people doing, what are the competition coming up with. This type of knowledge is very, very good. Now in Malaysia we have a tendency to be what we call, I would say it's a big tendency for buyers which that most government engineers or government people, to be armchair people, armchair. I would see these appliers, they listen to us, then they know what is happening in the world but then, as you must understand, suppliers would point at you in the direction they want you to see. Any appliers, even a manufacturing supplier, my suppliers comes to see me, they will also point at the direction what they want us to see. I think that sometimes we must see what that is really to see, so overall and above that, we must be very adventurous in trying to attend seminar fairs and conferences. To search for information, of course from the internet, you know you can get a lot of information. If you specifically the things you want then you can grab a lot of data from the internet. And then of course, from employing new people, younger generation because of the chrisom the university changes. You know, to change with the time, become a bit newer, knowledge and all that. So you can give them what is the basic knowledge which will become new knowledge to create more ideas. I think this way, this is the various areas the knowledge must come from, for us to lets say tailor our design for the future and to move in a, for us to always moving in the direction, in the future direction.

Okay the reason actually I'm asking you this is that, I must say, I'm not sure whether you are aware in certain triangular colourations that is actually happening in the UK. I simply like um, company teaching skill for example, where there is co-ordination between governments funded organisations supporting SME to sustain designers in the market and worked alongside with design institution to enable company to produce much more new, refresh innovative ideas. As well as to give a design solution, a lot of SME, if you look at the smallest SME which have less investment in design for example, would not able to sustain designers. Yes, so looking at that aspect, I'm not to sure whether you are aware of the existing of this model. I'm not sure whether you are aware of the existing model is happening, and it's quite a similar model. Its also applicable to the Japanese factor where similar like MT where the department trade of industry, allocated certain amount of funds, especially to help smaller and micro-sized SME.

I'm aware that. Yes I'm aware of it in the developed country, they have this sort of marriage of um, between designers outside and smaller SME, who don't need necessarily, funds to invest in their own design. Malaysia, I don't know, I think there's no essence to pair up, make them assessable to each other. Maybe their waiting for you to come back until that. If that could be a project.

Well I'm actually looking at this sort of model and part of one of the evaluation is looking at SME examination in the UK, and trying to make comparative studies on how the best design practice on UK and, see how the best

design practice in the UK create better, successful brand of the UK product. And looking also at the level of understanding amount just towards the role the company can, can actually achieve. Our factor would be at looking at how design plays a role in modern individual company features we are very much trying to move down to much smaller company who have not been putting allocation on funds in. For them is a waste of money. Smaller company who have not, even though the actual realisation knowing their facts that design plays a role in the company gross, but some or rather the idea is there but it slipped through in the process of developing that particular company. So alongside the way the improvisation in all the cosmetic changes is done, due to the fact that optimising the silent designer. This silent designer is actually a term now, again use in the UK SME industry. They have identify there are group of creative people who are among designers or technical people but, they are not claim themselves as designers. But they provide the solution for the company.

I see.

So what have happened is that when DTI realise the UK design council realise the actual situation there are massive amount of silent designers in company. They are putting a lot of design awareness across since the 80's.

I see.

So the collaboration started the ball rolling somewhere in mid 80's and they can see the product value, when a lot of case studies developed proven that the company earn a lot of keen lesson from the initiate from teaching company scheme, and now the teaching company scheme has change to a knowledge transfer partnership.

I see but then they are not involved or so that the silent designers maybe silent when they're small and then you know, different entity for example, as I may use them, and as they grow bigger and bigger, they don't want to be silent or cheap anymore isn't it?

No the silent designers are terminology used because they have never claim their destination as a designer. But they are provider to the solution of the company. In a way they are actually doing the role or doing the job. The role as, because a good designer is the one that come forward. They are more in dept conceptual role that they can play and not just for the sake of giving creative input. It can make a difference in term of the management when you have a creative management. It's like having a creative business. You are looking at the different perspective. So I, when I mentioned, when I actually asked you about design knowledge its good that you have this realisation that there's a lot of avenue in Malaysia its just the matter of putting the investment to send your team across to gain and sake this knowledge because there is a lot of opportunities. But, of course not denying that the Malaysian primary and secondary education have changed and slanted towards what its called design and technology which is the curriculum has been introduced since 1995 and my husband actually get in involved directly with the ministry of education. The only sad thing to happen is that they are putting people who are purely a physic a chemistry to teach D&T. they are looking at design is purely on robotic you know formula one like recently Hisham Mudin, Dato Seri Hisham Mudin put in one point what ever billion RM for allocation of D&T subject on robotic or formula one which there are knowledge about design are so limited but there are a lot of others they can do to ensure forward that, well this can maybe not directly involve you but it has to somewhere when if maybe from your end because you have a very strong company background in term of funding but if you are looking at much smaller greater smaller such as a company that employ only less than 20 employees for example, from my conversation they believe that the value significant design is there but they will not have the piracy to put that aside as part of their company's investment because for them business design is a premium a luxury. Yeah its meant for the rich and famous sort of situation its like you are buying earned designers goods for example but in the actual fact we I mean from my perspective as an educator design is not about being expensive, design giving solution to add value to what ever you provide.

I know. But expensive is also another subject to give in term. Expensive over a year, expensive over ten years for us, for us with the arguments.

Okay but first but its expensive over a year yeah. But if something can last you for ten years that's not expensive? Because of the rule... **yes of course! We have for example street lamp that last you for two years where another one can last you 13 years for example.**

So there's more money in ... so we ask suppliers where are you putting your money? If you buy a cheap product it last you two years, in 15 years how many times do you have to change? 7 times! It won't be cheap.

Yeah! Long term cost effective.

Exactly, so the discussion on the price for example is a very subjective matter because we have to qualify a certain things.

Yeah I mean I don't deny the facts because I myself is a very particular, its not that I'm a brand able person but we know that good brand usually reliable product. Durable of it, it lasts long. In term of long term efficient of time, its much more economical to buy something which is much more expensive for now, but it last you for long. It has ever green design that will circulate for example. Yeah but its good that I'm just finding a perspective, if such a thing such happen for example and maybe you might not feel the benefit of it now because you are at the comfort zone for example, but imagine if you are at the initial stage of company but if you would have such allocation of grand and having a creative input coming from design institution, being public or private institution, work hand in hand with government funding agencies it could be coming from the ministry of science it could be from the ministry of creative industry etc etc. Would you think that to one good calibration, I'm not putting words in your mind here.

No no no. even even even lets say for a company like us we can never say that we are in the comfort zone, and I think that's its necessary to see all these opportunities and to be able to take advantage of it. I'm surely if there is such a programme of maybe I'm not very particular about but I know about then I would be very certain to pursue it.

In the last quote that I've actually captured last year, she was thinking that, she was thinking about getting this collaboration done, but whether its good materialist I've yet to discuss with her because I think she has been looking at other model that has been succeeded its like the UK models or the Japan models and so I'm just looking at one of the criteria after this case study is done, I'm looking at proposing a model of or maybe some sort of effort initiatives to actually looking at how the collaboration not necessary the triangular version but maybe in other part of it after I discuss over my data collection is gathered from all the company and see how vital it is for the Malaysian market company contexts. But...

There is a way to go you know Yati...

But this one we're not exactly trying to copy exactly what is existing, but we are trying to learn what would be the best initiative to help companies to realise that the importance of design and to be more competitive in design's global market. But you would agree if such effort is being placed in one way that could increase the awareness and the usage of design in their business right?

Yes!

Well that's good. This is outside and extra unstructured question again. In regards to design council, are you aware they have launched, for the past many years good design mark award?

I've heard of it.

So its, I've seen, I mean that I know that shreeders design came from Belgium but its there are some design that are some design been customize by your local team. Is there anything that you may, maybe wants to find ways to get recognition that you're giving public (1: 12: 02)

Well actually we have never really thought about that. I guess sometimes you just get so brought down with the work you know we never look at it that way.

In term of just getting recognition and getting public influence that street design have been part of the community providing. Public certain licence system in a way. It's not so much on promoting your company in such it's just at least people are aware that design provides a solution to the public. Recent, one of my recent participant criteria is to look at company that earned and gained the achievement of getting recognised their design is good and they actually won that particular award. So there are also companies that I interview who have not take this opportunity but its also another level of question where it's the criteria has made the particular sort of company who have won deserve to win for example, so there are a lot of other sort of critical question again that I will post, but I'm just sharing the information across with you in case who knows that one day you own self inner lightning system which is made in Malaysia, designed in Malaysia that you want to put across the channel in a challenge for competing. So yeah, for the sake of letting you know that a sort of getting recognition in a sense that you want to see your creative input come in power with other company for example maybe, in term of competition because its not as tough competitive in sense as there are so limited number of suppliers in this particular business, maybe its much different compare to some other electrical goods appliances and everything, so that's one of the part of question here. And other than that have you actually seen what would be the advantage of having the Malaysian design council? Have you ever come across their role and whether they have played their role effectively in promoting the awareness of design in Malaysian business and Malaysian community?

I personally are not aware of the Malaysian design council.

Okay that's good. At least I know. Even though you are promoting good design values and you are no aware of it. you know, it's a part of my critical analysis to see the function, you know whether they have been effective in a way. Of course they don't tell me what to do, its from an outside perspective looking at how effective they are in the role of promoting design to the Malaysian. Being a business educator, etc etc but they are currently parked under STREAM under the ministry of Science and they were at one time, building located in STREAM because they move from Menara Intan in Jalan Tun Razak and now they moved back to Jalan Tun Razak in MIDF Building recently in the past three months so all the while for the past two years three years I think they were located back to STREAM. In the first initial stage they were in STREAM in Shah Alam ...

So they moved out and they moved back in again?

Yeah! To get better recognition they moved to Menara Intan and stayed there for I think more than 6 years after all with the economy and the rental prize and everything they moved. I mean its not like it's a part of the political issues and that as well, and who's taking the lead of the ministry of science if they don't, I mean if the minister is not having the realisation of the important of design then they might not be able to pay the better sort of effect to it. that's why Tan Seri Limkokwing try to initiate the Malaysian design innovation as a private sector that work that tend to work more aggressive than the government body. So its good that I know personally honesty like you don't know about the role of Malaysian design council. At least...

Or maybe because we are a large part, quite technically based, so it could be that we are not so exposed to a more higher creative section.

But when the term design here is not about creative input alone, its as I said good design functional better, its form follow function, its obviously work in hand. It's a combination of art and sciences so I don't agree with the design aspect or people will look at design purely as creative input. It is a creative input but then again as a whole aspect of it, it'll involve architecture engineer etc etc. so its good that some people don't know the existence at least it's the two situation rather than presume that people know about it and its not surprised the information that I got from you that you don't know about the existence of it and they have not play the role effectively in promoting who they are and what they can do to the particular business and an organisation for example. Well this is just an added to an unsubscribed unstructured question that I must say. I know that its taken more than one and a half hours of your time and it is very eye opening in a way to get people to put in an industry sort of point of view because you're still practically whether there are benefit or not and its not for the sake of just to please me. I hope, I mean I appreciate what you have done in participating in my first phase of my studies and I really hope that I would have further discussion and discover on the second stage and third stage to do will just narrow it down to two company that have their own design house and two company that does not have their own design house. And looking at other certain aspect of it, if you don't mind, I in future would have

any future question or anything that I want to discuss, if I can still communicate with you to get further information I hope you don't mind.

Yeah sure! I'll do what I can.

It has been great talking to you, is there anything that you want to ask to me Miss Tay?

Err no. I think that you have also opened my eyes to certain things. I was really thinking of answering questions for me, so I think it's a good two way traffic I guess.

Well that's good and thank you very much on you valuable time, its priceless and I don't know how to thank you and I hope that you coming down to Malaysia I can buy you a dinner or lunch?

Yes please! Looking forward it to come!

And yeah! If you don't have anything to ask me I close this interview session as to just express my appreciation to all your valuable time your priceless information is very valuable and its first hand information coming from a managing director of company liaison with company back in Europe. I hope that I will be able to grasp all this information that have brought down my research and question and hopefully I'll be able to write my thesis well even though I might not have the power of language. And I want to get you verbal concept and whether you agree that the information of yourselves or the company information that you have sighted or statement that you make to be disclosed in my thesis.

Well there's no secret to that.

Okay, thank you very much for giving the trust and of course its certain research attics that I have to really on if company prefer to keep as confidential I will just preserve it as confidential, if you agree that this information to be disclosed as it is. I will be very grateful and I hope I mean certain group of people like the government will read this thesis and will see a more eye opening statement to see how best Malaysia can be with the involvement of the different design sector because this research is not often been done by Malaysian but its quite a common research in the UK Miss Tay.

Ok.

So anyway have a good evening yourself and have a good dinner. And I'm so sorry yesterday, we didn't get to materialist the interview.

I'm glad that your able to get you information, then you can get on with you work. I was really worried that I was delaying your work that's why.

Oh no no no! I mean that's quite common but its better than I waited at your company and then you will be knocked down with a lot of client and phone calls. I found that in one of these research methods with these new technology even though you might not be able to see myself face to face I will only make the effort to see the individual participant for my narrow case study work. if that is also if the company agree, if they don't mind their company to be in the case study. But other than that I'm able to make comparison on the factor on the input that you have given earlier with the comparative of the UK. It's a passable comparative my case study can do because they have a lot of literature in regards to design practicing. So I hope that we can actually be able to make a passable comparison the input that my participant have actually explained and shared with me, so that's the only thing I hope that we both my husband and myself gained the PhD and will be able to spare this one big knowledge across to Malaysian wall.

Oh okay. That's good.

Thank you very much so alright have a good evening your self. And a good luck with the business and I hope that you don't mind still to receive any question coming from my end again.

I'll try.

Theres something I forget. When I ask you a question about how to manage design where you say you have the two part with, is there any written chart or diagram in regards to the way you manage design miss Tay?

Oh I don't have the formal..

I mean the ..

I don't have the formal chart ..

Is there any general sort of chart that you can spare that with me? im so sorry I've just flicked through ..

I just need to understand the question more in detail...

I can actually give you a sample of company but it has a very detail, one company to another will be a different way on how they manage design but I can give you the generic one and I can give you the detail sample across to our email now just to give you the...

Yeah! That will give me the idea to..

But not necessary you follow the example given, you may have a different way..

Yeah ! sure sure sure! But give me a graph of what you are trying to tell me.

So by having that I'll be able to evaluate the individual company grams on how they manage design in respect to their design management, so then its linked directly on how design practice is being applied. So I'll put it forward to the email some soft copy across to you to see. Then if you got time please anytime, put forward your version of design management in your company miss Tay. Thank you very much good bless you again, good luck good night!

Bye bye!

Alhamdulillah!

Appendix 5

A COMPARATIVE STUDY OF DESIGN PRACTICE IN MALAYSIA AND THE UK WITH SPECIAL REFERENCE TO THE CREATION OF SME/SMI BRANDS.

In Depth INTERVIEW QUESTIONS To Manufacturing Companies

(with Mr Executive Director for (M) Sdn. Bhd – Dining Furniture Manufacturer).

Today, MONDAY, 25 SEPTEMBER 2006 at 3.30pm Malaysia Time, I'm having an interview with Mr ... who currently working as an EXECUTIVE DIRECTOR at FURNITURE (M) Sdn Bhd.

It has been major change especially with changes development happened, even though with all the individual downside of it especially during the economy downturn. But I think in certain aspect of the economy, Malaysian companies have made great contribution to the country's economy recovery. Don't you think so?

Yes! True! The thing is we need government to support because like the rubber wood we talk about material or raw material. If government cannot set the rules or the government has to create a comfortable environment for us to do the business. If the environment is no good and than many of us will just shut down. Because we cannot have the competitiveness with the Vietnam, China and India. If we do not...Government have launch the program. Last time we are the king of rubber but now after all the rubber wood has been chop out now they replant it with palm oil tree. After the replant it the number of rubber wood material supply will decrease over the years. And it comes now the situation to raw material in shortage but the government still not bend export for the raw material. That means the local industry; the manufacturing industry will not have enough material to compete. And that means high price and than the customer will move the orders away because we are not competitive. So this why the government is very important to help us to the create the environment for us to help the industry.

Rather then just concentrate on palm oil and replanted from rubber itself to focus on the timber.

Yes! It has to be a balance, because Malaysia is lasted from the all-natural disaster free, so it has to be a balance issue wheatear we have to concentrate on palm tree and at the same time we have to replant the rubber wood. We cannot base chop off the rubber wood and plant the palm oil tree that is because it you still thinking of 25 years later we will have no supply of rubber wood so without material we can't do anything so we have to close the factory.

So indirectly in the other hand you actually confirm that your furniture mainly make full used of rubber wood then?

We actually start from the design because if a good design if the design is very professional and detail it actually will contribute for material saving. But is the design doesn't consider this point, it will a waste age.

Emmh! So by right that is sort off the cost effective new material discovery by your creative team basically?

Basically this is the designer should understand about this issues, for example if they make a very big curve design but wood is not metal sheet you see. Metal sheet can be bend, but wood cannot bend you to get a very big wood bend then only you can do the big R and big curve. So if your designer do big curve it will lose a waste a lot of materials.

Emm OK! I see I would totally agreeable with you. Instead of just continue with this informal session I would like to make an introduction to this interview. I actually now talking to Mr. LOR KIN

YUAN, an Executive Director of Green Continental Furniture (M) Sdn. Bhd and mainly focus on dining furniture manufacturer. Can you confirm that Mr. Lor?

Yes! We actually have 5 subsidiaries and then GCFM, GCFC, GCFI, GCF Retail Outlet and Green Treasure Wood. Each of these subsidiaries is doing different products. But the core business is GCFM & GCFC, which are doing the dining set, export market.

I see; so the individual 5 subsidiaries have approximately an individual breakdown of different business basically plus the individual different employment, right Mr.Lor?

Yes!

So, there are an individual SME under the Green Continental Furniture group?

Yes! Is a group of companies?

I saw you have the main branch in China Mr Lor?

Yes! That is actually GCFC is the one for China and it is doing the same business as GCFM, export dining furniture.

So the main shareholder is 100% Malaysia or there is some sharing with China basically?

No! Ownership is about 85% of Malaysian and 15% of China share.

OK! So the mainly is the heritage company is from your end basically?

Even though the shareholder is also part of shareholder of our group.

OK! Yaa to continue with this... This interview is taking place over the phone. And it is about approximately 4pm in the afternoon in Malaysia. Mr Lor has been very kind to actually set this interview across the distance. With the opportunity looking forward to meet him in the UK while he will be travelling for his business in October. Yes! If you may allow me to continue with this interview.. this interview will be conduct casually and if you don't mind this is not going to be very constraint I hope for the sake of allowing both parties to express whatever possible for the benefit of this research.

OK! All right no problem for me.

1. Thank you very much! If you may elaborate further from what you have said, Please describe your position and list your responsibilities at Green Continental Furniture (M) Sdn . Bhd.

Actually I am base in GCFM and I oversee the operation of this company ranging from product R&D, marketing, material sourcing, production, quality and shipping. Basically, everything of this company/this subsidiary.

So, when you said GCFM is actually a name of your subsidiary or just a code that your company use Mr. Lor?

It is a code, GCFM, which GCF Malaysia.

IC so it is a short form of Green Continental Furniture basically?

GCFM is a short form of Green Continental Furniture Malaysia.

So that is an individual subsidiary of the company and you also said that you responsible to ensure not only the export but R&D in particular to this research?

Yes! Because the head of engineering department will submit everything for me to approve especially the life endurance test before we can actually say that this design is OK. So I have to look at that as well

So if I may elaborate, so how many employees involve in your R&D department?

Talking about GCFM is about 10 employees.

So there are from designers, engineers etc etc?

Designers, engineers, assistant engineers than model shop, sample maker and 1 QC.

2. So in regards to this could you please maybe describe the way you manage design in your company or department?

Actually we are ISO 9001 certified company and our design process design cycle in can be divided into 4 categories that are, stage 1 Brain storming and drawing, stage 2 Prototype, stage 3 Testing and stage 4 Launching. During this drawing stage we are actually using Corel Draw, 3D Studio Max, Auto Cad to help the designers to draw the things. And then after that we will just go for prototype and then prototype building in the whitewood band, and then after all the whitewood has been done by the model shop we will go for life endurance testing that life endurance testing is actually meant to test the durability of the furniture. You see because different furniture we have different depend on design it might have different strength, it might fail at certain point, we do not no that so we need to carry out test. Like hot cold test, static loading test, static test, stability test, every test about this. Every possibility that the furniture is going to failed, we have to test it. And then if all the tests are passed and then we will be going for launching. If the test failed, we have to go back the drawing board. The designer will have to discuss with the engineer and come out with the new improved construction. All these are govern by the ISO system.

Emm.. That's sound very tidiest and something that you are looking at quality that cannot possible to be compromised basically.

That is not possible! Because if you got 1 doubt created in the buyer side, there will just claimed us. And then, not only claim on that container but the whole load coming in on sea, in factory coming. So we very particular on quality and then we won't let it still because we are not talking about design, we are talking about quality after all.

So basically your main target market Mr. Lor is actually domestic or purely international market?

Purely international.

So none of the designs and products that be manufactured and made in Malaysia by Green Continental is actually sell to the domestic market basically?

No! You see this subsidiary GCFM & GCFC are just for export, 100% export.

Emh.. OK! But your other subsidiaries under the holding of Green Continental does cater the domestic Malaysia market?

Yes! Yes! We actually start the domestic market company, called GCF Retail Outlet in last year (2005). So it is sort of like company know the export and now we want to contribute the

export quality products in term of design, finishing, material back to Malaysian society. That is why we started the local business last year.

So when you mentioned earlier that this is 85% Malaysian own company. This is not a sub manufacturer company basically? So this is fully NOT under licence sort of company basically right??

OK that is 85% is in GCFC so I think should we focus on GCFM only?

I would focus on the one of the subsidiary alone the one that you take handle in regards to that.

OK Then we will focus on GCFM will do. OK rather then focus on the group of companies you might get confuse. So we were talking about GCFM if is GCFM 100% own by the local people, local shareholder which all are Malaysian. Then this GCFM is 100% doing export business.

OK it is not under licence and fully Malaysian and it is not sub contracted like other SMI/SME in Malaysia basically. So that's great, at least there are some sort of control to actually portray our own fully made in Malaysia and meant actually for international market. That you actually have to brand in such a way.

Exactly! Exactly!

3. Maybe you could please describe and elaborate further the roles played by design in your business. You may have mentioned but may be you could reiterate in-depth.

Alright in our business actually we start by OEM own equipment manufacturing, that means customer give us drawing and then we manufacturing for them, we have our own equipment manufacturing products. This is OEM. Then soon we discover that this OEM is not so good or it actually can be control by the buyers. So we start our ODM Our Design Manufacturing in 2004. And then start from there we realized that if design made by our own then we can actually sell at higher price. Well higher product value. So if have design, we can actually give our product a differentiation. So these 2 elements is actually important to business. So this is how we define design in our business. Increase the product value and to make the product differentiation.

OK that is very clear on the individual role, from the shift you made from the OEM Own equipment manufacturer to ODM own design Manufacturer. That's great! As a head in the company you very much can be seen clearly in distinguished the role because is quite common I come across the 2 sorts of head between the top management and the design team doesn't go parallel. In term of what role design can play in the benefit of the company.

That is the head and our challenge.

4. So added to it how do you see the value of design in your business? No doubt that I knew you have put highly into the role of design added to it and how you see the value of design in your business.

You see, if you talk about value right our company classified the value in 4 criteria. 1st of course is design, 2ndly spec, and then finishing then performance of a product. Design of the product, Spec of the product, finishing of the product and performance of the product. That combine these 4 together becomes the value. But if you talk about the design value itself I can give some figure that we actually start the design in 2004 and then in 2006 1st half that means this year 1st half or 1st 6 months we have sold 2 millions ODM products or 13% of total sale in GCFM 1st half 2006.

OK!

So I think this is the value right / the money value?

Yes! A lot of company would have a different perspective over it but I actually very interested to actually understand your concept that you have broke down earlier especially in term of specification of the product etc etc. Maybe you could elaborate further on that.

OK you see when you talk about design right actually is quite... rather I would say rationale because when you say this a good design, what is good design? So design is something people see very subjective but no doubt it is one of the value. OK So we talk about 4 things. Spec, you see like the table can be big can be small, can be high can be tall. But this, if only we have the right dimension to the market then only we can go for it. Then same to finishing, because wood itself has no value. The value of wood is nothing after you apply the finishing / coating. Because the wood is just a wood, the very unattractive appearance if you live it naturally. So you need give them life, you need to enhance them with finishing. Then after that you have performance that means how this piece of furniture is going to perform when you when actually put into your daily life. So combine all these 4 categories then only we have value of the design.

I would absolutely agreed with you on that because only in the layman perspective would see design as an aesthetic aspect of value. A good design must be functional must cover everything.

It is only the very special look or a very out of others then only consider a good design. Because it is nothing if you have wrong spec, wrong finishing. It has nothing because we don't see design itself only. Design must consist of these 4 criteria's than can only make a product sell in the market.

Enmm is great to have very in depth understanding from a person like you in term of design and business. I am very lucky to be able to speak to the right person in-charge.

Thank you Indeed!

As you mentioned earlier that you have almost 10 people involved in the R&D. Do you also outsource some of the design stuff in other outside consultant.

No! No!

Is purely personally, confidentially kept internally Mr. Lor.

Ya the confidentially is not the priority why we did not to engaged external design consultants. But the main issue for us is the efficiency, attribution and troubleshooting. You see because furniture is low technology manufacturing method. But even though if your designer do not understand about the machinery that your factory has or the material availability and then there is no point for you to come out with fancy design that cannot be mass produce in the factory. So we are prefer to have an in-house designer, which know exactly what our manufacturing, facility can do and our material can come. Based on these 2 main criteria's that is why to want to have local in-house R&D. In term of fund of cost is fun saving.

This is basically will lead to my question number 5 the factors your company to engaged own in house R&D unit basically.

5. What are the factors that influenced your company;
(i) to have an in-house R&D unit? or

- (ii) to engage a design consultant or the design consultants?
- (iii) Another (please describe)

True! True! Because it is your designer in house everything you need to do and if you need to change something and then you will just consult them in front of them, downstairs or right next to your cubical. You no need to like call to outside then wait to reply. This very low efficiency. You see! So we don't want that, we want all in-house.

So, if you may add to it the company have established in 1994. Am I right?

1994 Yes! Correct!

Yes! With that duration of time you actually immediately initiated or started your own R&D unit or slowly after you are established for a number of years?

It is started in 2004 only.

So it took duration of 10 years basically?

Yes! So it is just started in 2004 because we have to do things progressing. If straight away start with ODM Own Design Manufacturing, not that is cannot but it will have limitation such as people do not know your name, whether you reliable or not but if you start with like OEM that means you can just get to do for other people and produce for them, then from that people will know the reliability of this supplier. Hence after that if you come out with new product with new design and then they will have more confident to your product.

So with the development maturity happened within 1 decade, officially your GCFM has it own R&D unit to ensure quality etc etc reason. Is there any other factor that influence to have own in-house R&D?

No! Because to have the R&D, our ultimate aims is OBM Own Brand Manufacturing. If you talk about short term the R&D is just to boost the value/ raised the product value. Well you can say product pricing. Because if your own design you can sell at higher price but this is just short term. If is long term, if you ask me for long term sake why we want to invest into R&D because we need to have our own brand manufacturing. That means that next time maybe 5 years later you will see that GCFM actually selling the product of its own name under its own name/brand. That is why we want to engage R&D now.

OK. It is such a greater plan from OEM, ODM an now you are looking at OBM to ensure that it has its own identity by its brand, its design differential. Which is what all companies should have. Obviously it all involved as you said it took progressing years to ensure successful rather than put a lot of investment into it but you can't see the outcome.

Yes! I do not know but you see actually quite or I would say little bit conservative because from OEM to ODM it takes about 10 years than only we take the 1st step. That is why is a little bit slow but our concept of principle, we make sure that we success in OEM and then we do it in ODM after the ODM then only we will do OBM. If the stage cannot gone through or without any firm solid data and then you go for it will be very high risk to the company or the group.

In the new development OBM for example that started, did they overlap concurrently with ODM or you just pause that ODM? Are both still running in between concurrently?

We are running the ODM & OBM together.

6. That is good! Added to it what difference do you think on the impact of design for your company between if you compare you have and you made absolute decision when you actually have/engaged your own set of R&D unit /in-house designer base on efficiency, if you compare previously when you don't. You definitely outsource them to a supplier or to a design consultant right?

In the OEM business we actually no need the R&D team. Customer will just give us the drawing and then we just produce for them. That means no design.

So the 1st time yes OEM is purely make full used of other design that came from your clients. Which is overseas client basically?

Yes! Correct!

So like sub-manufacturing, you are just manufacturing it for other people design?

Correct! But if you ask me the different impact in term of in house or outside I would say it should be not much different but we really have to put a lot of efforts telling the external design consultant ok what we want, what our customer want, what we can do, what we have, We actually have to put a lot of effort to tell them all these things and then they might still need weeks to digest our thinking then come back and this and so ...process is low efficiency. So this is why I think the big impact to our operation. Low efficiency is not the way.

7. Ehmm OK! So obviously you may have experienced any changes in the amount of growth of design within your organisation in the past year or so?

Yeap! Yeap! OK you see the design in 2004 we actually have started the design but we have no result for 2004 1st year of starting and then last year we have about 4 products (4 sets of design), to sell worldwide. But this year we have 15 sets of design and then throughout this data and then through my expectation it grows continuously.

It has been indirectly been accepting by your client basically from the evolved 4 to 15 designs?

Yes! From 0 to 4, 4 to 15. Of cause everything are ongoing products. And then every year we aim to launch 10 new series into the market. And then from there we can know the OEM growth from that.

This market that you are looking at internationally, may I know which regions or continents that you are cover?

North America, Canada, Russia, Germany, Hungary, Finland, Denmark, Japan and Australia.

Surprisingly, it involved the Scandinavian countries knowing that there have the needs of their pinewood thought in such identity in a way. You cater Finland / Denmark as a surprised target.

For every buyer, our philosophy is like well that product quality, punctual delivery, good quality and competitive pricing. These are the main 4 criteria's that drives the business irregardless of what countries but if you can make all these 4 factors suit to the domestic business model than you can do business with them.

8. OK With design previously, you did say that with design opportunity you would actually be able to make changes in pricing. It can be lower or higher instead. So having to use design, do it effect the change in your products prices or compete in the new markets?

Again! Again!

In our conversation earlier say that design give the opportunity to make changes in increasing the price and I believe with the new method, the designer and the engineer created new material to actually cut down efficiency in term of material. It can actually go both ways between increasing the price of the product or lower down the price and maintaining the quality. Having to use design, do it effect the change in your products prices or would it help to create or compete in the new markets?

Ya. I would say that the design.. engaged in design we know a lot from the design that actually increase the selling price and reduce the material cost. OK this are the design study that we do, to increase the selling price by decrease the material cost. One of the way we want to study about design and then by doing this we can actually look upon new market you see. Some market, sundries customer in the US they actually have no R&D but they are purely for selling. So we can act as their R&D and then we promote for them, we help them and we teach them how to sell the furniture then they will do the marketing and distribution for us in their hand. So it is actually a new way to create new customer. And then, of cause if you promote the R&D the own design products to our existing customer as well. So these designs do for us.

OK so design create greater role in that?

Leading Roles!

9. That' s great. Which means you will put design is a tangible or intangible asset to your company?

I generally I would say it is intangible asset. Generally! Because we are selling products we are not selling design. As I told you earlier, a product is a combination of spec, finishing, material, performance and design. So it is intangible but if use the design in the correct way it can be tangible. Like we have about 6 patent designs and this patent is worldwide. That makes it tangible. Right??

Yes! So basically someone who actually (in term of originality you are already patent those 6 designs. You can actually bring some legal action towards something/one who responsible in term of imitation. As an example!

True! But don't patent it I can't see it in the account how can you make it tangible.

Haa.. It is coming back to the dollar sign and ringgit basically.

True! True! Because it has to be practical! A lot of time designer always tend to be too emotional about make design beautiful but it cannot sell.

As added it can't even mass-produce. And it is very conceptual in a way but is meant for you know certain customer preferences.

10. Do you think design will play a role in maintaining your company's future? If Yes or No, please explain!

Definitely! Because we think for OBM! Without design it cannot lead us to that way. Because we will have or I should say with all original design to project our company image. That would actually help to build our brand. Rather than buy from outside then trading we are not trading but we want to create the products that can project our brand identity then we can achieve our OBM target. That is through design, one important factor and of cause if we have design I would say we could have better pricing and lower cost. I think it is definitely helps to the company future.

So obviously how IKEA put their branding into across, GCFM would also want to see their brand to actually leading the market. Obviously!

True! Yaa... Actually if you see they have a lot of design from there they can project their image. Actually the image their brand image comes from their products and the service. So if these products are very unique and have a lot variety and contemporary design that's go for IKEA. That is their design and then will tell the image of IKEA.

Eemm So what sort of brand of your product series you have if you can just highlight because the website doesn't tell exactly specific branding that you have put across to your individual name. Maybe you can highlights some brands that has started to be introduce in the market.

Some brands our brands is OK if you jot down www.gcf.com.my .This is actually our GCF Retail Outlet, another subsidiary, doing to launch own brand manufacturing. Idea into the society in the world. We doing it now and the brand is GCF. I am in front of the computer and I can actually load the website directly if you don't mind. OK I see now. Wou you make it very catchy kitchen, bedroom, living in typefaces in colour. I may go to that later on in term of the concept. Go back to the question I would definitely would explore that particular website and gain understanding about GCF product and brand

11. Does investing in design improve coordination between marketing and production in your company?

I think the design or for the designer or the design people there is no direct relationship with production because through our organisation once the design is confirm it has to be pass to engineering to come out with technical drawing, the DIY manual, the material, the packaging and all the technical specification. OK because design just design, the designers know nothing. well know little bit from the technical side so we have to pass to engineering and than engineering will create all the spec for all the references for production. So actually no relationship and than for only references they ask the production. So there is no direct relationship in our company between the designer and the production. No direct relationship!

So there are stand alone department actually?

Yes! It is a stand alone department. If you pass to engineering then engineering only will ask the production but combing design and engineering we called that R&D.

But with that sort of stand alone pillar for example does design not involve in coordinating between the production and marketing on how they sell the product or introduce the product?

OK apologise for that just now. Actually design does not has direct relationship with production but design do have direct relationship with marketing. Based on marketing input designer can design a product but after the market accept the product, the design will pass to engineering and engineering will pass to production. But it doesn't have a direct relationship with production, marketing and design. But if I separate them design and production will have no direct relationship but design and market ..yes they do have direct relationship.

12. Do you think that design provides consumer benefits?

Yes! Of cause, it is only trough design you and me will have better choice you know...if there is no design from where we can do shopping, if we can have design then only customer will have more choices and from there I think the way to improve the living

standard. If there is no design, everything follow the same how can you go to choose your things and how can be your life improved without the new idea and new concept coming in.

The question may sound very stupid but actually will give me a value of getting perception that the concept of design play a very strong benefit in a way.

No it is not as what you said, I think this is why Malaysian might lack of...someone would have to create something rather than nothing in the society. Did you get what I mean? To create something from nothing in society. We cannot keep copy something. To create something that is a designer job. To do this then only the life can be improve or if you always copying that means you only cycling the current situation. Then your living standard cannot be improved. So it is not stupid for me to design if you make benefit to customer than to the people.

Yaa what I meant... correct me if I am wrong the question that I pose may sound very straight forward but the reason for me asking design provides benefit which no doubt it does give a choice for consumer to make a decision because one person might choose one shirt (as example) than another because of design. This particular question lead very much to the fact that Malaysia is very much lack of local design literature. It has been lack of material can support my argument. So with all your statement I hope it will help to put forward some points in the thesis in the future in a way.

You see we have no limitation in design. My designer can design anything from anything but the people for the company owner must have the thinking of design. If they think design is copying the best seller design of one company is wrong. Is actually limiting the design.

The company must have the head like you. As a lot of company must have a head like you who disagree to imitation.

You see.. it takes a lot of courage to do this. Because to create something from nothing is not possible because there is lot of references that you can learn from. An example go for expo than only you learn what is happening around the world and then will increase your confident. With that confident you can create something rather than produce mimic. This is my opinion!

But I think a lot of people has misunderstanding. Investing in design spent a lot of money and waste a lot of time. As investing in design is waste of money.

It is just one simple question. If there is no designer... that means no iPod, when no iPod who brings out the MP3 player in industry?

Taking about iPod, This conversation is in use of iPod for recording.

Well!!! Maybe you are still young...so sorry to bring up age issue in this conversation. The point is you are highly motivated and fresh. A lot of senior in aged would think off cutting cost in term of short-term profit making.

I totally agreed with what you have said. Actually I am young that is my advantage, and I have to explain the whole situation to you. This Malaysia furniture industry actually started about 20-30 years ago. That is when the plantation land being promoted in the economic plane as industrial land. Through this conversion some of the landowner make a lot of money. So there don't know what to do...so the best industry at that time for them is furniture. Because in Malaysia rubber wood a big resources and they will go into this industry. But then my dad previously, he is not educated, well I am sorry to say that...so they are not systematic thinking. That is why most people cannot do it until now. Because the way they do business and their thinking quite old. Well! I think the owner also got

problem. That is why...I am new and young, I bring new concept in this company and as we try it seem works well now.

That is good, we have to have more people like you.

I am actually still young in the industry and still learning as there are a lot of things to learn.

However from what you have said, you have a great believed that design can offer a lot and can do because the description you led the tangible and intangible value of it but many would prefer to imitate and choose short term profit making reason. There wouldn't wants to go through all these hurdles of going through this process. Because it required a lot of investment in term of time, money, understanding, a lot of coordination in management. That is why the description you made in term on how you managed design is important for me to see.

Actually we do it in the smart way. We talk about design, we don't actually made the sample (prototype) without see it in the computer. One way we cut cost in term of using the technology. So this help safe the cost of production of the prototype.

You are using the consumer level hardware so one way cost efficiency but the talent also important here...Not just in use of these latest state of the art application like Corel Draw, 3D Studio Max, Photoshop and many more. So create stimulation and virtual furniture before the actual prototype is made for example.

True! True! We actually have a very in-depth study of this before it actually promote into a piece of furniture.

Maybe the benefit of your company is that with the 10 years OEM experienced you have developed in the way you have put some allocation and you have good clients, create better revenue. Maybe this help to put better design management in your company compared to others.

For the whole business model...Our philosophy is we are a centre man, I meant centre man from a resources for customer. We are actually value added person in the middle. Example, value added from material make into something and give them to customer. So based on this believing value added we have to add value to a product. You know this is a very simple thinking. From the resources to the customer, we are the middle-man. What is our job as middle-man is we have to add value to the product. If we can't add value to a product so no point for us to be here. We a have to value to the product then only we sell to customer. Then only we can play our role.

13. Does design have a natural connection with consumers?

It is a supply and demand. Because we have export business here not just do 1 project finish and then 1 more and stop. It is a lot of project at a time up to 10 million a month.

What is the turnover like?

The turnover is RM 10 million a month. From this scale of size we need to have an economic scale. That means if the consumer wants this kind of thing and then our designers needs to come out with that. If the consumer doesn't need this design there is no point for us or designer to come out with that design. That means throughout the brain storming session we will inform our designer what our customer wants. We will design based on customer demand.

Is there any proper project brief in a way fulfilling what exactly the market needs? So there are proper market research been done to understand market needs?

Yes! Correct! We invested and spent money for marketing or ourselves, to go out to look around, we send the designers for training. All these actually exploring themselves or myself to the market so we are aware of what is happening and what the market wants. Rather than sitting in the office and wait for your superior requested for design something to win 1st price in an award or design competition. That 's no point.

14. Is design seen as a core competency in your company?
Please expand on your answer.

Yes! design is seen as a core competency. I would say is a leading one but not the most important thing. Everything must be a balance. You can't just put design as the most important wants and you forget about delivery, or you forget about competitive pricing and forget about quality. All these have to be balance. But design is a leading position of these 4 criteria. (design, price, quality and delivery)

15. Is the success of the brand solely dependent on promotion?

Promotion is everyday everywhere. We don't believe on that because we cannot work backward. We cannot just depend on promotion strategy or proposed of branding strategy. What we believe is in differentiation. Differentiation in term of customer service. Differentiation in term of product pricing. Product Quality or differentiation in term of service. These are what we believe on brand. It is not solely depended on promotion. It doesn't work for long term wise.

So basically you have a very strong believe on design and brand but not solely on promotion

16. Does design have a role in marketing a brand?

The role is throughout the design activities it can actually come out with product differentiation. And then this product differentiation will be two of marketing for brand

So you there are interrelated? Just that some may not claimed the interrelation factor of it. There always claim the territory of marketing. Example if I would speak to marketing person they will claim the territory that the successful of a brand is solely on promotion. They have optimised or make full use of what they promote across. But the reason the question led to see whether design does play a role in marketing a brand. Or it does only depending on marketing alone? Reason as so much more imitation, it doesn't matter how the design look like. So some company may claim that marketing play a role for the successful of the brand rather than the design.

You must not forget your promotion has to come with from something. The promotion must based on the product. When you have a product then only you can have promotion but if your products are all imitation then how can you do the promotion. Maybe is possible to do the promotion and the promotion is 'price reduce'. Just imagine if the strategy only on like this way of doing business, imitating product and then 'price reduce'. It will lead to very-very bad cycle to the company. When the consumers get use to this type of behaviour and this will mended (worst) to the industry. That is why I strongly disagree that when the successful of a brand solely dependent on product. It is very important and crucial that product differentiation has to play a role for a brand. And this product differentiation come from design not imitate.

Design does play a role than!

Yes indeed!

17. Does design capability influence Malaysian SME brands?

Yes! You see throughout design we can have lots more. Firstly we have a control in price. That means now I want to target this market, I will asked my designer to design something to suit this market range wise. So this chair is \$20. To be able to get into this market I will asked the designer to design for that market. And then if I have a lot of design I can cater a lot more, I can even provides more choice for that market. The more designers I have the more I can focus for different sectors. So it is very important not only design talking about the whole range of design, engineering and 'model shop' making the sample (prototype). All these must come together have a set of need capacity then we will boom out the brand or the company.

18. Do you think senior management have a different view of design from professional designers they employed?

You see this is the funny thing about this relationship. Stand on my point, I don't care what the design look like. I just want the product. Well not to say I don't care at all. The more important thing is I want a product that design the make the product sell. This is what I want. The ability to sell and penetrate the market. What the designer always want is the elegant design, beautiful design the special design.

Unique design!

Unique design, Yes! Exactly. Then my role is brings the balance between the two things. I want elegant, good design. These things can penetrate the market and only is OK. But of cause back to your question, senior management does have different view of design from designer. Of course this is natural.

Unless the designer himself is the owner of the company or taking the lead in the company??

Yaa...of cause the owner wants the design that sell and the faster way to come out with design that sell is to mimic the design that sell. So if you want to give the designer the freedom, it will be a little bit headache. That is why as I said my role is to balance it. We don't mimic but we come out with design that unique design that same time can sell.

It is great if they would have a boss that is neutral in the way that would balance in between the needs where creativity can be express and the practicality and functional of the product with someone know exactly the market needs. That is sellable rather that just have an aesthetic.

Rather than just got 1st price in awards!

Yes!

I am little bit practical in doing business. If the design don't sell no point of having the design. Design would have to be able to sell.

You got to look at the category. This is just added to the conversation Mr. Loh.

At one point the UK design council the way on how they claim good design practical and functionally but it may not sell as in mass production. At the end of the day, practical design is acceptable but I would agree with Mr. James Dyson (of cause he built a lot of prototype before the final design chosen). The only best statement about good design is has to be somehow or rather sellable (functional, aesthetically good and sellable). It is overall rather then just at one point only

at the satisfaction of the designers to express in the way they satisfied and claim this is good design and eventually winning an awards for example.

That is why I stated earlier – the four criteria. The design of the product, specification of the product, the finishing quality of the product and the performance (practicality) of the product. Those are very important. No point of design for the sake of design but design to sell. Design for manufacturing. If you design for design that work, yes but maybe for one or two people. But we are here doing business we would prefer design that sell. Design that sell only sell spec, good finishing, quality and performance of the product that sell. It is not solely on based on design.

That is why a lot of good design education would integrate not only design as problem solving but you have to injected in the mind of the students (potential designers in future) to understand the perspective of the business and ensuring it can also mass produce and also be marketed in the way. This the major challenged for academic like us.

Actually I have participated with USM when they conducted the Malaysia Furniture Design Competition last year and the team of the competition came to our factory to visit and throughout the conversation I found that what they learned in the lecture theatre/studio is just about design or very little about the manufacturing side. That means they the student do know exactly know what can be done or what cannot be done according to the current technology. So when they do not know the current manufacturing ability or what is currently available. That will be difficult for them. Even though they came out with new good design and that design can be manufactured and cannot be sell. No Point! So they have to understand all these things. They have to be equip with this knowledge. At less they must be aware of the limitation of CNC machine can do. CNC only produce certain angle or certain depth. If go beyond that, how great your design is the machine would do it for you. That means you can't sell the thing you design or maybe you can only sell 1 piece a week as hand production. That is the different between manufacturing versus design.

This is one challenge in design curriculum that have been develop in any university. USM I think in term of furniture design or industrial design would be pretty new as they just consider started that department. The one that has been established in this area UiTM for instance. But somehow or rather if the academic staff didn't participating in the industry fully and not aware of availability in term of manufacturing technique and technology for example. They won't be able to share that across with their students. That is why the lecture series is important where you inviting the industry people to participate and deliver their lecture in the lecture series where students expose to the actual market capabilities.

Actually after the competition I have asked the head of industrial faculty and talk about it and we willing to sponsor the people involved in case the similar competition coming out again our company willing to expand and give the students the workshop to do their own. Rather than just design we provide you the facilities with all the cutting machine and drilling machine and also provide the material for them to produce the designed work. Then you can feel how difficult your design is to manufacture. Sadly speaking, I have no respond after that.

Well! I am so sorry to here that. Maybe I got to comeback to Malaysia, as we are very enthusiastic academic who practicing ourselves and contribute to design. With that we bring our student across.

We would be appreciated if the academic people can come visit us or we can go and visit them to set up something in the middle so that the students can get hands on experienced over their design. To see how difficult their design to do in manufacturing.

Yes! I could imagine. That is why when supervise students not denying is also relate with the academic experienced. If the academic themselves got no work experienced in the industry there would have zero idea of best supervision they give to students. Being students they may comes out with conceptual design that practically not possible to produce or not able to manufacturing in that sense for example as they don't understand the manufacturing limitation such as trying to bend a solid wood unless they use a compress wood that been reproduced.

Exactly! This is something that we don't know what to do you see how we could contribute...

Wou! It is great that your company have a positive working collaboration vision that you have in mind and looking at. Because at the end of the day no point of these students graduate and got paper qualification and not having to know and prepare for the market needs or prepare for the job market. In this instance they would have to go for the job placement and expose them to the actual manufacturing capability.

It like double the cost. Actually I study in UK and got the offer in UK at that time when I was graduated but then I choose to comeback to Malaysia. A friend was asking me what so important to be in Malaysia and I said to be in Malaysia and within my ability to contribute back to the society. So to setup this workshop thingy or the willingness to give them the training or factory visit is our commitment to contribute back to the society rather than just move 100% this to China production.

Yaa...

You see we have China production and do lot more cheaper then due to cost effectiveness and we do not wants to move because we are Malaysian and we are here to contribute not just make money. The word contribution here is important. To contribute back to the society, give back to the students that are very important for the private sectors. At this moment is what I know we can do.

Thank you very much! But the government should also look into it, if the cost effectiveness of manufacturing outsource it to China because of labour price, they would actually maintaining it into giving the tax credit or tax exemption and other things. If they claim so in their planned for example MITI claimed that if your company contributing to sort of thing you would eligible for certain number of tax reduction for example. This is also one way the company can sustain rather than concentrating on other profit to cheaper countries because the Malaysian labour getting much higher and expensive now days.

OK the labour cost is something we should talk about that. And talking about material say actually material cost is about 60% of a product. What people can do is to produce and control the material that we have in Malaysia itself. Actually we have about 3 conversation to Dato' Peter Chin is the Minister of Prime Industry in this material shortage we cannot still allow to export of our resources to our foreign competitors. But it seem that the Minister can understand this. He still thinking that material is OK and it should fine to export the raw resources to the outside people. It is based on (MTC) Malaysia Timber Council input and made this decision.

So this is considered a loophole in our country?

It is no good to our industry.

So at the end of the day when you have to import back the particular material and have to pay more and can't give competitive pricing for your product?

Correct! You See! I tell you and straight away understand but our minister think something that need 6 months to conduct this in-depth investigation.

Well that is not my specialization area and I can understand you difficulties. Similarly happen to our petrol where we export them and we don't have enough for ourselves.

Exactly the same things, we have a lot of rubber wood and we still export the rubber wood to the foreign competitor whereas we are in need of them I really don't know why! Either making more profit or you don't want to help your own local industry. These are the main currant challenged that we are facing now. We have very limited source of materials available now in the country.

I think is boil down to the individual group of authority. If the Timber council make more money by exporting them outside without even consider the difficulties local industry and manufacturing. Maybe they are looking as integrated bodies not stand alone body on how this individual body can make money rather then company make more money.

I don't know about that how they think but this is very sad.

19. Does your company need more 'design knowledge'?

Actually you see it is when you talk need more design knowledge right. I would think this is an individual learning attitude. And talk about this attitude, it should not have a stop. It is in going learning. There is no point saying I have enough of design knowledge. No way when you talk about learning attitude that means your attitude to every things. It should be fresh and always learning and cannot be stop. A little bit more with knowledge when you have a correct attitude you would always want design knowledge.

20. Where might this knowledge come from?

Customer input, market research and the most important thing is our daily life experienced. What I meant was daily life experienced. If you have the correct learning attitude and applying them in your daily life and it will come out with a lot of idea. For example a lady with her handbag and go to dine in the very fine restaurant and seat down and where they actually put the bag or purse? If you can designed something that the chair comes with a hanger as part of the furniture you can just hang them and no need for them to put them at the back of their seat or next to their seat or most the ladies place them on their lap. From my observation it give inconvenience to the diners having to keep their handbag/purse. If design can come out with something brilliant like a hook or what ever not aesthetically damage or compromise the design. I think is fine to have that as people can just hang their purse onto that hook.

I think you can easily penetrate all restaurants especially for such furniture that comes a combination of chair and table. Simply when they dine at the restaurant it will solve to place their handbag or whatever they carry with them. I personally experienced such inconvenience. This one problem-solving role that the designer should look into and develop.

If the creative people or designer, they have a positive learning attitude and they have objective and then, they will be able to do it in their daily life. Have they ever wonder why furniture so rigid at the back. Let we talk about wooden chair, and after you finish your enjoyable meal than you want to lean down for a while to chit chat a bit however the chair back is so rigid and make you so uncomfortable. So our company one patented design that actually make the back of the wooden chair reclined. So make you a comfortable filling as after you finish your dinner and lean back and feel comfortable. This is one learning attitude that designer should have. To create something that will benefit to the user. Only with positive learning attitude they can comes out with great design.

I am not denying the fact you post.

It is rather something difficult?

No! It is not difficult. Industrial design is about daily life and consumer orientated product solution. If you can be a problem solver for the benefit of the user. Is just that! Simply such invested of the hanger at the back of the car seat and usually available these day in luxury car as the people in this car usually wear proper attire (coat, jacket)

Lead to the last question. Reason for me to asked that is many company doesn't have fund like your company does. Leading the design knowledge question is to reflect in the UK they do have a successful coordination design knowledge or design partnership between the industry, government and universities. Place a fund because a lot of small company that spare headed by people who are designers or creative people they would be able do well in term of what they can see for their company vision but we are talking about people we often seen (short term profit making). Particularly company that did not see design will bring tangible value, company that didn't see investing in design will minimise their production time for instance. Or investing into design will bring suggestion that on material and reduce production technique for example.

In regards to that do you foresee for much smaller company that design knowledge may comes with this initiative of partnership such as government grant and universities expertise and the small companies. Do you think possible to tie this coordination in developing more design knowledge as they are not so aware as you are?

In fact I am not too sure how many furniture companies are there in Malaysia and the Malaysia Furniture company society is just 3 years old. Earlier this there is no standard body that unite all the small furniture factories across Malaysia. If you do not have this organisation, it is very difficult for you to actually approach these companies or these individual factories.

If you failed to talk to these companies, what possible for you to establish the government body and the factories itself? So currently the Malaysia Furniture Manufacturing Society is unite all the individual together. Then when we have more established organisation and then to establish the connection. But I believe throughout what the society have done now it can be done in a day and when the organisation is complete and the network is there. Then this body will have better connection.

Interesting! Because the reason I said interesting you know the problem for being Malaysian where I think you know it and most intellectual people would know it that the fact to see the bigger picture rather than the small ones. This is not something of I or you can solve it immediately but I am just looking at the small part where I can play. For example: Malaysia Design Council territory can be identified in the sense of working, collaborating example with MATRADE and work closely with identified certain design institutions and cater certain group of smaller companies as you mentioned earlier. Just to start the ball rolling on how the design awareness can be injected much more in depth.

You see actually MATRADE did approach us to identified our design and telling and organised the workshop but their focus actually are middle-east market or Africa market and these are not a big market for the industry. The big market for the industry would Europe, USA or Australia. Frankly speaking I never take part of MATRADE activities. They often ask us to send our products so that they can exhibit our products in Middle East free of charge. But...I am not saying no point but the market is not so strong compared to US, Europe. That is why we don't take part in these activities.

Even though you talk about Malaysia Design Council we did participated in Malaysia Good Design Awards. But after we participated we see very limited exposure of Malaysia Design Council or how there can help us. I don't really see that even though we won two of the awards. I felt nothing happen, nothing special. So I don't see any point participating in these activities MATRADE, Malaysia Design Council and their activities.

Is there possibility of their ethic constraint? Or they are not proactive in headed something as they are government type working in nature?

After all it is back to the individual head, what they think and what they want. We want business, we want a product that can sell. To us everything that we do for the business and to ensure that the products sellable and make money. Anything that are not bring revenue we cannot do it. Sorry to say but sadly I can't agree to support MATRADE or Malaysia Design Council. There hardly any good result!

I may have to agree with you on that. It will boil down to the head on how they would run their organisation. Making sure the people must be enthusiastic about what they want to achieve at the end. Also must be clear with their intention and materialised them strategically. Bottom line is whether the companies and anybody participate must earn what was targeted for. Also I can agree with you that activities that runs by Malaysia Design Council have not show enough aggressiveness for the effectiveness of the activities but possibly they may have their limitation!!! Possible with their other problems and the loophole within the organisation.

But when you mentioned in regards to funding or injecting fund into design I think I can tell you that what the companies need to do is to inject certain amount of money into design then only can help and this amount I can tell you is not a big because designer in Malaysia now is about RM2000 – RM2500 for one designer and what the designer need is the software like Corel Drawn and everything. These people are available in the market but without experience but never-mind. You can always get employed them RM2000 – RM2500 and get them and buy RM5 illegal software. So you no need to invest so much if you really concern about the fund. Because if you talk about one Auto Cad software that will cost few thousand Ringgit right?? So with is small amount of setup with one designer and one 3D software. You can comes out with a lot of things already without a big investment. Whether they wants to take this step or not.

You're talking about not the actual legal practice!

Well there is so many ways. I am glad that I have different perspectives over in certain ways. There are a lot of good perspective coming from your end. There are very valuable and I am just speechless not knowing what to say and I have taken almost two hours of your time Mr. Loh. Yes! It has been a great pleasure for me to have you as one of my research participant and you have expressed your positive and negative towards revealed certain things you may not and...

This is at less I can contribute to other Malaysian and on behalf of furniture industry.

Thank you very much and I hope the conversation coming from our end in term of

I was just thinking, hopefully with our conversation I think this business model that we have now actual help little bit to the Malaysia furniture industry.

Yes! Definitely! And I am going to produce this thesis and certain things has been said but I hope that certain information can be put across. There are companies that willing to participate and not only multi national companies. The perception is that a lot of big multinational companies only thinking that they only participate in the community but I think companies like yours whose developed and established even though taken 10 years some companies won't have the patient basically. A lot of people I spoke too wouldn't wait 10 years to actually develop into another level. (OEM to ODM and OBM). You saw the result and the result is good.

It will be a continue efforts. I am optimistic about it.

I pray for your company continue success Mr. Loh!

Thank You!

Thank you to you too and I hope to visit your company one fine day and hope to see you in your next visit in the UK.

We will keep in touch in the email.

Yes! Will do that Sir! Good evening to you and whenever you got time please put forward in the email, the structure of your design management company diagram Sir.

Yes all right, I will do that! Thank you very much.

Thank you very much and have a good evening to you.

Bye! Bye!

Appendix 6

ANNEX 1

BCU'S RESEARCH ETHICAL FRAMEWORK

1. Introduction

1.1 This document sets out a framework through which staff and students of the University give consideration to the ethical implications associated with any research that they undertake. Further Guidance Notes consistent with the principles and requirements of the framework will be produced by Faculties so as to inform and disseminate good practice.

2. Background

2.1 Funding bodies are increasingly requiring research proposals to indicate the processes that universities have in place for considering research ethics.

2.2 This framework has been informed by practices and processes operating in different Faculties, which themselves respond to the principles and requirements of external bodies.

2.3 The ethical framework should be read and operated in conjunction with other policies of the University's Board of Governors or Senate that may have a bearing on ethical issues.

2.4 The framework does not attempt to define or alter the obligations of staff or students under English law (please see Appendix 1).

2.5 The framework points to a set of obligations to which all staff and students should normally adhere as principles for guiding their conduct. The purpose is to ensure that staff and students are aware of the ethical obligations that may arise in their academic activity, and to encourage ethical behaviour. The framework does not, therefore, provide a set of answers to all ethical dilemmas, and the researcher is required to make specific decisions on the basis of careful consideration of all contributing factors.

3. Ethical Statement

3.1 The University expects that staff will behave professionally and ethically in all its activities. This implies that staff and students who are engaged in research and other activities are aware of the ethical implications of such activities and are committed to discharging their responsibilities to the University, to clients and to research participants in an ethical manner, conforming to the highest professional standards of conduct.

3.2 Issues of morality, safety and personal and institutional liability affect the University at many levels. The University must be seen to be acting with propriety and care for the welfare of staff, students and the wider public.

3.3 The practice of ethics is about conducting one's research in a disciplined manner within legal and other regulated constraints and with minimal impact on and detriment to others.

3.4 It is the responsibility of staff within the University to consider the ethical implications of their research using the framework as a guide to fulfilling their obligations.

3.5 It is the responsibility of Faculties to ensure that staff and students are aware of their ethical obligations and that processes are in place to support them when elaborating methodologies, responding to the ethical requirements of funding bodies, or confronting ethical dilemmas.

4. Definitions of Terms

In the context of this framework the following definitions of terms apply:

4.1 “Research” is understood as original investigation undertaken in order to gain knowledge and understanding. It includes work of direct relevance to the needs of commerce and industry, as well as to the public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances and artefacts, including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction.

4.2 A “researcher” is a member of staff or student engaged in research activity.

4.3 A “participant” is an individuals and/or organisation that comes into contact with the University through research activity.

5. Principles for the Consideration of Ethical Issues

5.1 Staff and students shall be made aware of their responsibilities and obligations to consider ethical issues arising from their research at or on behalf of the University.

5.2 The dignity, rights, safety and well-being of participants must be the primary consideration in any research study.

5.3 Informed consent is at the heart of ethical research.

5.4 The ethical implications of research shall be assessed through a consideration of, for example:

- the sensitivity of any data that may be collected, with particular regard to matters such as age, colour, race/ethnicity, nationality, disablement, religion, sex, gender, sexual orientation, personal medical records and political beliefs;
- the transparency to junior research staff and participants as to the purpose and possible uses of the research;
- the research methods and any risks involved;
- the confidentiality of information provided by research participants;
- the security and well-being of participants;
- the arrangements for the security of data;
- the arrangements for ensuring the anonymity of participants;

- whether any payments are to be made to the participants or other rewards granted and the integrity of that provision;
- whether any special indemnification arrangements may be required;
- the intellectual property rights of all those involved in the research, including research staff, research participants and the university;
- arrangements for the publication of research results, including issues of co-authorship and acknowledgement;
- the desirability of an objective assessment being conducted of the ethical implications of the proposed academic activity by a competent person who has no direct association with it or the researcher(s) involved;
- the ethical issues/guidelines of any third party involved in the University's activities, such as professional bodies or providers of research funding.

Where applicable, research must comply with the following requirements:

- the size of sample proposed for any enquiry shall not be larger than justifiably necessary;
- lines of enquiry must be pertinent and must not cause undue distress;
- any relationship between the researcher(s) and the participant(s) must be declared;
- participants shall be made fully aware of the true nature and purpose of the study, except where there is satisfactory justification for withholding that information (such as the likelihood of the end results being affected);
- participants shall have given their explicit consent, except where there is satisfactory justification for not obtaining this consent and the participants will not be adversely affected;
- participants must be informed at the outset that they can withdraw themselves and their data from the research activity at any time and they must not subsequently be put under any pressure to continue;
- processes shall be in place to ensure that the rights of those participants who may be unable to assess the implications of the proposed work are safeguarded;
- risks to the researcher(s), the participant(s) or the University shall be assessed;
- any potential risk to the University must be outweighed by the value of the research;
- if any research is concerned with studies on activities which themselves raise questions of legality, there must be a persuasive rationale which demonstrates to the satisfaction of the University that:
 - i) the risk to the University in terms of external (and internal) perceptions of the worthiness of the work has been assessed and is deemed acceptable;
 - ii) arrangements are in place which safeguard the interests of the researcher(s);
 - iii) special arrangements have been made for the security of related documentation and artefacts.

Effective procedures to consider ethical issues within the University shall be established at the Faculty level and they shall comply with any specific requirements by the Senate. Such procedures shall provide for:

- an Ethics Check Form for affirming that ethical issues have been satisfactorily addressed and, where appropriate, granting assent;
- published requirements which describe the approvals process to which each research project is to be subject;
- published information on designated staff or the committee with responsibilities for managing the procedures;
- procedures for intervention where breaches of guidelines are alleged;
- a review process for considering ethical issues to ensure their currency, effectiveness and consistency with best practice.

6. Mechanisms for the Consideration of Ethical Issues

6.1 An appropriate entry to be included in the Staff Manual drawing the attention of every member of employed/contracted staff to their obligations;

6.2 The incorporation within student handbooks of a statement informing students of their ethical obligations and responsibilities;

6.3 The issue of research ethics to be raised during the induction of research students and to be part of research methods training;

6.4 Faculty Research Degrees Committees to affirm that ethical issues in relation to each individual research degree application have been satisfactorily considered;

6.5 The University's Research Degrees Committee to affirm that ethical issues in relation to each individual research degree application for the PhD by published work have been duly addressed.

7. An Ethics Check Form

7.1 As far as is possible, a common ethics check list should be used across the University. However, it is recognised that there may be some variation between Faculties because of the different types of research and the requirements of external bodies;

7.2 Most of the key questions to be addressed by researchers are likely to be consistent across Faculties (See Appendix 2);

7.3 A faculty form would reduce these questions to identify major issues that will clarify whether further scrutiny is required.

Research Ethics Framework Appendix 1

1. This ethical framework does not attempt to define or alter the obligations of staff or students under English law, for example:

Data Protection Act 1998

Children Act 1989

Human Rights Act 1998 (Amended 2001)

Race Relations Act 1976, The Race Relations (Amendment) Act 2000

Disability Discrimination Act 1995

Disability Rights Commission Act 1999

Special Educational Needs and Disability Act 2001

Sex Discrimination Act 1975, Sex Discrimination (Indirect Discrimination and Burden of Proof) Regulations 2001

Freedom of Information Act 2000

2. Staff and students should also be cognisant with, and abide by, the published codes of conduct, ethics principles and guidelines of those professional bodies associated with their discipline.

Research Ethics Framework Appendix 2

An Ethics Check List

1. *The researcher's responsibility and the outcomes of research*

- Why is this research worth doing? What is the likely impact of the research outcomes?
- How do participants in your research benefit from the knowledge you produce?
- Are there other stakeholders in your research? If so, how do they benefit?
- Does your research have broader human, social, cultural or religious implications? If so, what are they?
- What impact, if any, does your research have on the environment?
- If the research results in the public display of materials or outputs, what is their likely impact?
- Where ethical dilemmas have arisen, what steps have you taken to resolve these? How have (will) you ensure(d) a balance between academic or creative freedom, and civil responsibilities in the community?

2. *Responsibility to research participants*

- How do you explain the purposes of your research to your participants? If you do not, how is such a strategy justified?
- How can you demonstrate that your participants' consent is fully informed? Are participants given the opportunity to decline participation in the research? How do you record their informed consent?
- How will you get their consent for any subsequent use of the material? Are participants able to withdraw their consent at any point? How?
- Are there any possible negative effects (long or short term) on your participants (including any emotional discomfort)? How are these be justified?
- How might participants gain from being involved in the research?
- Do any participants require special consideration (children, people with disabilities, other vulnerable groups)? If so, how will you demonstrate that you have given due regard to this, and not exploited your participants?
- Are you in a position of power or authority in relation to participants? If so, is it permissible to undertake the research?
- How will you ensure individual respondents cannot be identified from any research reports or papers that are produced? If participants may be identified (whether deliberately, or not), have they agreed to this and/or been advised that this may occur?
- How do you record any agreement?
- How will you report back from the research to your participants?
- Does the research cause you to have access to commercial or sensitive information? How will you ensure the confidentiality of this information?
- Are you able to offer a confidentiality agreement prior to results entering the public domain?
- What will happen to the data (e.g. interview notes, transcripts, questionnaires) once the project is finished? How will you ensure that your research complies

with current data protection legislation, with respect to personal information about individuals?

- Could the research cause any suffering to animals? To what degree would this be justifiable? Can you demonstrate that your research complies with current legislation relating to animals, human body parts, human tissue?

3. *Responsibilities to the subject and future researchers*

- Have you conducted your research in such a way that those who have participated would consider participating in future research projects?
- What understanding of the value of research have you left behind you? How do you know?
- How do you demonstrate the methodological rigour and transparency of the research?
- How is the conduct of the research and its progress reported between the parties involved (research students, supervisors, sponsors)
- How is due acknowledgement given to the work of others?
- Who 'owns' the outcomes of the research? How is this recorded?