Bank credit risk assessment and adverse loan selection for small enterprises: A study of commercial banks in Pakistan

Arsalan Tauqir Khawaja

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Faculty of Business, Law and Social Sciences, Birmingham City University

ABSTRACT

To promote bank lending to small enterprises and reduce the adverse selection error, Governments of various countries have launched the Credit Guarantee Schemes (CGS). The central argument of this thesis is that despite the presence of credit guarantee scheme in Pakistan; bank loan rejection rate is very high, and the problem of adverse selection still exists for small enterprises. A review of the literature suggest that no study has been conducted in Pakistan to investigate bank lending criteria on loan applications from small enterprises and the effectiveness of the CGS in reducing the debt finance gap for small enterprises. Hence this study made a theoretical and methodological contribution to the study of bank credit risk assessment and adverse selection on loan applications from small enterprises, by using a case study to examine the bank credit risk assessment criteria and the effectiveness of the CGS for small enterprises in Pakistan. This study used 266 questionnaire responses and 50 semi structured interviews from credit officers working at commercial banks in Pakistan (supply side), and 25 semi structured interviews of small enterprise owners in Pakistan (demand side) to answer the following 4 research questions: (1) importance of small enterprise owner characteristics, firm characteristics and firm financial indicators in credit officers lending decision making on loan applications from small enterprises (2) relationship between family social capital benefits and success to bank finance for small enterprises (3) relationship between compliance requirement and credit officers decision to make a referral under the CGS (4) circumstances in which adverse selection takes place. Though the supply side results found a significant relationship between firm characteristics and financial indicators in credit officers lending decision on loan applications from small enterprises in Pakistan; however, no relationship was found between small enterprise owner characteristics and credit officers lending decision. Moreover, the demand side results suggested that networks and personal connections are very important for small enterprises to access bank finance in Pakistan. Similarly, the supply side results found no relationship between family social capital benefits with access to bank finance for small enterprises however the demand side results suggested that family social capital plays an important role in the credit risk officers lending decision. Results from this study also suggest that due to compliance requirements credit officers are reluctant to make a referral under the SBP CGS. Moreover the results from this study also found that Type 2 error of adverse selection takes place due to credit officers training, credit officers preference in lending to certain businesses sectors, and the influence of family networks and personnel connections.

DEDICATION

In the loving memory of my late parents Mr and Mrs Tauqir Ahmed who always taught me the importance of education. Their exceptional guidance and unlimited prayers contributed significantly to this achievement.

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List of Abbreviation

BCU-Birmingham City University

BSF- Business Support Fund

CGS- Credit Guarantee Scheme

GCSE-General Certificate of Secondary Education

GOP- Government of Pakistan

IA- Information Asymmetry

MOF- Ministry of Finance

SME- Small and Medium Enterprises

SE- Small Enterprises

ME- Medium Enterprises

SMEDA- Small and Medium Enterprise Development Authority

SBP- State Bank of Pakistan

SECP- Securities and Exchange Commission of Pakistan

SPSS-Statistical Package for the Social Sciences

CHAPTER 1 INTRODUCTION

The purpose of this chapter is to provide and introduction to the thesis. This chapter is divided into 4 sections. The first section will provide a background to the research topic by discussing the statement of the problem. The second section discusses the aims and objectives associated with this study. The third section provides an insight into the research questions that are investigated in this study. The fourth part discusses the structure of this thesis.

1.1 Statement of the Problem

Though the definition of Small and Medium Enterprises (SMEs) vary from one country to another country; SMEs dominate economies of developed and emerging economies, as approximately 95% of the businesses across the world fall under the category of SMEs (Tyurina et.al, 2021; Ayyagari et.al, 2011). In Pakistan, the definition of SMEs is similar to the EU definition, with small enterprises defined as businesses with an employment threshold of less than 50 employees and medium enterprises as businesses having an employment threshold of less than 250 employees (He, R., 2021; Storey and Greene, 2010).

The contribution of SMEs in terms of Gross Domestic Product (GDP) per capita and providing employment opportunities is well documented and reported in academic literature (Baporikar and Shikokola, 2020; Ayyagri et.al, 2017; Beck, 2013; Beck et.al, 2005). However, access to finance has been identified as one of the major reasons affecting the survival and growth of SMEs in both developing and developed countries (Waheed and Siddiqui, 2019; Ayyagri et.al, 2018).

To understand the financing requirements of SMEs, studies by López-Gracia and Sogorb-Mira (2008) and Sánchez-Vidal and Martín-Ugedo (2005) confirmed that SMEs follow the pecking order hypothesis, by using internal finance until all internal sources are exhausted, then issues debt, and then issues equity. However, studies (Waheed and Siddiqui, 2019 and Alibhai et.al 2017) suggests that since SMEs have insufficient internal sources of finance and no access to capital markets therefore debt finance becomes the most important sources of finance. Despite the importance of debt finance, academic literature (Saari, 2020; SBP, 2017) suggest that lending to SMEs is constrained due to the issue of information opacity of SMEs and high levels of Non-Performing Loans (NPL- Defaults), resulting in high rejection rate on loan applications from SMEs (Saari, D, 2020; Hussain et.al, 2018; SBP, 2017).

Though commercial banks have started using credit scoring to minimize loan officers discretion in lending decisions making (Brock and De Haas, 2020; Hussain et.al, 2018; Ekpu, 2015); the role of loan officers in lending decision making may have been reduced but not eliminated (Flögel, 2018; Berger and Black, 2011). In the case of Pakistan, Ilyas (2019) stated that credit scoring is still in its initial stages of development and most of the banks used fixed asset lending (lending on the basis to collateral) to make lending decisions on bank loan applications from SMEs. Previous studies from UK (Wilson, 2016; Deakins et.al, 2010; Mason and Stark 2004; Fletcher, 1995; Deakins and Hussain, 1994.) Libya (Abdulsaleh, 2016), Turkey (Erdogan, 2019), Sweden (Bruns and Fletcher, 2008) have analyzed the lending criteria used by banks while performing credit risk assessment on loan applications from SMEs. Though studies in Pakistan have identified the difficulty faced by small enterprise owners to access bank finance, no study has been conducted to examine how credit officers perform credit risk assessment on loan applications for SMEs. Moreover, studies from Pakistan (PMN, 2018; Kousar et.al, 2012; Nenova, et.al, 2009) suggest that small enterprises find it more difficult to access bank finance than medium enterprises. Thus, this thesis examines the lending criteria used by banks while performing credit risk assessment on loan applications from small enterprises in Pakistan. Furthermore, in order to promote bank lending to SMEs and overcome the obstacle of adverse selection in credit risk assessment of loan applications from SMEs, the Governments of Pakistan (GOP) has initiated the Credit Guarantee Schemes (CGS) (SBP, 2017.). However, study conducted by Nadeem and Rasool, 2018 and Ilyas (2019) in Pakistan suggest that credit officers rarely make referral under the State Bank of Pakistan Credit Guarantee Scheme (SBP CGS). Hence there is a need to investigate the challenges in implementing the SBP CGS in Pakistan.

1.2 Aims and Objectives

1.2.1 Aim:

This study aims to develop an explanatory model of the lending criteria used by commercial banks to perform credit risk assessment of loan applications and examine the circumstances in which adverse selection on bank loan applications from small enterprises in Pakistan takes place.

1.2.2 Objectives:

- To evaluate the factors that commercial banks take into consideration while performing credit risk assessment of loan applications from small enterprises in Pakistan
- To critically analyses the reasons behind credit officer’s reluctance to use the SBP CGS for small enterprises in Pakistan.
- To produce a conceptual framework for academic and government to understand how type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan.

1.3 Research Questions:

RQ1. What is the importance of small enterprise owner characterises (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?

Literature examining the credit risk assessment of loan applications from small enterprises has discussed the relationship between small enterprise owners' characteristics and firm characteristics with small enterprises access to bank finance (Campanella and Serino, 2019.; Abdusaleh et.al, 2016;). Studies (Campanella and Serino, 2019; Abdusaleh et.al, 2016; Wilson, 2015; Ogubazghi, and Muturi, 2014; Nguyen, and Luu, 2013; Fatoki and Asah, 2011; Deakins et.al, 2010; Mason and Stark, 2004. Fletcher, 1995) have discussed the relationship between firm size, firm age, firm legal form, collateral, owners age, owners education, owners experience, gearing, liquidity, timing of income and payments with loan officers decision making on loan applications from SMEs. Academic literature recognizes the role of credit databases in banks decision making criteria on loan applications, moreover to reduce information opacity and encourage bank lending to small enterprises, State Bank of Pakistan (SBP) has made it compulsory for banks to submit monthly information on their borrower record online to the e-CIB database and (Ilyas, 2019). However, no study from Pakistan has assessed the importance of E-Cib report in lending decision making. Furthermore, studies on relationship between small enterprise owner characteristics and firm characteristics with access to bank finance for SMEs in Pakistan have been conducted from a demand side perspective, and no study from Pakistan has been conducted to examine the importance of financial indicators in bank lending decision making on loan applications from small enterprises. conducted by Hence this maiden study with examine the importance of firm characteristics (firm size, firm age, firm legal form, and collateral), small enterprise owner characteristics (owner's age, owners education, owners experience, e-cib report) and financial indicators (gearing, liquidity, timing of income and payments) with access to bank finance for Small enterprises in Pakistan both from a supply side perceptive (banks perspective) and demand side perspective (small enterprise owners perspective).

RQ2. Do family social capital benefits affect credit officers lending decision on loan applications from small enterprises in Pakistan?

According to academic literature (Chua et.al, 2011; Arregle et al., 2007) firms with family social capital can take benefits of overlapping social networks and credit officer's perception of family firms having a lower probability of failure in accessing bank finance. Empirical evidence from Pakistan suggest that there is a high composition of family firm (Hussain and Safdar, 2018, Jabeen et.al, 2012.), therefore this justifies the need to evaluate whether small firms with family social capital have greater access to bank finance than small firms without family social capital, since no study has been conducted in Pakistan. Hence this maiden study will investigate the relationship between family social capital benefits and access to bank finance for small enterprises in Pakistan both from a supply side perceptive (banks perspective) and demand side perspective (small enterprise owners' perspective).

RQ3. Do compliance requirements affect credit officer's decision to make a referral under the SBP credit guarantee scheme for small enterprises?

To enable lending to collateral deficient borrowers SBP initiated the CGS (Ilyas, 2019). A review of the literature from Pakistan (Ilyas, 2019; Nadeem and

Rasool, 2018.) found that since SBP did not undertake a wider consultation with commercial banks before finalizing the standard operating procedures for the CGS, credit officers expressed their reservations on making referrals under the SBP CGS. Furthermore literature (Dang and Chuc, 2019.; Aboojafari et.al 2019; and Yagci, 2018) also suggest that due to excessive reporting requirements and delay in processing of applications credit officers are reluctant to make referrals under the CGS. Hence the third research question will identify the relationship between compliance requirements and credit officer's decision to make a referral under the SBP CGS.

RQ. What are the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?

Type 2 error of adverse selection takes place when a commercial bank rejects a loan application from an entrepreneurs; and then following the rejection the entrepreneur gets the loan approved from another bank and also successfully pays back the bank loan (Deakins et.al 2010; Deakins and Hussain, 1994). The literature (Vashishtha, 2019; Ruziev and Webber, 2019.; Deakins et.al 2010; Claessens, et.al, 2008) on adverse selection in bank credit risk assessment of SME loan applications found that a number of factors such as: loan officers communicating soft information within the bank, loan office risk aptitude, extent of loan office discretion despite credit scoring in place, CGS, family involvement, family network and political connections. However no study has identified any real life examples of Tier 2 error of adverse selection (a situation where a commercial bank rejects a loan application from an entrepreneur; and then following the rejection the entrepreneur gets the loan approved from another bank and also successfully pays back the bank loan). Hence this maiden study will identify real life examples of type 2 errors of adverse selection.

1.4 Structure of the Thesis:

This thesis is divided into seven chapters. The first chapter presents the introduction, aims and objectives, and research questions in the thesis.

The second chapter is the literature review. This chapter discusses the academic literature on bank credit risk assessment of loan applications from small enterprises and the effectiveness of credit guarantee schemes in reducing the debt finance gap for small enterprises from both global and Pakistan's perspective.

The third chapter is the theoretical framework. This chapter provides the academic justification of the research objectives and questions by critically analyzing studies on bank credit risk assessment methods on SME loan applications, the relationship between Credit Guarantee Scheme (CGS) and access to bank finance for SMEs, family social capital and access to bank finance for SMEs, adverse selection in bank credit risk assessment on loan applications from SMEs.

The fourth chapter is the methodology. This chapter discusses the research design and the academic justification for selecting positivist research design for this study. The chapter then provides details on the data collection instruments, followed by data validity and reliability.

The fifth chapter is the analysis. The fifth chapter provides in-depth analysis of the quantitative and qualitative data gathered from the lending managers (supply side) and the borrowers (demand side). The findings of the analysis enabled the researcher to answer the research questions, thereby realizing the aims and objectives of the study.

The sixth chapter is the conclusion. This chapter provides a summary of the main findings in this research study, the contribution to knowledge, identify the future area of research for academics and the limitations of this study.

CHAPTER- 2

LITERATURE REVIEW

Since the purpose of this chapter is to review pertinent literature on the issues of access to finance for SMEs from both global and Pakistan's perspectives, the first nine parts of this chapter will examine the literature from a global perspective, and the last three parts will examine the literature from Pakistan's perspective. The first part provides an insight into the importance of SMEs. The second part of this chapter identifies the issue of access to finance as a factor affecting the growth and survival for SMEs. The third part of this chapter will discuss the importance of bank finance for SMEs, and the factors that contribute towards the higher rejection rate of SME loan applications such as: SME owner-manager characteristics, information asymmetry, and bank lending technologies. The fourth part discusses the influence of financial structure of a country on access to finance for SMEs focuses. The sixth part discusses the influence of lending structure on access to finance for SMEs. The seventh part discussed the role of social capital in providing bank finance to SMEs. The eight part investigates the role of credit guarantee, in alleviating collateral requirements and providing finance to credit rationed SMEs, in particular the credit guarantee schemes of Germany, United Kingdom will be discussed. The ninth part is the interim conclusion which summarizes the discussion of the first eight parts. The tenth part discusses the public policy to promote lending to SMEs in Pakistan. The eleventh part discusses the current state of bank financing for small enterprises in Pakistan. The twelfth part is the conclusion of the chapter.

2.1 Importance of SME's:

Schumpeter (1942) defined economic development as a process of creative destruction, in which on the positive side new firms are born and then with the passage of time these new firms developed to form Large Enterprises. While on the negative side, the new firms are either closed or are taken over by Large Enterprises. In the past, many economists believed economic development depended largely on Large Enterprises instead of Small and Medium Enterprises (SME's) (Stokes and Wilson, 2010; Galbraith, 1993; Chandler, 1977). However, the domination of LE's in economic development has been gradually diminished (Giaoutzi, Nijkamp, and Storey, 2016), and by the 1970's and 1980's SMEs were recognized as

the new saviors of the ailing western economics (Stokes and Wilson, 2010). From the 2000s to the present day, the role of SMEs in economic development has been recognized globally (Baporikar and Shikokola, 2020; Ayyagri et.al, 2018; Stokes, and Wilson, 2010; OECD, 2017). SMEs are considered as the key drivers of an entrepreneurial economy. SMEs do not require a large-scale investment and they possess a more flexible structure in comparison to Large Enterprises (Ilyas, 2019; Stokes and Wilson, 2010; Storey and Greene, 2010). Consequently today, developed and developing countries acknowledge the contribution of SMEs towards economic changes (Stokes and Wilson, 2010; OECD, 2017).

SMEs contribution towards Gross Domestic Product (GDP) in both developed and developing economies is well documented and reported in literature (Waheed and Siddiqui, 2019.; Ayyagri, et.al, 2016; Ardic et.al, 2011; Beck and Demirguc-Kunt, 2006; Westhead and Matlay, 2005). However, contribution of SMEs to GDP varies significantly between low- and high-income countries. In low income countries, SMEs contribute 16% to GDP, while in high income countries SMEs account for 51% GDP (Edinburgh Group, 2012; Beck et.al, 2005). Empirical evidence suggests that although there are many SMEs in low income countries, most of them are informal so they are not accounted for in statistics. Consequently, this leads to an under reporting of their contribution to GDP (OECD, 2017; Edinburgh Group, 2002). According to a research by Alibhai et.al (2017) the main reasons for low rates of SME formalization in developing countries are high entry cost, complicated registration processes, a n d obligation to pay taxes. Furthermore, in developing countries registration of SMEs is not a mandatory requirement (Alibhai et.al, 2017).

Similarly in Pakistan, SMEs account for 30% of GDP and is primarily informally organized, with more than 96% of business being owned and managed as sole traders, 3% as partnership and hardly 1% as corporate entities (Waheed, and Siddiqui, 2019; Ilyas, 2019; Khawaja, 2006,; SMEDA, 2009; Coy, et.al, 2007).

Like size the definition of SMEs varies from country to country. The European Union (EU) defines micro enterprises as businesses with an employment threshold of less than 10 employees, small enterprises as businesses with an employment threshold between 10-49 employees and medium sized businesses with an employment threshold between 50-249 employees (Stokes and Wilson, 2010; Giaoutzi, Nijkamp, and Storey, 2016; Storey, and Greene, 2010). Meanwhile, in both USA and Canada small enterprises are businesses with an upper size limit of 500 employees (Stokes and Wilson, 2010), in Japan small enterprises are businesses with an upper size limit of 300 employees (Stokes and Wilson, 2010). In Pakistan, the definition of SMEs is similar to the EU definition, with small enterprises defined as businesses with an employment threshold of less than 50 employees and medium enterprises as businesses having an employment threshold of less than 250 employees (Waheed, and Siddiqui, 2019; Ilyas, 2019; SME Bank, 2018).

Due to the various definitions of SMEs, the structure of the SME sector also varies from one country to another. In the 27 countries of the European Union, 91.8% of firms are classified as micro enterprises, 6.9% as small enterprises, and 1.1% as medium enterprises (Eurostat, 2008 cited in Storey and Greene, 2010). In Japan, 57.2% are classified as micro enterprises, 35.2% as small enterprises, and 7.5% as medium enterprises. In Singapore, 68.9% are classified as micro enterprises, 24.9% as small enterprises and 6.2% as medium enterprises (IFC, 2006 and World Bank, 2008 cited in Storey and Greene, 2010). In India, 81.4% are classified as micro enterprises, 16.7% as small enterprises and 1.9% as medium enterprises (Government of India- MSME, 2016). In the case of Pakistan, the breakdown of enterprises in terms of micro, small, and medium enterprises is not available (Waheed and Siddiqui, 2019.; Ilyas, 2019). However, according to

SMEDA (2009) approximately 99% of the total enterprises fall under the category of SMEs. Accordingly, to Ayyagri, et.al (2011; 2016) numerically approximately 95% of the total enterprises across the world fall under the category of SMEs.

The ability of SMEs in creating new employment opportunities is considered as one of the key contributions as they rely more on labor intensive practices (Ayyagri et.al, 2017, 2016; Storey and Greene, 2010). The European Commission has credited SMEs for creating 9.4 million jobs in the European Union (EU) during the year 2002-2008 (Ardic, et.al, 2011). According to the research conducted by Ayyagri et.al, (2011) SMEs have been credited with creating 86.01% of jobs across 99 developing economics and employ 66.76% of the total permanent and full-time employment. Furthermore, in the EU, SMEs employ approximately 60% of the total employees, and in UK approximately 55% (European Commission, 2014; Department of Business Innovation and Skills, 2014). In the case of Pakistan SMEs account for 90% of the total employment in the manufacturing sector and 70% of the employment in the private sector (Ilyas, 2019; FBS, 2018). Moreover research by (Ayyagri, et.al, 2016; Aridc et.al, 2011) also found that small firms with age of more than 10 year old have the largest proportional share of total employment compared to small and medium firm below 10 years of age, ranging from 48.12% in low income countries to 72.76% in high income countries.

2.2 Access to Finance a concern for growth and survival of SMEs.

While there is a positive relationship between the share of SMEs and GDP *per capita* growth, there is no evidence to suggest that having a high share of SMEs helps accelerates economic development and reduce poverty (Beck, 2013.; Beck et.al, 2005.). Evidence suggests that SMEs exhibit high birth rate; high death rate and many SMEs fail to grow (Ayyagri et.al, 2018, 2017).A study by BERR (2008) in UK showed that for every 100 VAT deregistered businesses that were established in 1995 only 32 businesses were still registered by 2005. Similarly, studies in Pakistan (Waheed, and Siddiqui, 2019; Khan, 2015.) found that 19% of SMEs are less than 5 years old and only 4% of SMEs are able to survive beyond 25 years.

A variety of studies have identified access to finance as one of the major factors affecting the growth and survival of start-up SMEs in both developing and developed countries (Ayyagri et.al, 2018; Beck, 2013.; Ayyagari et.al, 2008.). According to Alibhai et.al (2017) half of small firms across the world, report access to finance as a major constraint to growth. Study conducted by Levy (1993) in Sri Lanka and Tanzania found access to finance as the major factor affecting the growth of SME's. Pissarides (1999) used survey data from the EBRD (European Bank for Reconstruction and Development) and identified access to finance as the major factor affecting the growth of SME's in transitional economies. Furthermore, literature also suggests that difficulty in accessing finance causes negative growth impact on SMEs. Banerjee and Duflo, (2008).in their study of analyzing detailed loan information of 253 Indian SMEs found that credit constraints resulted in a decrease in sales. Similarly, Waheed and Siddiqui (2019) and Zia (2008) found that financing constraints resulted in reduction of sales for small non-listed and non-group firms in Pakistan.

According to the pecking order theory developed by Myers, (1984), firms follow a hierarchy of financing choices when seeking finance. Firms use internal finance until all internal sources are exhausted, then it issues debt, and then it issues equity (Myers, 1984). In its simplest form, the pecking order theory suggests that when a firm 's internal cash flows are insufficient for investment, then the firm issues debt. Equity issuance is avoided and is undertaken when the financial distress cost is very high (Shyam-Sunder, and Myers, 1999). Studies by López-Gracia, and Sogorb-Mira (2008) and Sánchez-Vidal, and Martín-Ugedo, (2005) confirmed that the pecking order hypothesis helps to explain the financing preferences of SMEs. However, IFC (2010) suggests that internal sources of finance are insufficient to meet the financing requirements for SMEs. Moreover, SMEs do not have access to capital markets, and they lack qualified staff for performing financial functions (Eniola, and Entebang, 2017.).

Consequently, there is extensive evidence to demonstrate that bank finance is the most preferred form of SME finance (Ekpu, 2015). BERR's Annual Small Business Survey 2007/08, found that 46% of SMEs in UK seeking external finance resorted to bank loans. Similarly, according to the Ilyas (2019) bank financing is also a very important source of finance for SMEs in Pakistan. Although banks perceive SMEs as an unsaturated sector with good prospects (Beck et.al, 2008), literature suggest that due to information opacity (Berger and Udell, 1998), lack of trading history (Cassar, 2004), and high probability of failure (Huyghebaert and Van de Gucht, 2007) banks have a high rejection rate of SME loan application. Study conducted by Kira (2013) in Tanzania found that 76.5% of small enterprises got their loan applications rejected, 19.8% of medium enterprises got their loan application rejected and only 3.7% of large enterprises of their loan application rejected. Fatoki and Odeyemi, (2010) in their study of South African SMEs found that 72.4% of SMEs got their loan applications rejected. Due to lack of data it is not possible to identify the SME loan application rejection rate; however according to State Bank of Pakistan (2019) SME's have a share of only 9.1% in total private sector financing. Empirical literature suggests that as a result of the high rejection rate of SME bank loan applications there is unmet demand for banking services from SMEs, thereby increasing the finance gap (Ayyagri, et.al, 2018; Ayyagri et.al, 2016; Wang, 2016; IFC, 2010). According to IFC (2010) the finance gap for all formal SME's worldwide is estimated to be between $1.3-$1.6 trillion, and in emerging markets the finance gap is estimated to be between $0.7-$0.85 trillion with 23%-29% coming from medium enterprises, 49-57% from small enterprises and 23-29% from micro enterprises. According to Wignaraja and Jinjarak (2015) the finance gap for SMEs in Pakistan is estimated to be $2.9 billion.

2.3 Information Asymmetry:

Information asymmetry refers to a situation in which agents have more information on the prospects of a business than principals (Holmes et.al, 2003). Information asymmetry is a major problem because due to the low reporting requirements for SMEs there is imperfect information on the SMEs ability to meet their financial commitments (Huang, C. and Liu, Z., 2014). Consequently, this leads to higher transaction costs for the banks, thereby having an impact on the credit risk assessment process of the bank (Ayyagri, et.al, 2018; Imarhiagbe, 2016). Studies (Song et.al, 2018 and Van Caneghem and Van Campenhout, 2012) found that firms with inadequate information were less likely to be using external financing, whereas firms with more credible information used more external finance. Hence it can be deduced that firms with lower level of information asymmetry have higher access to bank finance than firms with high level of information asymmetry. As a result of information asymmetry, banks have to face the dual problems of moral hazards and adverse selection. Adverse selection refers to a situation where a banks may lend to a business that does not have the ability to repay the money borrowed with interest (Type II error), and fail to approve loan for a business that has the ability to repay (Type I error) (Bruns, and Fletcher, 2008; Deakins and Hussain, 1994). Moral hazard refers to a situation where one borrower finds multiple investment opportunities, when an increase in interest rates influences his gains from safe versus risky projects differently. The attitude of the borrower to select riskier projects increases with the interest rate, so that the increased rate tilts his project choice towards greater risk (Deakins et.al, 2010; Mason and Stark, 2004; Tucker and Lean, 2000; Deakins, and Hussain, 1994; Fletcher, 1995).

A number of studies (as shown in Table 2.1 below) have demonstrated the relationship between firm characteristics and information asymmetry. Findings from Table 1 suggest: information asymmetry is higher for SMEs especially young SMEs, the forecasted financial indicators of a firm may be underestimated or overestimated due to information asymmetry, certain sectors of business may be considered riskier for lending due to information asymmetry, firms that are able to pledge collateral can reduce information asymmetry, and firms having an existing relationship with a bank can also reduce information asymmetry.

Firm Characteristics	**Studies**	**Findings**
Firm size	Song et.al (2018); Ekpu, (2015); Abor, and Biekpe, (2009); Fletcher (1995); Deakins, and Hussain, (1994)	SMEs are considered as more information opaque than large firm. This is because unlike large firms, SMEs are not subject to higher level of reporting and disclosure requirements.
Firm age	Ayyagri, et.al, (2018); Song et.al, (2018); Abor and Biekpe, (2009); Fletcher, (1995); Deakins, and Hussain (1994)	Young SMEs with limited credit history are considered as more informationally opaque than older firms with an established credit history.
Firms financial indicators	Song et.al, 2018; Ekpu, (2015); Bruns, and Fletcher, (2008); Berger, and Udell, (2003., 2006); Beck, and Demirguc-Kunt, (2006); Deakins, and Hussain (1994)	Information from the financial statements on actual and forecasted: profit/loss, gearing ratio, liquidity ratios, return on assets ratio and return on equity ratio demonstrate the ability of a firm to payback the bank loan. However, this is subject to forecast and information

		asymmetry may result in underestimating or overestimating the forecasted results.
Firms nature of business	Minto-Coy, Lashley, and Storey (2018); Ekpu (2015); Cole (1998).	Banks perceive certain sectors to be of a higher risk for lending. Hence causing information asymmetry.
Firms asset structure	Ilyas, (2019); Ayyagri, et.al, (2017); Imarhiagbe, 2016; Ekpu (2015)	Collateral can reduce information asymmetry because it can be considered as a signal for borrower's performance. Research suggests that an SME owner/manager would do their level best to ensure the success of the project for which they obtained the bank loan by pledging collateral. Hence SMEs with more fixed assets tends to have lower rejection rates and higher access to bank finance.
Firms Banking relationship	Ilyas, (2019); Ekpu, (2015); Bruns, and Fletcher, (2008); Beck and Demirguc-Kunt, (2006); Deakins, and Hussain, (1994)	Bank loan officers prefer lending businesses with which they have an established banking relationship, hence lowering information asymmetry.

Table 2.2 below shows the number of studies that have demonstrated the relationship between SME owner/manager characteristics and information asymmetry. Findings of table 2.2 suggest: information asymmetry is higher for SME owner/managers below the age of 25 years, female SME owner/managers are also faced with higher information asymmetry, experienced SME owner/managers and SME owner/managers with high level of education qualification face lower information asymmetry, and SME owner/manager with high equity investment in their business also face lower information asymmetry.

SME Owner/ Manager Characteristics	**Studies**	**Findings**
Age	Waheed, and Siddiqui (2019); Ekpu, (2015); Abdulsaleh and Worthington, (2016); Irwin and Scott (2010)	SME owners/managers below the age of 25 years are more likely to default than older SME owners/managers. Hence as the age of the SME owner/manager increases information asymmetry decreases.
Gender	Waheed and Siddiqui, (2019).; Abdulsaleh, and Worthington, (2016); Abor, and Biekpe, (2009); Fletcher, (1995); Deakins, and Hussain, (1994)	Male SME owner's/managers have more assets than female SME owners/managers. Hence information asymmetry is higher for female SME

		owners/managers
Education and Experience	Waheed, and Siddiqui (2019).; Abdulsaleh and Worthington (2016); Ekpu, (2015); Bruns and Fletcher, (2008); Deakins et.al (2010); Berger and Udell, (2003, 2006); Beck, and Demirguc-Kunt, (2006); Mason, and Stark, (2004); Fletcher, (1995); Deakins, and Hussain, (1994)	Information asymmetry is lower for experienced SME owners/ managers because of their expertise in the firm's area of business. Furthermore, SME owners/managers with higher level of education are more financially literate than SME owners/managers with lower educational qualifications.
Equity Stake	Abdulsaleh and Worthington, (2016); Ekpu, (2015); Bruns and Fletcher, (2008); Deakins et.al (2010); Berger and Udell, (2003, 2006); Beck and Demirguc-Kunt (2006); Mason, and Stark (2004); Fletcher, (1995) Deakins and Hussain, (1994)	Information asymmetry is lower for those SME owners/managers who have a high equity stake in the firm as it shows a lower gearing ratio and high commitment from the SME owner/manager towards the success of the firm

Table: 2.2 SME owner manager characteristics and information asymmetry in bank lending

(Source: Researcher)

2.4 Lending Technologies:

To make lending decisions on loan application from SMEs, banks use relationship lending and transactional lending (Moro et.al, 2018; Moro and Fink, 2013; Berger and Udell, 2012, 2006). Relationship lending is based on soft qualitative information about the SME that is gathered by bank loan officers through their interaction with the SME owner/managers during the course of their banking relationship (Moro, and Fink, 2013; Berger, and Black, 2011; Badulescu, 2012). This soft qualitative information reduces information asymmetry and enables SMEs to submit comprehensive data to the banks for loan approval (Badulescu, 2012; Berger and Black, 2011). Consequently, relationship bank reduces the gap between the SME and the bank, and it improves the banks knowledge on the characteristics of the SMEs and their projects, making them less risky for a loan, thereby avoiding adverse selection. Conversely, SMEs are able to benefit from an increasing flexibility from the bank for credit applications to get a higher level of debt and a lower cost of duties (Badulescu, 2012). However, due to the multiple hierarchical levels of most banks, it becomes difficult to communicate the soft information within the bank without significantly diluting its content (Alessandrini et al., 2009; Liberti, and Mian, 2009).This is because in practice it is the responsibility of the bank loan officer to conduct the due diligence during the underwriting phase, and then monitor the borrower once the loan is approved and sanctioned (Berger. and Udell, 2006.). Consequently, there is a relationship between the loan officer and the entrepreneur relationship and no relationship between the bank and the entrepreneur (Berger, and Udell, 2002). A number of studies have also identified loan officer bias in relationship lending. Research by Moro et.al (2018) have shown loan officers giving a high score to SMEs based upon trust. Similarly, studies in the U.K. (Deakins et.al, 2010), Sweden (Trönnberg, and Hemlin, 2014; Bruns, and Fletcher, 2008) in have shown that loan officers prefer lending to businesses with whom they have existing banking relationship and were

reluctant to SMEs with whom they did not have a previous banking relationship despite having viable business propositions. In the case of Pakistan, Nenova et.al (2009) has shown that to eliminate loan officer bias in lending decision making, commercial banks in Pakistan have now adopted transaction lending.

Transaction lending is based on hard quantitative information about the SME that are observed and verified at the time of the credit request (Berger and Udell, 2012; Badulescu, 2012). One of the most popular transactions lending technology is credit scoring which first emerged in the 1940s and with the passage of time it has developed and evolved significantly (Yap et.al, 2011). During the 1960s credit scoring was used for the issuance of credit cards, and in the 1980s the scope of credit scoring further expanded into approving personal loan applications (Yap et.al, 2011). In recent years, credit scoring is widely used for approving home loans, small business loans and insurance applications and renewals (Cenni et.al, 2015; Yap et.al, 2011; Koh, Tan, &Goh, 2004; Thomas, 2000). Credit scoring is widely used by banks in both developing and developed countries, and all banks have their own credit scoring criteria (Van der Schans, D., 2015). Some banks have a centralized unit where a bank loan officer only prepares the loan application but has no influence on the outcome/decision on the loan application because it is credit scored by the computer on the criteria's developed by the central credit risk unit, while in some banks credit scoring is partially used and bank loan officers do have some influence in the outcome/decision of loan applications (Dan van der schans, 2015; Deakins et.al,2010) . In Pakistan credit scoring is being actively adopted by various commercial banks, however there is no research study and data to available to identify the extent to which credit scoring id used to assess bank loan applications from SMEs. In UK credit scoring models are used for loans under £50,000, and for loans above £50,000, Relationship managers and centralised Credit Committees make the lending decision (Dan van der schans, 2015; Deakins, et.al, 2010). However, one of the main limitations of credit scoring is that the credit scoring software mostly takes into considerations the previous information of the borrower, and according to Ekpu, (2015) if the up-to-date information is not balanced and reliable then the accuracy of the credit scoring might be jeopardized. Furthermore, due lower reporting requirements SMEs are considered opaque in both developing and developed countries hence it is very difficult to get credible and up to date information on their performance (Smondel, 2018; Kaya, and Koch, 2015). Therefore, it can be deduced that credit scoring reduces the probability of Type I and Type II errors, but it cannot completely eliminate it (Smondel, 2018; Han, et.al, 2015).

2.5 Financial Institutional Structure:

Foreign-owned institutions generally have a comparative advantage over domestic institutions in transaction lending as they are able to take additional advantage of their access to technology from their headquarters in developed nations for collecting and analyzing hard-quantitative information (Ayyagri, et.al, 2018; Beck et.al, 2008). A few research studies have identified the success of foreign owned institutions in developing economies (Beck et.al, 2008; Beck et al., 2004; Berger et al., 2004; Clarke et al., 2005). However foreign-owned institutions are at a disadvantage over domestic institutions in relationship lending because of the difficulty in processing soft information through increased managerial layers, and coping with multiple cultural, regulatory and economic environments (Torre, et.al, 2008; Nenova et.al, 2009; Torre. et.al, 2008). Furthermore, there are a few studies that highlight difficulty for foreign owned institutions to lend to SMEs in comparison to domestic banks (Mian, 2006; Berger et.al, 2001). In the case of Pakistan there are no research studies which highlight the difficulty faced by foreign owned intuitions to lend to SMEs, however according to the Annual SME Review (2016) by the State Bank of Pakistan (SBP), foreign owned institutions only have a share of 2.5% in SME financing. Furthermore, the Annual SME Review (2016) also shows that the average loan size for borrowers from foreign owned banks is PKRS 11.5 million representing 0.6% of borrowers, whereas the average loan size for borrowers from domestic private banks is PKRS 6.7 million representing 22% of borrowers. This suggests that foreign owned banks in Pakistan are reluctant to lend to small businesses requiring small loans. Furthermore Mian, (2006) analyzed 80,000 bank loans in Pakistan and found that foreign banks are reluctant to lend to small firms in Pakistan.

State-owned institutions also have a comparative advantage over privately owned institutions as they are provided government subsidies to finance their operations (Ayyagri et.al, 2018). In the case of Pakistan, the Annual SME Review (2016) by SBP has shown that the public sector banks lend to 74% of SME borrowers, whereas private banks lend to 26% of the SME borrowers. However, Research studies by Beck et.al, (2004) and Berger et.al, (2004) has shown that SMEs face credit shortage in countries with a dominated share of state owned institutions as they have a high occurrence of non-performing loans (NPL), and a poor monitoring / collection procedure (Berger, et.al, 2005). The Annual SME Review (2016) by SBP has shown the NPLs in Pakistan are 20.3%, hence this is consistent with the findings of Beck et.al (2015) which suggest that sate-owned institutions have a high rate of NPLs. Furthermore in consistence with the findings of Berger et.al (2005) which suggests that state owned banks have a poor monitoring and collection procedure, research by Nenova, et.al (2009) found that since SME Bank Pakistan employs only one loan officer per branch, therefore, there is a poor system of loan approval and monitoring. According to Sabir and Qayyum (2018) a number of developed countries engaged in the process of privatization of state owned banks to improve their efficiency and profitability. The Government of Pakistan (GoP) also underwent through the process of privatization of the state-owned banks by privatizing four of the five state owned commercial banks (United Bank Limited, Bank Alfalah, Habib Bank Limited and Muslim Commercial bank Limited) to improve their profitability and efficiency. However, a number of studies (Nenova et.al, 2009; Husain, 2006)
have also suggested that the privatization of state-owned banks in Pakistan was undertaken to

reduce the influence of politicians on the state-owned banks operations. No study in Pakistan has been conducted to examine whether the privatization of banks has resulted in reduction of political influence on state owned banks.

2.6 Lending Infrastructure

Sharing credit information is an important aspect of the lending infrastructure (Ayyagri, et.al, 2018). Research by Miller (2003) has shown that credit bureaus help in controlling level of defaults, cost and time to process loans by providing formal organization mechanism in exchange of payment performance data. Research provides strong evidence between the existence of credit availability and third-party information (Padilla and Pagano, 2000; Love and Mylenko, 2003). In the case of Pakistan, State Bank of Pakistan (SBP) founded public credit information bureaus (CIB) in 1992 and enhanced their performance through an introduction of an e-CIB system in 2006 (Nenova et.al, 2009). Furthermore, two privately owned CIB's also operate in the country (Nenova et al, 2009). However, CIBs in Pakistan are unable to collect information from telecom and utility companies to build a credit history for SMEs. Consequently, CIB's in Pakistan cover only 10-20% of SMEs requiring loans smaller than PKRS. 6 million (Nenova, et.al, 2009). Hence, it is difficult for banks to perform credit risk assessment of SME loan applications in Pakistan, therefore, the success of credit bureaus in overcoming the information opaqueness of SME's is a subject of great academic debate.

The process of loan contracting is significantly affected by the legal, judicial and bankruptcy environment of a country (Beck and Demirguc-Kunt, 2006). The legal environment consists of commercial laws on property rights associated with a commercial transaction and the judicial and bankruptcy environments determine how effectively these laws are enforced at times of disputes and bankruptcy (Beck, and Demirguc-Kunt, 2006 ;

Berger. and Udell, 2006.). In some countries commercial laws are unambiguous and their enforcements is possible, while on the other hand in other countries commercial laws are ambiguous and their implementation is problematic (EBRD, 2003).In the case of Pakistan, multiple laws create uncertainty and difficulties for banks to use movable property as collateral (NPO, 2004). Financial institutions in Pakistan can benefit from the expedited procedures under the Recovery of Finances Ordinance 2001 to seize the collateral of a defaulted borrower, however, in practice it can take between one and a half and two years to seize the collateral (Nenova et.al, 2009; NPO, 2004). Furthermore, in the case of a dispute between the bank and the borrower a fairly lengthy procedure will arise, and it may take between ten and fifteen years to settle the dispute (NPO, 2004). Hence by the time a bank is able to seize the collateral of a defaulted borrower, most movable property would have lost its value (Nenova, et.al, 2009).

2.7 Social Capital

Social capital plays a predominantly important role in mature, emerging and transition economies (Du et.al, 2015). Study conducted by Uzzi (1999) in USA found that when transactions are embedded in social relationships and networks, firms are able to benefit with greater access to bank finance and also at competitive interest rates. Studies from Vietnam (Le and Nguyen, 2009; Nguyen and Ramachandran, 2006.) and China (Claessens and Fan, 2002) have also found that networking with other firms and government officials increases the access to banks finance for SMEs. Empirical evidence suggests that the level of social capital plays an important role in providing access to finance by enabling firms to directly or indirectly transmit scarce information about their capabilities to banks which leads to a reduction in information asymmetry and transaction costs (Du et.al, 2015; De Carolis, Litzky, and Eddleston, 2009). Social capital is most influential in relationship lending because institutions may use social norms, and culture to gather soft information for banks to develop their relationship with SMEs. It can also play a little role in the production of hard information used in transaction lending technologies (Berger and Udell, 2006.). However, Beck et.al, (2008) suggest that in emerging economies, where financial education is lacking and cultural norms are based on networks, personal recommendations tend to challenge the banks' conventional lending technology (Beck et.al, 2008). Banks in Pakistan also face these similar challenges; consequently, credit risk assessment of small businesses in Pakistan becomes complicated (Chemin, 2008).

2.8 Credit Guarantee Schemes

In order to overcome the obstacle of collateral requirements and adverse selection for SMEs Governments of various countries have initiated Credit Guarantee Schemes (Jones-Evans, 2015.). Credit guarantee systems are intended to shift the banker's risk-reward frontier so that loans to SMEs, for longer terms, and/or with no or lesser collateral requirements can be included as an additional item in the envelope of profitable business. Where such loans would not have been made in the absence of the guarantee scheme, and are not replacement finance, there is said to be "additionality" (Valentin, 2014; Green, 2003).The aim of a credit guarantee scheme is to reduce the net losses incurred by banks from defaulting small business borrowers, through the assumption of a share of this loss by the guarantee organization, normally in return for a guarantee premium (Valentin, 2014; Green, A., 2003). Hence the existence of a credit guarantee scheme should increase the supply of credit to small firms, if the risks and/or costs of lenders decline (Valentin, 2014; NPO, 2004; Green, A., 2003).

A major criticism of credit guarantee schemes is that they increase the danger of 'moral hazard' and contribute to a weakening of credit morality (Valentin, A., 2014; NPO, 2004). The motivation and commitment of the borrowers to repay the loan can be reduced when they know that a guarantee fund, considered, rightly or wrongly, to come from public sources, will reimburse the lending institution for a substantial part of the loss incurred (NPO, 2004). There is also a danger of a second level of “moral hazard” being introduced on the part of the lending bank, which, it is feared, will not be motivated to supervise the loan properly nor to pursue vigorously the collection of the repayments when most of the loan is covered by a guarantee (Valentin, 2014; Green, A., 2003).

Although the central aim of the credit guarantee schemes is more or less similar in every country, their design and operation may differ from one country to another (Valentin, 2014). From 1981-2009, the Government of UK launched the Small Firms Loan Guarantee Scheme (SFLG) which enabled participating banks to lend up to a maximum of £250,000 to SME’s (trading for less than five years and having an annual turnover of less than £5.6 million) and have 75% of the default losses met by the Government of UK. Under the SFLG the lending institutions would first conduct the credit risk assessment of the SME loan application and then submit an application to the Department of Business Innovation and Skills (BIS) only if the loan could not be sanctioned due to collateral requirements. Various Governments reports (National Economic Development Council Committee on Finance, 1986; Advisory Council for Applied Firms, 1989) concluded that although the SFLG has improved SME’s access to bank finance with limited results and there still exists a large number of SME’s who are unable to raise finance through formal channels. According to BIS (2013) 8,680 SFLG loans were made from December 2005 to January 2009 with a total loan value of £675 million, and by March 2013, 4,305 claims had been made against the guarantee, resulting in a total expenditure of £183million. Furthermore, as at 31 March 2013, 1,984 loans were remaining outstanding with a balance of £57 million, and a departmental liability of £43million (BIS, 2013). In order to reduce the default rates and the overall cost the Government of UK replaced the SFLG with the Enterprise Finance Guarantee Scheme (EFG) in 2009, and capped the departmental expenditure at 20% of each lenders annual EFG lending. The EFG enables banks to lend between £1000- £1 million to SME's and have 75% of the default losses met by the Government of UK. EFG is managed by the British Business Bank which was created in 2009 to facilitate business finance to SMEs in U.K. The success of EFG is a subject of academic debate as there is evidence of unmet demand of finance from SMEs (House of Commons, Business Energy and Industrial Strategy committee, 2016).

In Germany every federal state has one institution generally under the term guarantee bank to provide guarantees to SMEs (Valentin, 2014). German guarantee banks are special banks and their business activity is limited to provision of guarantees for SMEs. A guarantee from a German guarantee bank covers up to 80 per cent of the overall loan amount (Valentin, 2014). Generally, SMEs approach Guarantee banks after they have been rejected for a bank loan only due to lack of collateral, which otherwise would have approved, this approach is known as "Guarantee without bank". However, the commercial bank and SME may jointly apply for the guarantee, with the bank submitting the application along with its comments regarding the viability of the project to the Guarantee bank, (Valentin, 2014). In each case, the guarantee bank access the services of external consultants to intensively assess the applications (Schmidt, and van Elkan, 2006). Following the approval by external consultants the application is forwarded to the guarantee board to make the final decision (Valentin, A., 2014). The commercial bank is responsible for credit control and is required to provide regular reports to the guarantee bank. As a pre-condition of payment by the guarantee bank in case of a default, the commercial bank has to inform the guarantee bank immediately about any deteriorations in the loan arrangement. In the event of the borrower's insolvency, the commercial bank determines the valuation of collateral, distributes the generated proceeds to the guarantee bank and requests for the repayment of the outstanding amount (Schmidt and van Elkan, 2006.).

In the case of Pakistan there was an automatic scheme from 1972-2010 providing 50% cover to commercial banks in case of loan defaults from small enterprises (SBP, 2017). This automatic scheme was administered by the Small Business Division of the Banking Control department in the State Bank of Pakistan and was associated with the compulsory directed lending to priority sectors of the economy through the main five nationalized commercial banks (Habib Bank Limited, United Bank Limited, National Bank of Pakistan, Allied Bank Limited, Bank Alfalah). Claims lodged were subject to a case-by-case audit by the central bank officials using a scrutiny sheet, which required full documentation including copies of all security, collateral, and surety deeds (SBP, 2017). Before paying out the central bank officials were required to ensure that the handling of the loan from origination to attempted recovery had been exemplary (SBP, 2017; NPO, 2004). However, various Government reports (SMEDA, 2009; 2007; Chemin, 2008.) showed that the scheme was discontinued because of the high default rate on loans covered under the guarantee. Other subsequent reports NPO (2004) showed that SBP guarantee scheme was unable to resolve the collateral deficiency requirements for SMEs in Pakistan as they were facing a high loan rejection rate mainly due to their inability to meet the collateral requirements. Survey conducted by SMEDA (2009) found that 34.33% of SMEs in Pakistan got their loan applications rejected due to lack of collateral.

In order to facilitate Small and micro enterprises to overcome the inability to meet collateral requirements, SBP launched the Credit Guarantee Scheme (CGS) in partnership with the Department of International Development, United Kingdom (DFID) in 2010 (SBP, 2010). SBP selected 21 participating banks (Habib Bank Limited, Muslim Commercial Bank Limited, Askari Bank, Allied Bank, Bank Alfalah, Advans Microfinance Bank, FINCA Microfinance Bank, Dubai Islamic Bank, Bank of Khyber, SME Bank, Sindh Bank, Meezan

Bank, Bank Islami, U Bank, First Women Bank Limited, Tameer Microfinance Bank Limited, Pak Oman Microfinance Bank Limited, Faysal Bank, National Bank of Pakistan, Al Baraka Bank and United Bank Limited) to act as Participating Financial Institutions (PFIs) and allocated credit to each PFI (SBP, 2010). The SBP credit guarantee scheme is similar the SFLG and EFG of U.K. as participating banks would first conduct the credit risk assessment of the loan application and then only if the loan cannot be sanctioned due to lack of collateral requirements then the participating can forward the application to SBP for consideration under the CGS. Under the CGS the risk coverage for clean lending is 60%, 40% for value of collateral up to 100% of loan, and 20% for value of collateral greater than the loan amount. The maximum exposure limit for Small Enterprises is PKRS 25 million (Nadeem, T. and Rasool, R., 2018.; SBP, 2017). The selection criteria for eligible borrowers include: Regular and estimate positive cash flows, conformance to SME prudential regulations and a clean e-CIB record. PFIs are responsible for monitoring of the loan and to address any issues of moral hazards (Nadeem, T. and Rasool, R., 2018). PFIs are expected to adopt a sector specific approach, and for this purpose PFIs were allowed to lend up to 50% to specific sectors identified by them. Once the loan is categorized as a loss then payment of claims to PFIs is done on a case to case basis up to the guarantee coverage provided against a particular loan (Nadeem, T. and Rasool, R., 2018). However, Re-imbursement of guarantee claim does not preclude PFIs from the right of recovery of the defaulted amount. Hence PFIs are expected to continue with their regular loan recovery procedures, and any recovery from a defaulted borrower after reimbursement of guarantee claim by SBP is supposed to be treated as Principal recovery, and the costs incurred on recovery is not supposed to be passed on to the CGS. Each PFI is required to nominate at least two senior officials as Authorized Contact Officials (ACOs) and only those guarantee/claims that are signed by the nominated ACO shall be entertained by SBP under CGS (SBP, 2017). According to BR (2017) the existing data on banks' lending to SMEs in Pakistan is not sufficient to evaluate whether banks are more open in lending to SMEs as a result of the CGS (BR, 2017). Furthermore, study conducted by Nadeem, T. and Rasool, R., (2018) found that banks in Pakistan are reluctant to use the CGS, hence there is a need to explore this issue in detail.

2.9 Interim Conclusion

SMEs play a key role in the economic development of both developing and developed countries (Ardic et.al, 2011). Literature has identified the contribution of SMEs towards GDP and employment (Beck, 2013.; Beck et.al, 2005). However due to the issue of access to finance, SMEs are unable to grow (Baker, Kumar and Rao, 2020). The information opaqueness is a key obstacle for SMEs in accessing bank finance. Literature investigating the reasons behind the information opaqueness of SMEs have identified a number of SME specific characteristics (firm size, firm age, firm financial indicators, firm nature of business, firm asset structure, and firm banking relationship) and SME owner/manager characteristics (age, gender, education and experience and equity stake) that influence bank credit risk assessment of SME loan applications (Kumar and Rao, 2015; Ekpu, 2015; Valentin, 2014). Furthermore, the financial and lending structure of a country also plays a key role in the ability of banks to effectively use lending technologies for credit risk assessment of SME loan applications (Berger, and Udell, 2006.). The role of social capital in reducing the access to bank finance gap has also been identified in the literature. Literature from Pakistan has identified how ineffective credit bureaus, lack of financial education, cultural norms and personal recommendation tend to challenge banks conventional lending technologies. Hence this makes the credit risk assessment of SME loan applications complicated and there is an increase in the finance gap for SMEs (Khan, 2015; Chemin, 2008.). To overcome the issue of finance gap for SMEs, Governments of various countries launched credit guarantee schemes. In addition to discussing the Credit Guarantee Schemes in Pakistan, the researcher discussed the credit guarantee schemes in UK and Germany as they are one of the first countries in the
world to launch credit guarantee schemes. Although credit guarantee schemes have achieved

some success, there is substantial literature to demonstrate that banks in UK and Pakistan are not actively using the credit guarantee scheme.

2.10 Public policy to promote bank lending to SMEs in Pakistan

Following the creation of Pakistan in 1947, the Government of Pakistan (GOP) policies in the 1950s and 1960s were based on the assumption that market fails (Hyder and Lussier, 2016.). Hence due to the fear of market failure, GOP policies were aimed at promoting licensed monopolies and subsidized credit to certain sectors (Hyder and Lussier, 2016.; Jamali et.al, 2010; Chemin, 2008.). Ul Haque, (2007) showed that during 1958 by Pakistan Industrial Credit and Investment Corporation (PICIC- the largest public sector financial institution at that time) went to 37 monopoly houses. It was not until the 1970s that GOP recognized small businesses as an integral part for economic development and this led to the creation of Small Business Finance Corporation (SBFC) in 1972. In the 1970's the GOP also pursued a nationalization programme and merged all the banks in Pakistan into 5 banks to promote lending to private sector particularly small enterprises in Pakistan (Ul Hassan, 2008). Despite the various policy initiatives undertaken by GOP in the 1970's, small enterprises in Pakistan could not flourish and contribute significantly in the Gross Domestic Product (GDP) of Pakistan (Hyder and Lussier, 2016.; Chemin, 2008.). It is important to note that from 1950s- 1970s GOP defined enterprises as either small enterprises or large enterprises in its various policy documents. It was not until the 1980's that GOP recognized medium enterprises in its policy documents when it established institutions like the Small and Medium Enterprise Bank (SME Bank), Regional Development Finance Corporation (RDFC), Export Promotion Bureau (EPB), Central Board of Revenue (CBR) and Board of Investment (BOI). However, despite these various initiatives in the 1980's priority was still given to large enterprises in terms of export quotas and subsidized credit (Jamali et.al, 2010; Chemin, 2008.).

In the 1990's GOP recognized that its various policy initiatives in the past had not resulted in the evident growth of SMEs in Pakistan (Hyder, S. and Lussier, R.N., 2016.; Jamali et.al, 2010; Chemin, M., 2008., SMEDA, 2007; NPO, 2004). SBP (1990; 1989 cited in Nenova et.al, 2009) found that due to the nationalization of the banking sector in 1970s, there were very high levels of regulations concerning the allocation of credit, and consequently there was a high rejection rate in the SME bank loan applications (Hyder and Lussier, 2016.; SBP, 1989 cited in Chemin, 2008.). Furthermore the nationalized banks were being used by GOP for its own political leverage by allocating credit to borrowers with strong political and bureaucratic connections (Munir, and Naqvi, 2013). Hence to facilitate bank lending to the private sector especially SMEs in Pakistan, the GOP initiated the banking sector reforms in the 1990's. During the first phase of the banking sector reforms, the GOP acknowledged that to facilitate lending to the SMEs there is a need to reduce the high levels of regulations for allocation of credit, therefore the GOP in 1991granted licenses to ten new private banks in Pakistan and also privatized two relatively small states owned commercial banks: Allied Bank Limited and Muslim Commercial Bank Limited (Hyder, and Lussier, 2016; Munir, and Naqvi, 2013). The first phase of the banking sector could not achieve promising results and SBP (1997) admitted that the share of SMEs in total credit during the year 1996-1997 was only 0.54%.

In 1998 GOP established the Small and Medium Enterprise Development Authority (SMEDA) as its premier SME policy advisory body to take on the challenge of developing SMEs in Pakistan (SMEDA, 2007). Survey conducted by SMEDA in 1999 observed that SMEs were being rationed out of credit market and it also found that 59% of new investment for SMEs and 68% of working capital finance came from internal finance or retained earnings; and only about 7%-8% of funds for investment or working capital come from banks or other financial institutions (SMEDA, 2007; NPO, 2004). Gallup (2001 cited in Bari and Cheema,

2005) confirmed the findings of SMEDA and concluded that that 90% of the manufacturing enterprises in the SME sector were equity-financed businesses, 20% of the entrepreneurs tried to raise some sort of financing, and 96% of both long term and short term financing came from family and friends. Hence, recognizing the credit constraints faced by SME Pakistan, the GOP in 2002 initiated the second phase of the banking sector reforms to decrease the access to bank finance gap for SMEs in Pakistan (SMEDA, 2007).

In 2002 the GOP privatized three of the leading and biggest state-owned banks, Bank Alfalah and United Bank Limited (UBL) in 2002 and Habib Bank Limited (HBL) in 2003 (Available online: Privatization Commission, Pakistan). Although the privatization of Bank Alfalah, UBL and HBL did increase the market share of private banks in Pakistan; commercial banks view of considering SMEs as profitable and yet a very risky sector could not be changed (NPO 2004, Business Recorder, 2019). Study conducted by Bari and Cheema (2005) found that due to the non- corporatization of SMEs; commercial banks did not have sufficient information on the individual SMEs and they often did not have information on the SME specific industries as well. Recognizing the failure of SBFC and RDFC to address the issue of access to finance for SMEs in Pakistan, the GOP merged SBFC and RDFC with SME Bank in 2002. However, during the first two years of its restructuring from 2002-2004, a mere 1% of the SME's in Pakistan could avail bank financing from SME Bank. Even in 2007, SME Bank only had 2,200 clients or 1.2 percent of total SME borrowers in the country (Nenova, et.al, 2009).The GOP allocated an amount of PKRS 2 billion in the federal budget of 2012-2013, PKRS 1 billion in the federal budget of 2013-2014 and PKRS 0.5 billion in the federal budget of 2014-2015 for equity injection in SME Bank (SME Bank, 2017). Although SBP (2016) revealed that SME Bank had increased lending to22% of SME borrowers in the country, the bank has consistently made a loss over the period 2010 – 2017, mainly on account of high Non Performing Loans (SME Bank, 2017; BR, 2017)

In order to support the SME sector, SBP formulated a separate set of prudential regulations for SMEs, which were developed after extensive consultations with the SME Associations, SMEDA, and provincial departments (SBP, 2004). The new Prudential Regulations came into force in January 2004 and offered following attractions of lending to SMEs: (a) it did not make it mandatory for banks to require collateral; (b) it allowed banks to take into consideration asset conversion cycle and cash flow generation as the basis for loan approval; (c) it made the requirements of audited accounts applicable only for financing above PKRs.10 million; (d) no debt-equity requirement. Furthermore SBP made it mandatory for all commercial banks to have a dedicated SME department, and to improve coordination between SME departments of commercial banks and SBP a separate SME department was established at SBP in 2004 (SBP, 2004). Following the implementation of SME Prudential Regulations, 2004, commercial bank lending to SMEs witnessed an increase (Nenova et.al, 2009). However, various reports by SMEDA and SME Associations showed that commercial banks preferred lending to medium enterprises and ignored small enterprises (Nenova et.al, 2009). Hence SBP in 2013 issued its revised Prudential Regulations, where it defined small enterprises and medium enterprises separately and made it compulsory for commercial banks to meet the lending targets for small enterprises and medium enterprises separately as well (SBP, 2013). Despite issuing separate prudential requirements for small enterprises and medium enterprises, SBP in its latest SME Finance Quarterly Review (2018) presented the data for SME financing collectively and did not present separate data for small and enterprises and medium enterprises.

In 2005, National Bank of Pakistan (NBP- the largest state-owned bank of Pakistan) recognized that most credit decisions on SME bank loan applications were based on the basis of immovable collateral (Nenova, et.al, 2009; NBP, 2005). Hence, in 2005 NBP engaged with Shores Bank International (SBI) to underwrite small business loan applications not on the basis of collateral rather on the basis of cash flows and business performance. Furthermore SBI also provided bonuses to loan officers on the number of loans issued and the quality of their managed loans (Nenova et.al, 2009). Over the first 18 months of the agreement promising results were achieved with 658 loans issued to SME's for a total loan portfolio of PKRS. 1.4 billion (Nenova, et.al, 2009). However as a result of the financial 2007- 2008 financial crisis there was a significant increase in the number of Non-Performing loans (NPL) from SMEs in Pakistan, therefore lending to SMEs declined significantly and commercial bank including NBP preferred lending to only those SME's that could pledge significant collateral (SMEDA, 2011; Jamshoro et.al, 2010; SBP, 2009). PMN (2017; 2013) found that due to since small enterprises do not maintain appropriate financial statements, lending based on cash flows becomes extremely complicated, and suggested that training credit officers on analyzing cash flow statements of small enterprises was again required though efforts have been made in the past.

2.11 Current state of bank financing for small enterprises in Pakistan

As a result the global financial crisis (GFC), political instability and energy shortage in Pakistan the banking sector profitability squeezed, as average return on assets decreased from 2.3 (during FY-02 to FY-07) to 1.4 (during FY-08 to FY-14) (Ilyas, 2019; Nadeem and Rasool, 2018.). There was also a sharp increase in NPLs from SMEs, which increased from 12 percent (pre FY-02 to FY-07 period) to 30 percent of outstanding SME lending during this span (FY-02- to FY-07 period) (Ilyas, 2019; Nadeem and Rasool, 2018.). Consequently, lowering the average SME credit to a mere 7.65 percent of the overall private sector credit from (FY-09 to FY-14). During this period FY-09 to FY-14 double-digit interest rates also undermined to SME credit growth and credit availability from banks in Pakistan (Ilyas, 2019; Nadeem and Rasool, 2018.). As the macroeconomic conditions started improving post FY- 14, commercial banks in Pakistan consider SMEs as a very profitable sector (Karamat, et.al, 2016; Saeed and Sameer, 2015). According to Ilyas (2019) SME finance with a weighted average lending of 14.7 is most profitable to commercial banks in Pakistan, followed by agriculture 12.4, corporate commercial 7 and Government 6.7. According to SBP (2019) domestic private banks have the largest share in SME financing with 67%, 21% public sector commercial banks, 9.3% Islamic banks, 1.9% specialized banks, 0.52 % Development financial institutions (DFI), and 0.03% foreign banks. One of the major issues with the SBP data is that although SBP has separated prudential regulations for both small and medium enterprises, SBP did not present separate data small and medium enterprise financing in any of its reports

A number of studies have identified bank financing as an important source of finance for small enterprises in Pakistan. Study conducted by Hyder and Lussier, (2016) surveyed 143 small enterprises in Pakistan and found that lack of financing particular bank finance remains as an important factor contributing towards the failure of small enterprises in Pakistan. This was confirmed by Raza et.al (2018) who stated that despite high rejection rate on loan applications; bank finance remains an important source of finance for small enterprises in Pakistan.

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2.12 Conclusion

Synthesizing the discussion in this chapter, it is revealed that although Pakistan gained independence in 1947, it was not until the 1970s that GOP recognized the importance of small enterprises in its various policy documents (Hyder, and Lussier, 2016.; Chemin, 2008). Furthermore from 1947-1970 GOP categorized enterprises only into small enterprises and large enterprises; it was not until the 1980s with the creation of SME Bank that medium enterprises were recognized in GOP’s policy documents (Chemin, 2008). During the 1990s GOP initiated the banking sector reforms to encourage bank lending to SMEs. Furthermore, NBP in 2005 undertook the initiative of lending to SMEs on the basis of business performance and not collateral (Nenova et.al, 2009). As a result commercial bank lending to SMEs did increase during the period 2005-2007, however in 2008 as a result of the economic crisis commercial bank lending to SMEs started declining and only those SMEs that could provide adequate collateral were successful in obtaining commercial bank finance (Hyder, and Lussier, 2016.; Chemin, 2008). Although SBP initiated separate prudential regulations for small enterprises and medium enterprises, it did not provide a breakdown of the number of loans approved for small enterprises and medium enterprises separately (Hyder, and Lussier, 2016.; Chemin, 2008). Hence it's difficult to evaluate the difficulty small enterprises face when applying for bank finance, therefore the aim of this study is to analyze how commercial banks make lending decisions on business propositions from small enterprises in Pakistan. Furthermore, as discussed in Chapter 2 (Literature Review), SBP also launched the Credit Guarantee Scheme (CGS) to present the problems of adverse selection, therefore this

study also aims to find out the circumstances in which type 2 errors of adverse selection takes place. The next chapter will discuss the theoretical framework and identify the research questions for this study.

CHAPTER- 3

THEORETICAL FRAMEWORK

This chapter is divided into 5 main sections. The first section will critically analyse the studies on bank credit risk assessment methods on SME loan applications to identify the importance of firm specific and SME owner specific characteristics in the bank credit risk assessment process. The second section will critically analyse the literature on the relationship between Credit Guarantee Scheme (CGS) and access to bank finance to identify how frequently CGS is used by the loan officers. The third section will critically analyse the literature on family social capital benefits and access to bank finance for SMEs, to identify how family ownership affect the ability of SMEs to access bank finance. The fourth section will critically evaluate literature on adverse selection in bank credit risk assessment on loan applications from SMEs. The fifth section is the conclusion which would summarize the findings of the four sections mentioned above and identify the research questions to be answered in this study.

3.1 Bank credit risk assessment of SME loan applications:

As discussed in Chapter 2 that due to information opacity of SME, bank credit risk assessment of loan applications from SMEs is very challenging. Traditionally loan officers were responsible for making lending decisions. Studies conducted by Deakins and Hussain, (1994) in England and Fletcher (1995) in Scotland used a business plan to examine the criteria's (gearing, entrepreneurs financial position, forecasted balance sheet and profit and loss account, entrepreneur's drawings, entrepreneur's contacts in the industry, timing of income payments, contingency plan, entrepreneurs personal collateral, market research, entrepreneur's qualification and career, cash flow assumption, entrepreneur's starting

separately, business/managerial strategy, role of production manager, production cost, enterprise and small business experience) used by bank loan officers to make their lending decisions and found that loan officers would place a higher emphasis on the uncertain financial information of the business rather than the skills and abilities of the entrepreneur. Study conducted by Erdogan (2019) in Turkey, Abdulsalah. and Worthington (2016) in Libya, Bruns and Fletcher (2008) in Sweden supported the findings of Deakins and Hussain, 1994 and Fletcher (1995) and suggested that although bank loan officers do place strong emphasis on tangible accounting figures, however they use subjective judgement despite having objective lending criteria. Another study in Scotland by North et.al (2010) also found that although banks have standard financial models to perform credit risk assessment, loan officers would maximize their discretion to lend to those SMEs with whom they have an existing banking relationship.

Academic studies have also found a relationship between loan officers' human capital and decision making on loan applications. Studies (Bushman et.al , 2019; Bruns et.al, 2008; Cohen & Cohen, 1983) suggest that that loan officers with greater level of education have greater level of communication, problem solving and communication skills, therefore loan officers with a higher level of education are more likely to approve loan applications from entrepreneurs with high level of education. Similarly studies (Bushman et.al , 2019; Bruns et.al, 2008) also suggest that young loan officers are more likely to approve loan applications from young entrepreneurs and older loan officers are more likely to approve loan applications from older entrepreneur. Moreover, studies (Bushman et.al , 2019; Deakins et.al, 2010; Bruns et.al, 2008) also suggest that since experienced loan officers are able to develop their knowledge through on the job trainings and banking experience; experienced loan officers are more likely to approve loans from SMEs than less experienced loan officers.

Though commercial banks have started using credit scoring to minimize loan officer's discretion in lending decisions making (Brock and De Haas, 2020; Hussain et.al, 2018; Ekpu, 2015); the role of loan officers in lending decision making may have been reduced but not eliminated (Flögel, 2018; Berger and Black, 2011). Furthermore, study by Flögel (2016) suggest that a low geographical distance between the bank and the SME, provides the bank with a competitive advantage due to enhanced access to soft information, hence decentralized banks are deemed ideal for lending to SMEs. In the case of Pakistan, Ilyas (2019) stated that credit scoring is still in its initial stages of development and most of the banks used fixed aster lending (lending on the basis to collateral) to make lending decisions on bank loan applications from SMEs. To examine the lending criteria used by commercial banks in Pakistan, a study conducted by Kousar et.al (2012) in Pakistan found that collateral, firm size, firm age, deposit relationship, loan relationship and financial documentation are considered important indicators in the bank lending criteria for SMEs. The limitation in Kauser et.al (2012) study is that it did not consider the importance owner specific characteristics (age, education, experience) in commercial banks' lending criteria, though survey conducted by Waheed and Siddiqui (2019) in Pakistan found a positive association between SME owner/manager age, education and work experience and access to bank finance. Furthermore, recent literature suggest that development of credit bureaus have resulted in reduction of information asymmetry and hence improved SMEs access to bank finance (Kuwahar, et.al, 2019; Boushnak, 2018). In the case of Pakistan State Bank of Pakistan (SBP) upgraded the E- Credit Information Bureau (E-CIB) database and made it compulsory for banks to submit monthly information on their borrower record online to the e-CIB database (SBP; 2019). The purpose of the e-CIB database is to enable commercial banks extend their lending to all SMEs in Pakistan and not only their customers and give it a due weightage in their risk assessment criteria (Ilyas, 2019; SBP, 2017). Hence there exists a gap in literature to identify the importance of e-CIB report in the commercial banks credit risk assessment criteria (comprising of firm specific and SME owner specific factors) on loan applications from small

enterprises in Pakistan. Furthermore, no study in Pakistan has examined the importance of financial indicators in credit risk assessment on loan applications from small enterprises, through previous studies from UK (Hussain et.al, 2018; Deakins and Hussain, 1994) have recognized the importance of financial indicators in credit risk assessment of loan applications from SMEs.

3.2 Family social capital and access to bank finance for SMEs

The literature on family social capital and access to bank finance for small enterprises is very scarce and does not reach univocal results (Murro and Peruzzi, 2019). Studies conducted by Murro and Peruzzi (2019), Pindado et.al (2011), Hermalin and Weisbach (2012) found that family firms are more likely to experience conflicts between controlling family members and minority shareholders, and family members may limit or distort data, thereby increasing information asymmetry with banks (Ferri, and Murro, 2015). Conversely some academic studies accept the existence of social capital among family members because of the strong ties that family bonds create (Arregele, et.al, 2007; Coleman, 1988). There is evidence to suggest that family social capital may involve into family firm social capital through overlapping social networks and this may help family firms secure external resources (Arregle, et.al, 2007; Carney, M., 2005). According to Steier, L., (2007) when firms borrow family social capital for the purpose of debt finance, family members who hold social capital with the lender transfer their goodwill and allow their family name to be used in the negotiation process. Study by Chua et.al (2011) suggested that family social capital can reduce information asymmetry between the bank and the firm, therefore banks consider with firms with family social capital to have lower probability of failure. A major limitation in the study by Chua et.al (2011) is that in their survey only start-ups firms having an age of maximum 2 years and a median age of 1.54 years were considered only, and the percentage of family ownership was only presented with a median figure of 82.9%.

Family ownership firms play a key role in the Pakistani economy (Zulfiqar and Fayyaz, 2014.). According to Jabeen et al. (2012) almost 65% of the private limited companies in Pakistan are run by families. Similarly, Hussain and Safdar, (2018) conducted a survey of 290 non-financial firms listed on the Pakistani Stock Exchange and found that 60% of the firms have a family ownership of 20% or more. Survey conducted by SMEDA (2009) also found that approximately 65% of small enterprises in Pakistan are family owned businesses. Hence there exists a gap in literature to determine that does the family social capital benefits affect small enterprises ability to access bank finance in Pakistan, as no such study has been conducted in Pakistan.

3.3 Credit Guarantee Schemes and access to bank finance for SMEs

As discussed in Chapter 2, Governments in various countries launched credit guarantee schemes to enable collateral deficient SME borrowers obtain bank finance and reduce adverse selection (SBP, 2019; Valentin, 2014.; Green, 2003) (discussed in section 4 in more detail). However, literature investigating the impact of CGS in reducing the access to bank finance gap for SMEs has mixed results. Valentin (2014) interviewed 10 bank managers in Germany and found that bank loan officers would discuss the SME loan application with a guarantee bank before they apply for the guarantee; consequently a guarantee application submitted by a bank is rarely rejected by the guarantee bank, therefore CGS does help in the provision of an initial loan for an SME and reduces the finance gap. Study by Cowling (2010) analyzed 27,331 loan contracts issued within the years 1993-1998 (a period of strong macro-economic growth) in U.K under the Small Firms Loan Guarantee Scheme (SFLG) and found that the SFLG did help in reducing the finance gap for SMEs. However, as a result of the 2007 economic recession there was an increase in the number of loan defaults from SMEs, and as result there was an increase in credit rationing for SMEs in UK (Agnese et.al, 2018). Hence the SFLG was replaced by the Enterprise Finance Guarantee Scheme (EFG) in

UK in 2009. During the initial years of its launch, a study by Deakins et.al (2010) found that banks managers rarely made referrals under the Enterprise Finance Guarantee Schemes on loan applications from SMEs in UK. Though the British Business Bank (2019) states that from 2009-2018, 30,000 business loans to a value of £3.2 billion have been supported by the EFG, it accounts to no more than 2% of the total value of conventional bank loans to SMEs in UK (Agnese et.al, 2018). In the case of Pakistan the anticipation of State Bank of Pakistan (SBP) from the credit guarantee scheme was that it would lower collateral requirements from small enterprises and with the passage of time more loans under the credit guarantee scheme would be sanctioned to prevent adverse selection (SBP 2017). However data suggests that from 210-2017 only 9000 small enterprises have been able to get a guarantee loan under CGS and in a majority of cases the value of collateral for guaranteed loans exceeded 100% of the value of the loan from commercial banks in Pakistan (Nadeem and Rasool 2018; SBP, 2017). Furthermore study conducted by Nadeem and Rasool (2018) found that credit officers expressed their reservations regarding the standard operating procedures of the SBP CGS, since SBP did not undertake a wider consultation with commercial banks in Pakistan before finalizing the standard operating procedures of the SBP CGS. Hence study by Ilyas (2019) in Pakistan also stated that despite the presence of CGS in Pakistan credit officers are obsessed with collateralized lending which constitutes to 97% of the lending in private sector. Furthermore, studies by Dang and Chuc, 2019. in Vietnam, Aboojafari et.al (2019) in Iran, and Yagci (2018) have suggested that due to excessive reporting requirements and delay in processing of applications, credit officers are reluctant to use the credit guarantee schemes. Hence there exists a gap in the literature to determine that does compliance requirements affects credit officers decision to make a referral under the SBP CGS for small enterprises in Pakistan.

3.4 Adverse selection and access to bank finance for SMEs:

Deakins and Hussain (1994) defined adverse selection into two main categories: Type I error- the bank approves a business proposition which turns out to be a business failure and Type II error- the bank refuses to approve a business proposition which turns out to be a business success. Academic literature has identified a number of reasons that can lead to adverse selection. Studies by (Vashishtha, 2019; Deakins and Hussain, 1994) suggest that since type I error may adversely affect the career of the bank loan officer therefore loan officer may adopt a very risk averse approach to lending decision making and in this process they may make a type II error. Furthermore studies by Uchida et.al (2012) and Berger and Udell (2002) has shown that due to high loan officer turnover and institutional frictions loan officers are unable to communicate the soft information that they have gathered within the banking organization without significantly diluting its content, hence this may lead to both type 1 and type 2 errors of adverse selection.

In section 1 of this chapter it was discussed that commercial banks have adopted credit scoring to reduce loan officer bias in lending decision making. However Jones-Evans (2015) suggest that the extent to which credit scoring is used varies greatly between banks, where some banks completely rely on the decision by the credit scoring software while in some banks loan officers can still exercise discretion. Furthermore Ekpu (2015) suggest that for the credit scoring software to predict accurately it needs up to date information on the borrower and SMEs in most countries do not update their financial information regularly. Hence while credit scoring can decrease the risk of type 1 and type 2 errors, it cannot completely eliminate it.

In Section 2 of this chapter it was discussed that CGS was launched to prevent adverse selection. However, Cowling (2010) found that 2% of all loans issued under the

SFLG in UK ended in default, and this led him to conclude that since the main objective of a CGS is to reduce type II errors, therefore the SFLG fulfilled its primary objective by providing lending facilities to credit rationed SMEs, the ex post loan defaults have demonstrated the existence of type 1 error.

Research by Chua et.al (2009) suggests that since family involvement can reduce the probability of adverse selection because such involvement aligns interest of both the family members and the entrepreneur. Furthermore studies (Ruziev and Webber, 2019; Claessens et.al, 2008) suggest that family networks and political connections can help SMEs gain preferential access to bank finance.

Though a number of studies have been discussed above, there exists a gap in the literature because no study has been conducted to identify real life examples of circumstances in which type 2 error (a situation where a commercial bank rejects a loan application from an entrepreneurs; and then following the rejection the entrepreneur gets the loan approved from another bank and also successfully pays back the bank loan) of adverse selection takes place.

3.5 Conclusion

As shown in figure 4.1, the research aims to identify the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises. However, to understand adverse selection on bank loan applications from small enterprises, it is pertinent to understand the criteria used by commercial banks to undertake credit risk assessment. Hence, this chapter first discussed how banks make use of various firm specific characteristics (firm age, firm size, firm legal form, collateral), financial indicators (gearing, liquidity, timing of income payments) and SME owner/manager characteristics (owner age, owner education, owner experience) to perform credit risk assessment on loan applications from SMEs. A review of the literature found that studies (Kousar et.al, 2012) in Pakistan have used various firm specific characteristics (firm age, firm size, firm legal form, collateral) and SME owner specific characteristics (owner age, owner education, owner experience) (Waheed and Siddiqui, 2019.) no research study in Pakistan (especially from the supply side- banks perspective) has analyzed the importance of financial indicators (liquidity, gearing and timing of income payments), e-CIB report among its SME owner specific characteristics (which according to the SBP is mandatory for banks to give due weightage to in their credit scoring criteria) in lending decision making. As discussed in Chapter 3, this research study will focus on small enterprises as it is considered as a neglected sector in comparison to medium enterprises in Pakistan. Hence this leads to the first research question: **"What is the importance of small enterprise owner characteristics (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?"**

In investigating the role of family social capital and access to bank finance for SME, empirical results showed mixed results. Study by Chua, et.al (2011) and (Arregele, et.al, 2007) found that firms with family social capital are able to take benefits of credit officers perception on lower probability of failure and overlapping social networks in gaining access to bank finance; whereas study conducted by Murro and Peruzzi, 2019) showed that due to conflicts between family members, family social capital increases the firms access to bank finance. Data from Pakistan showed the presence of a substantial number of family firms in Pakistan, however no study has been conducted to identify the relationship between family social benefits and access to bank finance for small enterprises. Hence this leads to the second research question: **“Do family social capital benefits affect credit officers lending decision making on loan applications from small enterprises in Pakistan?”**

The role of CGS in reducing the finance access to bank finance gap was also discussed. Literature (Valentin, 2014.) showed that in Germany bank loan officers would discuss the loan application with a guarantee bank before making an application; hence the guarantee submitted by a bank is rarely rejected by the guarantee bank. However, studies from UK and Pakistan (which have very similar CGS structure) have shown that loan officers prefer lending to SMEs with collateral and would rarely make referrals under the CGS. Furthermore study by Nadeem and Rasool (2018) stated that since SBP did not undertake an extensive consultation with commercial banks before finalizing the standard operating procedures of the CGS, credit officers expressed their reservations in making a referral under the CGS. Moreover, studies by Dang and Chuc, 2019. in Vietnam, Aboojafari et.al (2019) in Iran, and Yagci (2018) have suggested that due to excessive reporting requirements and delay in processing of applications, credit officers are reluctant to use the credit guarantee schemes. Hence this leads to the third research question: **“Do compliance requirements affect credit officer’s decision to consider a loan application from small enterprises under the SBP credit guarantee scheme?”**

The literature on adverse selection in bank credit risk assessment of SME loan applications found that a number of factors such as: loan officers communicating soft information within the bank, loan office risk aptitude, extent of loan office discretion despite credit scoring in place, CGS, family involvement, family network and political connections. However no study has identified any real life examples of Tier 2 error of adverse selection. Hence this leads to the fourth research question: **“What are the circumstances in which type 2 error of adverse selection takes place?”**

The critical analysis of this chapter provided the rationale for this research study. The next chapter will identify the research methodology used to answer the research questions.

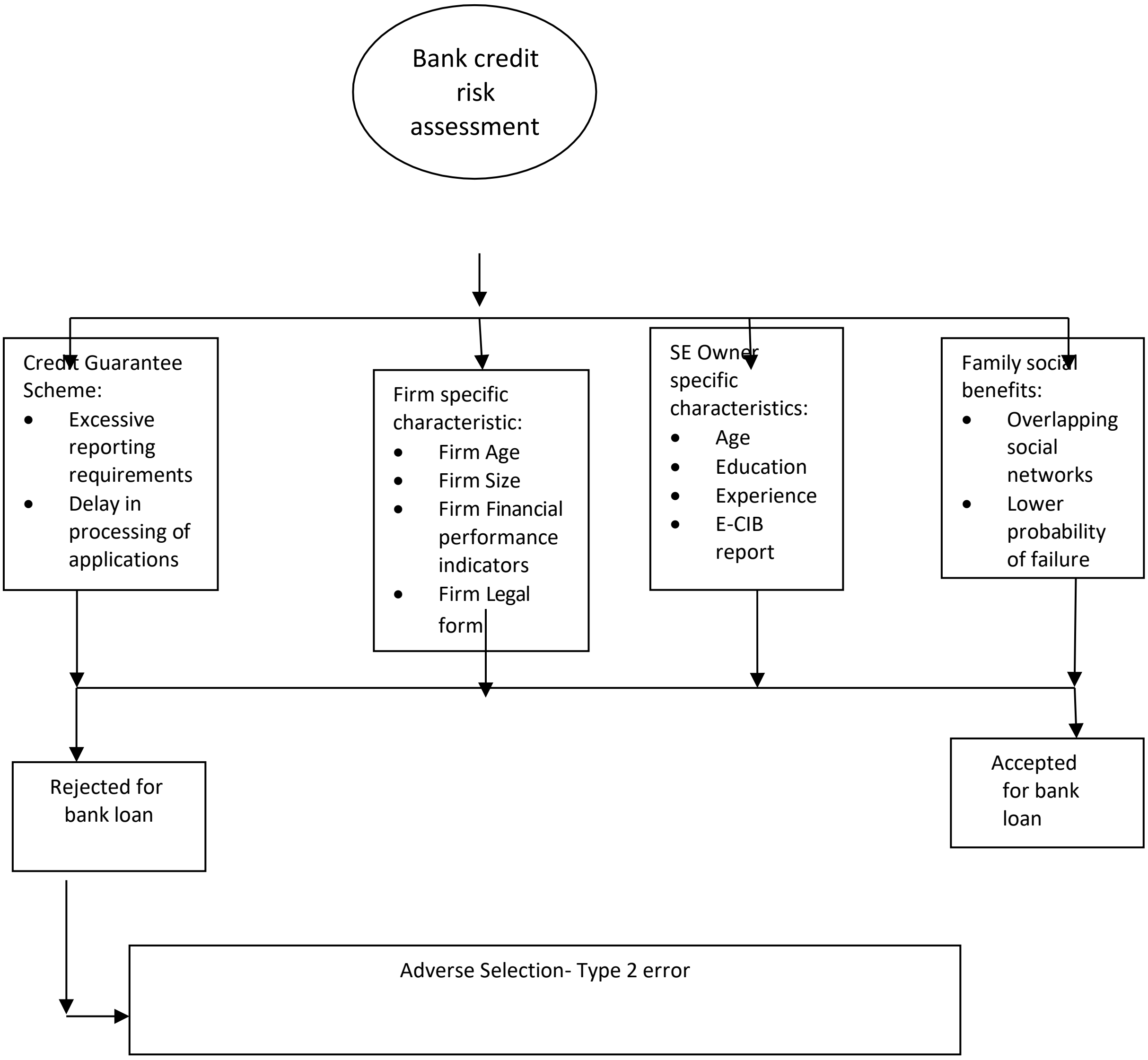

Figure: 3.1 Theoretical framework (Source: Researcher)

CHAPTER- 4

METHODOLOGY

The chapter is organized into eight parts. The first part of the chapter is the research methods which will discuss the research philosophy, research design, research strategy, and research time horizon. The second part is the data collection which will provide details of the data collection instruments used for conducting the survey and the semi structured interviews. The third part will provide details on the compliance with ethical requirements. The fourth part will provide details of the pilot study. The fifth part will discuss the sampling method and response rate. The sixth part will discuss data quality in quantitative and qualitative research. The seventh part will discuss data analysis of quantitative and qualitative data. The eight part is the last part which is the conclusion.

5.1 Research methods

5.1.1 Research philosophy

The term "Research Philosophy" refers to a system of assumptions around developing and understanding knowledge in a particular field. There are three assumptions to distinguish research philosophies: (i) Ontology- assumptions about the nature of reality, (ii) Epistemology- assumptions about what constitutes as valid and appropriate knowledge and
(iii) Axiology- assumptions about value and ethics in the research process. A well-planned set of assumptions will establish a credible research philosophy which will underpin the research strategy, methodology and data analysis techniques (Saunders et.al, 2018). It is important to recognize that researchers in social sciences, applied sciences, natural sciences and humanities will have different views on how to conduct their research, resulting in the coexistence of multiple research philosophies (Saunders et.al, 2018, 2015). This means that

research philosophies are distributed along a multidimensional state of fields between two extremes: Objectivism and Subjectivism (Saunders et.al, 2018; Niglas, 2010).

Objectivism integrates the assumptions of natural scientist arguing that social reality is external to the researcher. This means that ontologically, social entities and physical entities exist independently because there is only one true social reality experienced by all social actors. Epistemologically, objectivists research the social world using measurable and observable facts. Axiologically, since social entities and social actors exist individually objectivist believes, that in order to avoid biased findings their research should be free of values (Saunders et.al, 2018). Subjectivism integrates the assumptions of arts and humanities arguing that social reality is formed from the perception and action of people. This means that ontologically it is more logical to talk about multiple realities than single reality because each person experience and perceives reality differently. Epistemologically, subjectivist research tare interested in different views and narratives to understand the different realities of social actors. Axiologically, subjectivist believes that they cannot disconnect themselves from their own values; therefore they seek to question and reflect on their own values (Saunders et.al, 2018).

Research philosophies can be classified into five categories: positivism, realism, interpretivism, post modernism and pragmatism. Positivism relates to the philosophical position of the natural scientist and involves working with observable and measurable facts to produce ‘universal laws’ (Saunders et.al, 2018; Quinlan, 2011; Collis and Hussey, 2009). The process through which these ‘universal laws’ are hypothesized and tested in a scientific way using quantifiable principles is called as deduction (Adams et.al, 2014). On the other hand induction refers to a process where universal laws are formed from a finite number of observations. Since positivism involves determining social reality using scientific methods, it is considered closer to deduction than to induction (Bryman and Bell, 2018; Collis and Hussey, 2009; Cohen et.al, 2007).

Realism is a position that is similar to positivism, however according to the philosophy of realism objects have an existence independent of the human mind (Saunders et.al, 2018; Bryman and Bell, 2018). There are two main types of realism: (a) Direct Realism- people portray the world according to their senses which have been developed through their experiences (b) Critical Realism- suggests that there are two steps of understanding the world. In the first step there are sensation and events what people experience. The second step is the process of mental processing where people 'reason backwards' to the fundamental reality that may have affected them (Saunders et.al, 2018; Bryman and Bell, 2018).

Interpretivism is a position which emphasizes conducting research among people rather than objects, since people create meaning (Saunders et.al, 2018; Quinlan, 2011; Collis and Hussey, 2009). The heritage of Interpretivism is derived from three main intellectual traditions: (a) Phenomenology- Studying people's experience, that is, people's memories and interpretations of those experiences, (b) Symbolic Interactionism- Interpreting the actions of people through observation and analysis of social interactions such as meetings and conversations (c) Hermeneutics- studying artefacts such as symbols, stories and images (Saunders et.al, 2018).

Post modernism seeks to give voice to alternative disregarded views ascribing more importance to the role of language. This takes the form deconstruction of realities to search for instabilities amongst widely accepted beliefs. Postmodernist reject objectivism, realist ontology and instead highlight the chaotic prevalence of movement and change (Saunders et.al, 2018).

Pragmatism is a position that recognizes different ways of interpreting the world as the researcher is more interested in practical outcomes rather than abstract distinction. Hence the researcher does not to select one particular position for the research study and seeks to combine objectivism and subjectivism, facts, values and different contextualized experiences (Saunders et.al, 2018; Collis and Hussey, 2009).

Since this study aims to investigate how commercial banks perform credit risk, the researcher used scientific methods to examine the importance of various indicators used by commercial banks in making their lending decision. Hence the researcher adopted philosophy of positivism for this research.

The next selection will discuss the research design that will be adopted for following the philosophy of pragmatism.

5.1.2 Research Design:

"Research design" refers to the general plan formulated by the researcher to answer the research question. The first methodological choice is whether the researcher follows a quantitative, qualitative or mixed methods research design (Saunders et.al, 2016; Bryman, A. and Bell, E., 2015). In qualitative research design, the research is conducted in a natural setting to establish an in depth understanding, and since the analysis of data in a qualitative research is done through descriptive and subjective using of words, therefore, the results cannot be generalized (Saunders, et.al, 2018; Bryman and Bell, 2018.; Quinlan, 2011; Collis and Hussey, 2009). In quantitative research design, the research is conducted in a hypothetical / artificial setting, and is generally associated with the positivism philosophy since it makes use of highly structured data collection techniques (Saunders et.al, 2018; Bryman and Bell, 2018).

In mixed methods research design, the researcher seeks to combine both quantitative and qualitative techniques to gain a deeper insight into a research question with multiple viewpoints (Saunders et.al, 2018). This is means that, ontologically reality is both external and internal to the researcher because although there is one external reality, all social actors will have their own interpretation, influenced by their particular social conditioning (Saunders et.al, 2018). Hence mixed methods research design is generally associated with the research philosophy of pragmatism.

Some previous studies investigating the relationship between small enterprise owners characteristics and firm characteristics with access to bank finance have used qualitative research strategy (Abdulaleh, et.al, 2018; Wilson, 2015; Fatoki and Asah, 2011; Deakins et.al, 2010; Mason and Stark, 2004), some studies have used quantitative research strategy (Campanella and Serino, 2019. ; Ogubazghi and Muturi, 2014), and some studies have used both mixed methods -quantitative and qualitative research strategy (Fletcher, 1995; Deakins, and Hussain, 1994). To achieve the aims and objectives of this research study, the researcher used quantitative research design to establish a numerical relationship between small enterprise owner characteristics (characterises (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) with access to bank finance, and qualitative research design to explain the numerical relationship, hence in the context of this study, the researcher used mixed methods research design (using both quantitative and qualitative research strategy) to investigate RQ1 as shown in the table 5.1. Furthermore the studies were either supply side (having commercial bank managers/ loan officers as their respondent) (Abdulaleh, et.al, 2018; Wilson, 2015; Deakins et.al, 2010; Fletcher, 1995; Deakins and Hussain, 1994) or demand side (having SME owners as their respondents) (Campanella, and Serino, 2019 ; Ogubazghi and Muturi, 2014; Fatoki and Asah, 2011). However this study investigated RQ1 using both demand side (small enterprise owners) and supply side respondents (credit officers) as shown in table 5.1.

All of the research studies (Murro and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli, and Peruzzi, 2017; Chua et.al, 2011; Pindado et al. 2011; Arregle et al., 2007) investigating the relationship between family social capital and access to bank finance have quantitative research strategy. While some studies (Chua et.al, 2011; Andres 2011 ; Pindado et al. 2011; Arregle et al., 2007) suggest that family social capital does improves access to bank finance, some studies (Murro, and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli, and Peruzzi, 2017) come to the opposite conclusion. Hence the results from academic studies are univocal (Murro, and Peruzzi, 2019) suggesting that the relationship needs to be examined in greater detail by using qualitative research strategy. Thus to determine and examining the relationship between family social capital benefits and access to bank finance for small enterprises in Pakistan, the researcher used mixed methods research design (using both quantitative and qualitative research strategy) to investigate RQ 2 as shown in the table 5.1. Furthermore the studies were from demand side (having SME owners as their respondents) (Murro and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli, and Peruzzi, 2017; Chua et.al, 2011; Pindado et al. 2011; Arregle et al., 2007). However this study investigated RQ2 using both demand side (small enterprise owners) and supply side respondents (credit officers) as shown in table 5.1 to overcome the issue of univocal results.

Academic literature investigating the challenges in implementing credit guarantee schemes is very scarce, and most of the studies (Dang and Chuc, 2019; Aboojafari et.al, 2019; Yagci, 2018; Nadeem and Rasool, 2018) have used qualitative research strategy. In this research study the researcher used mixed methods research design (using both quantitative and qualitative research strategy) to investigate RQ3 as shown in the table 5.1 to establish and understand the relationship between compliance requirements and credit officers reluctance in making a referral under the State bank of Pakistan credit guarantee scheme (SBP CGS) for small enterprises in Pakistan. Furthermore since study conducted by Nadeem and Rasool, (2018) in Pakistan suggest that credit officers rarely make a referral under the SBP CGS, the researcher used only supply side respondents (credit officers) as getting access to demand side respondents (small enterprise owners availing SBP CGS) would be very difficult due to their limited numbers.

Academic studies (Vashishtha, 2019; Ruziev and Webber, 2019; PMN, 2018; Deakins et.al 2010; Claessens et.al, 2008; Deakins and Hussain, 1994) have used qualitative research strategy to identify factors that may cause Type 2 error of adverse selection (a situation where a commercial bank rejects a loan application from an entrepreneurs; and then following the rejection the entrepreneur gets the loan approved from another bank and also successfully pays back the bank loan). Identifying type 2 errors of adverse selection is very difficult because due to commercial sensitivity of data, commercial banks would not reveal sensitive information about their customers. However as discussed in Chapter 2 public sector organisations (SMEDA and SME Business Support Fund) and chambers of commerce in Pakistan do frequently meet with the members of the business community to act as a bridge between Government policy members and the business community to address the issue of access to bank finance for SMEs. Hence through the research cooperation gained between the researcher and SME Business Support Fund the researcher did expect to identify cases of type 2 errors of adverse selection in Pakistan , however the researcher did not expect to identify sufficient cases to undertake a quantitative research strategy, hence a qualitative research strategy was undertaken to investigate RQ4 in table 5.1

Research Question	**Research strategy**	**Respondents**	**Previous Studies**
RQ1. What is the importance of small enterprise owner characterises (owners age, owners education, owners experience, owners e- cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?	Qualitative and Quantitative	Credit officers (Bank), Small enterprise owners	Campanella, and Serino, 2019. ; Abdusaleh et.al, 2018; Wilson, 2015; Ogubazghi, and Muturi, 2014; Nguyen, and Luu, , 2013; Fatoki, and Asah, , 2011; Deakins et.al, 2010; Mason, and Stark, 2004. Fletcher, 1995;

			Deakins, and Hussain, 1994
RQ2. Do family social capital benefits affect credit officers lending decision on loan applications from small enterprises in Pakistan?	Quantitative and Qualitative	Credit officers (Bank), Small enterprise owners	Murro, and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli and Peruzzi 2017; Chua et.al, 2011; Pindado et al. 2011 ; Arregle et al., 2007
RQ3**.** Do compliance requirements affect credit officer's decision to consider a loan application from small enterprises under the SBP credit guarantee scheme?	Quantitative and Qualitative	Credit officers (Bank)	Dang, and Chuc, 2019.; Aboojafari, et.al 2019 and Yagci, 2018; Nadeem, and Rasool, 2018
RQ4. What are the	Qualitative	Small enterprises	Vashishtha,

circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?		owners/managers	2019; PMN, 2018; Deakins et.al 2010; Claessens et.al, 2008; Deakins and Hussain, 1994

Table 5.1 Research strategy and respondents (Source: Researcher)

In the first phase of data collection, the researcher approached credit officer (as they are responsible for making lending decisions on small enterprises loan applications in Pakistan) to answer RQ1 RQ2 and RQ 3 in table 5.1. In the first phase of data collection the researcher used quantitative research designs for answering RQ1, RQ2 and RQ3 in table 5.1, because quantitative research uses mostly close ended questions which are easy and less time consuming for the participants to answer, and the researcher used qualitative research design by asking the participants to explain their responses to the closes ended questions, this enabled the researcher to have a deeper understanding of the quantitative results. In the second phase of data collection, the researcher approached small enterprise owners in Pakistan to answer RQ1, RQ2 and RQ4 in table 5.1. To answer RQ1 and

RQ2 the researcher used both quantitative and qualitative research design to understand the results of the quantitative data in detail. However for RQ4 the researcher used only qualitative research design to enable participants recall their multiple experiences of applying for a bank loan.

The next section will discuss the research strategy for following mixed methods research design.

5.1.3 Research strategy

Research strategies associated with Qualitative research design are: ethnography, action research, and grounded theory. Ethnography is a study of culture, values and belief of people or ethnic group who interact with one another and share the same environment, whether in a working group, within a society, or within a location (Saunders et.al, 2015; Bryman and Bell, 2015.). Action research is a study designed at developing solutions to real organizational problems through participative and collaborative approach leading to implications for the research participants beyond the research context. (Bryman and Bell, 2015). Grounded theory is a study of developing theoretical descriptions of social interactions using systematic procedures for data collection and analysis (Saunders et.al, 2016; Quinlan, 2011).

Research strategies associated with quantitative research design are: Experiments and Surveys. Experiments are used to study the relationships between the independent variables and dependent variables, and it uses predictions or hypothesis rather than research questions (Collis and Hussey, 2009). Surveys are used to answer “What”, “Who”, “Where”, “How much” and “How many” research questions, and it makes uses of questionnaires, structured interviews and structured observations to gather quantitative data, which can then be statistically analysed to generalize results (Saunders et.al, 2016; Bryman and Bell, 2015.). As shown in table 1.2 for RQ1 previous studies investigating the relationship between firm characteristics and access to bank finance for SMEs (Pallegedara, 2017.; Ekpu, 2015; Samreen, and Zaidi, 2012; Abor and Biekpe, 2009) and the relationship between SME owner manager's characteristics and financial indicators with access to bank finance for SMEs (Campanella and Serino, 2019. ; Hussain et.al, 2018; Pallegedara, 2017.; Ogubazghi and Muturi, 2014; Samreen and Zaidi, 2012) have used survey's to conduct their research. To investigate RQ2 previous studies (Murro and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli, and Peruzzi, 2017; Chua et.al, 2011; Pindado et al. 2011) investigated the relationship between family social capital and access to bank finance have also used surveys to conduct their research. Hence to generate supply side quantitative data the researcher used survey to investigate RQ1 and RQ2.

Case study is a popular research strategy associated with the mixed methods research design. Case study is a detailed investigation into the topic within a real life setting to gain a rich understanding of the research context and process (Saunders et.al, 2016; Yin, 2009; Eisenhardt and Graebner, 2007). Studies conducted by (Abdulsaleh and Warrington 2018; Deakins et.al 2010; Mason and Stark 2005; Fletcher 1995; Deakins and Hussain, 1994) have used case studies to investigate RQ1. To investigate RQ3 previous studies (Dang and Chuc, 2019; Aboojafari et.al, 2019 and Yagci, 2018; Nadeem and Rasool, 2018) have also used case studies to investigate the challenges in implementing the credit guarantee scheme. Hence the researcher also used case studies to examine RQ1 and RQ3 from both demand side and supply side perspective. Furthermore the researcher used case studies to investigate RQ2 from both demand side and supply side because previous studies using surveys could not reach univocal results on the relationship between family social capital and access to bank finance, therefore emphasising the need to use case studies in understanding the relationship between family social capital and access to bank finance. Lastly the researcher used case studies to answer RQ4 to identify cases where type 2 error of adverse selection on bank loan applications from small enterprises in Pakistan has taken place.

The next section will provide details on the research time horizon for this study.

5.1.5 Research time horizons

Research projects can be cross-sectional or longitudinal. A longitudinal study refers to the study of particular phenomenon (variable or group of subjects) to describe events over an extended period of time. Cross-sectional study, on the other hand refers to a methodology designed to obtain information on variables in different contexts, but at the same time or a snapshot of a phenomenon at a particular single point of time (Saunders et al., 2009; Hussey and Hussey 1997; Hair et al., 2007). In this study data was obtained through survey and case studies at a single point in time through the data collection period between December 2018 to August 2019. Hence this study is cross-sectional in nature.

The next section will provide details of the data collection instruments for the study and their association with the research questions.

5.2 Data Collection:

As mentioned in section 5.1.3 the research strategies for this study are survey and case study. Details on the data collection instruments are detailed as below:

5.2.1 Survey:

Due to limited resources it was important for the researcher to save cost and time; however the most important factor was getting a high response rate. Study conducted by Valentin (2014) suggested that to maximize response rate for bank staff members, the researcher must personally meet the bank staff member to ensure that the researcher can demonstrate the importance of authenticity and confidentiality. Hence drawing on Valentin

(2014) suggestion, the researcher booked meetings with individual credit officers in their branch and used self-administered questionnaires to conduct the survey. However to maximize the response rate the researcher also used SKYPE to conduct the self-administered questionnaire.

To conduct the survey the researcher used self-administered questionnaire (Annexure-A) comprising of three sections with semi structured questions and a case study (business plan of Whizz Tech Pvt (Ltd)- a start-up information technology firm). As discussed in chapter 3.1 previous studies (Bushman et.al 2019 and Bruns et.al (2008) have identified the influence of credit officers human capital on their decision making on bank loan applications, hence the purpose of Section 1 was to collect general information on credit officers; the section contained 3 multiple choice questions (tick only one answer) on the age, education and experience of credit offiecrs. Discussion in chapter 3.1 also referred to studies (Flogel, 2018; Flogel, 2016; Ekpu, 2015; Deakins at.al, 2010) which identified the relationship between lending administration structure and bank credit lending decisions and the lending technology used by banks in Pakistan to perform credit risk assessment on loan applications from SMEs (Ilyas, 2019; SBP, 2016) , hence the purpose of Section 2 was to collect information on the lending administration structure of the bank; the section contained 2 multiple choice questions (tick only one answer) on whether the bank had a fully centralized, fully decentralized administration structure for decision making on loan applications from small enterprises in Pakistan, and whether they used credit scoring or fixed asset lending technology. After section 2, the researcher gave a 5 minute presentation on the business plan of Whizz Tech Pvt (Ltd) to enable the respondents to answer Section 3. The purpose of section 3 was to collect information on the lending decision of Whizz Tech Pvt (Ltd). Hence section 3 contained two questions, the first question was a binary question (Yes/No) on whether the bank loan application was approved, and the second question contained likert

scale questions on the importance of small enterprise owner characteristics- owners age, owners education, owners experience, owners e-cib report (as discussed in studies: Campanella and Serino, 2019. ; Abdusaleh et.al, 2018; Wilson, 2015; Ogubazghi and Muturi, 2014; Nguyen and Luu, 2013; Fatoki and Asah, 2011; Deakins et.al, 2010; Mason and Stark, 2004. Fletcher, 1995; Deakins and Hussain, 1994) firm characteristics- firm age, firm size, firm legal form, collateral (as discussed in studies: Campanella, F. and Serino, L., 2019. ; Abdusaleh et.al, 2018; Wilson, F, 2015; Ogubazghi, and Muturi, 2014; Nguyen and Luu, 2013; Fatoki and Asah, 2011; Deakins et.al, 2010; Mason and Stark, 2004 Fletcher, 1995; Deakins and Hussain, 1994) and financial indicators- gearing, timing of income and payment, liquidity (Sann, 2019; Hussain, et.al, 2018; Dima, 2009; Fletcher, 1995; Deakins and Hussain, 1994) in the lending decision (as shown in table 1.2 below). The purpose of section

4 was to collect information on the relationship between family social capital benefits referring loan applications under the SBP credit guarantee scheme. As discussed in chapter

3.2 previous studies (Chua et.al, 2011; Arregle et al., 2007) suggest that firms with family social capital (can take the benefits of overlapping social networks and credit officers perception of lower probability of failure) to avail bank finance. Hence section 4 contained 2 likert scale question to rate the importance of family social capital (overlapping social networks and perception of lower probability of failure) for firms with family social capital (as shown in table 5.2 below). Discussion in chapter 3.3 also referred to studies (Dang and Chuc, 2019; Aboojafari et.al, 2019 and Yagci, 2018, 2016; Nadeem and Rasool, 2018; NPO, 2004) that identified challenges in implementing the credit guarantee schemes due to compliance requirements (excessive reporting requirements and delay in processing of applications). Hence section 5 also contained two questions, the first question was a binary question (Yes/No) on whether the bank loan application was considered for referral under the SBP credit guarantee scheme, and the second question contained likert scale questions on whether excessive reporting requirements and delay in processing of applications from SBP

has affected credit officer's decision to make referrals under the SBP credit guarantee scheme. The intention of the researcher was to keep the questionnaire short so that the survey would not take more than 20 minutes of the participants, thereby encouraging participants to actively participate in the survey and answer all questions (Saunders et al., 2016; Valentin, 2014.).

Research Question	**Survey Section**	**Previous Studies**
RQ1. What is the importance of small enterprise owner characterises (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?	Section 3	Campanella and Serino, 2019. ; Abdusaleh et.al, 2018; Wilson, 2015; Ogubazghi, and Muturi, 2014; Nguyen, and Luu, 2013; Fatoki and Asah, 2011; Deakins et.al, 2010; Mason and Stark, 2004. Fletcher, 1995; Deakins and Hussain, 1994
RQ2. Do family social capital benefits affect credit officers lending decision making on loan applications from small enterprises in Pakistan?	Section 4	Murro, and Peruzzi, 2019; Cucculelli et al. 2019; Cucculelli and Peruzzi 2017; Pan and Tian 2016; Stacchini and Degasperi (2015); Chua

		et.al, 2011; ; Andres 2011 ; Pindado et al. 2011; Arregle et al., 2007)
RQ3**.** Do compliance requirements affect credit officer's decision to consider a loan application from small enterprises under the SBP credit guarantee scheme?	Section 5	Dang and Chuc, 2019.; Aboojafari et.al, 2019 ; Yagci 2018, 2016; Nadeem and Rasool, 2018, NPO, 2004

Table: 5.2 Research questions and survey sections (Source: Researcher)

5.2.2 Semi Structured Interviews

The researcher used online (SKYPE) semi structured interviews of bank loan officers and Small enterprise owners for conducting the case study. Semi structured interviews were used as they are non-standardised and allow interaction with the participants, thereby providing the researcher with an opportunity to investigate a topic in more detail than it was originally planned(Saunders et.al, 2016; Valentin, 2014.; Abernethy et al., 1999)**.** Furthermore semi structured interviews provided the researcher with an opportunity to demonstrate an awareness of the sensitivity of the research question and the appropriate handling of the results (Valentin, 2014.). Section 5.6.2 provides further details on how the issue of data quality in semi structured interviews were addressed.

5.2.2.1 Semi structured interviews- credit officers

The purpose of the credit officers semi structured interview was to gain in depth detail of the survey questions; hence the semi structured interview guide had the same format as the Survey. Section 1 was on the background of the credit officer's and was identical to the survey. After answering the multiple choice questions in Section 2 (the same as that of the survey), the researcher asked an open ended question to the credit officers on the lending administration structure and lending technology used in their bank . Similarly in section 3 (for the importance of small enterprise owner, firm characteristics and financial indicators), 4 (family social capital benefits- overlapping social networks, and lower probability of failure) and 5 (compliance requirements- excessive reporting requirements and delay in processing of applications) the researcher asked the respondents to provide details of their rating decision on the likert scale questions.

5.2.2.2 Semi structured interview- Small enterprise owners

The purpose of the small enterprise owners semi structured interview was to analyse RQ1, RQ2 and RQ3 from the demand side perspective. The semi structured interview guide had four sections. As discussed in Chapter 3.1, studies (Campanella and Serino, 2019 ; Abdusaleh et.al, 2018; Wilson, 2015; Ogubazghi, and Muturi, 2014; Nguyen, and Luu, 2013; Fatoki and Asah, 2011) have found a relationship between small enterprise owner chacracteristics (owners age, owners work experience, owners experience) with access to bank finance, hence the purpose of section 1 was to gather general information on the small enterprise owner and contained questions on the age, education and experience of the small enterprise owner. The purpose of section 2 was the same as the section 3 of credit officer's semi structured interviews, hence the section contained likert scale questions and open ended questions to provide details on the response to the likert scale questions on the importance of small enterprise owner, firm characteristics and financial indicators. The purpose of section 3 was the same as the section 4 of credit officer's semi structured interviews, hence the section contained likert scale questions and open ended questions to provide details on the response to the likert scale questions on the importance of family social capital in access to bank finance for small enterprises in Pakistan.. The purpose of section 5 was to gather information on the experience of small enterprise owners in applying for a bank loan, hence this section contained multiple choice questions on the number of times an entrepreneur had to apply for a bank loan before getting accepted, a binary question on whether the entrepreneur had been successful in fully paying back the bank loan (if an owner had to face multiple rejections but was able to secure a bank loan and was successful in fully paying it back demonstrate type 2 error of adverse selection) open ended questions the reasons given for rejection, and the factors that contributed towards the acceptance of the bank loan.

5.3 Ethical considerations

As part of the ethics guideline all data collection (self-administered questionnaires, semi structured interview) started by going through the information in the participant information leaflet, consent form and access request letter. This was intended to signal the existing knowledge and the background of the researcher to demonstrate the researcher's awareness of confidentiality and anonymity as shown in table 5.3 (Saunders et al., 2009; Easterby-Smith et al., 2008; Harvey, 2011).

Self-administered questionnaire and semi structured interview- Credit officers	Collection: The survey and the semi structured interview started by reading the information from the Participant Information Leaflet and the Consent Form to the SME owner/manager (participant). The Participant Information Leaflet describes the

	confidentiality arrangements by specifying that the name of the credit officer and name of the bank shall not be mentioned at any part during the research study. The researcher also asked the participants whether they would like to participate in the survey or the semi structured interview. Once permission was granted by the participant then the researcher commenced with the survey/interview. Coding: The name of the credit officer and the name of the bank was replaced by codes, i.e. respondent 1 and Bank A. The raw data was not be shared with anyone including the researcher's supervisor and once a sufficient level of generalization then the researcher shared the data with his supervisor. Storing: The researcher printed the self-administered questionnaire and the semi structured interview guide for each participant and recorded the participants answer on the printed paper. Once all the data has been collected, the researcher stored the data in MS Excel and SPSS on his BCU

	desktop. The BCU desktop of the researcher is password protected and all printed papers were stored in the locked cabinet allocated to the researcher.
Semi structured interview- SME owner/manager.	Collection: The interview started by reading the information from the Participant Information Leaflet and the Consent Form to the SME owner/manager (participant). The Participant Information Leaflet describes the confidentiality arrangements by specifying that the name of the SME owner/manager and name of the SME would not be mentioned at any part during the research study. Once the participant signed the Participation Information Leaflet and Consent form, the researcher started the interview. Coding: The name of the SME owner/manager and the name of the SME was replaced by codes, i.e. SME owner/manager 1 and SME 1. The raw data was not shared with anyone including the researcher's supervisor and once there was a

	sufficient level of generalization then the researcher shared the data with his supervisor. Storing: The researcher wrote the participants answers to the interview questions on the interview record sheet. Once all the interviews were conducted the researcher typed all the participants answers in MS Word on his BCU desktop. The BCU desktop of the researcher is password protected and all printed papers together with the recorder were be stored in the locked cabinet allocated to the researcher.

Table: 5.3 Ethical considerations (Source: Researcher)

5.4 Pilot study

Before starting data collection an extensive pilot study was conducted to reveal any misunderstandings, missing items or resistances (Bryman and Bell, 2018; Kirchhoff et al., 2010; Simsek and Veiga, 2001). A copy of the data collection instruments (self-administered questionnaire, business plan for Whizz Tech, semi structured interviews questions for both credit officers and small enterprise owners) was discussed with Ms. Nadia Asghar (Lecturer in Finance at The University of Wolverhampton) to ensure that the data collection instruments were suitable for conducting the research. The researcher then approached three
small enterprise owners online (using skype) to discuss the semi structured interview

questions and the business plan for Whizz Tech Pvt (Ltd). The small enterprise owners did offer valuable suggesting on amending the forecasted cash flow statement of Whiz Tech Pvy (Ltd) to ensure that the cash flow statement is not just suitable from an academic perspective but is also as close to reality as possible. The researcher then approached 40 credit officers (8 each from the 5 banks participating in the study) online using skype. Out of the 40 credit officers, 36 credit officers participated in the survey and 4 credit officers participated in the semi structured interviews. The main problem with credit officers survey and semi structured interviews was time commitment from the respondents; though the researcher explained to the credit officers at the start of the survey and interviews that the survey is expected to last 20 minutes and the interview is expected to last 45 minutes and though the participants granted their approval at the start of the survey/interview; most of the credit officers were in a hurry to end in the survey after 15 minutes and the interview after 25 minutes. Learning from this experience the researcher ensured that during the data collection the researcher would not engage in any ice breaker discussions before the start of the survey and interviews and should aim to finish the survey/interview as quickly as possible.

5.5 Sampling Method and Response Rate

To conduct the survey of credit officers the researcher gained cooperation with 5 commercial banks in Pakistan. To comply with the confidentiality requirements as detailed in section 5.2.3, the names of these banks have been coded as Bank A, Bank B, Bank C, Bank D and Bank E. According to SBP (2018) these 5 commercial banks have a share of approximately 75% in the overall bank lending to SMEs in Pakistan, hence they are considered as the Big 5 banks in terms of SME lending in Pakistan. The researcher used purposive sampling (also known as judgemental sampling) for gathering data from the questionnaire. Purposeful sampling is a non-probability sampling procedure which uses the judgment of the researcher to select cases for answering research questions (Saunders et al., 2016; Ekpu, 2015). In this study the researcher was interested in getting the response from those bank officers that are involved in the decision making on loan applications from small enterprises, furthermore the researcher was interested in approaching those credit officers that showed enthusiasm in the research by giving a prompt appointment. Since the aim of this study is to explore credit officer's decision making hence enthusiasm of the credit officers was a very importance factor. Hence purposive sampling was used for the self-administered questionnaires. To gather a suitable sample size for the survey, the researcher emailed (official email address provided by the relevant bank administration department) 384 credit officers asking for an appointment for the self-administered questionnaire and also for the interview. In the email the researcher mentioned that the appointment time for the self- administered questionnaire would be 20 minutes and if the participants have agreed for the interview then the appointment time would be around 45 minutes- 1 hour. The researcher was able to get a response rate of self-administered questionnaire at 82% as calculated below. *Total response rate = total number of responses / (total number in a sample - ineligible)*

= 315 / (384-1)

= 82%

However the active response rate (Saunders. et al., 2016) is higher than that at 92% calculated as below.

Active response rate = total number of responses / total number in a sample – (ineligible+ unreachable)

= 315/ (342-1)

= 92%

To conduct the fieldwork the researcher approached 70 credit officers of Bank A, 75 credit officers of Bank B, 70 credit officers working in Bank C, 104 credit officers working in

Bank D, and 65 credit officers working in Bank E. The researcher visited the following areas in Lahore for the fieldwork: Walton, Dharram Pura, Bedian, Baghan Pura, Karim Park, Yaki gates, Chungi Amar Sandhu, DHA, Gulberg, Model Town, Barkat Market. The researcher also visited the following areas in Islamabad for the fieldwork: F-6 Markaz, F-7 Markaz, F-8 markaz, I-8 Markaz, I-10 markaz. Furthermore around 20 credit offiecrs from Bank A , 30 participants from Bank B, 30 credit officers from Bank C, 45 credit offiecrs from Bank D and 25 credit offiecrs from bank E were contacted online through SKYPE. Details of the total number of participants approached and the response rate as shown in Table 5.4, which shows that after taking into account incomplete/ unanswered questions a response rate of 64.3% from Bank A comprising a 16.9% of the total number of questionnaires was considered, a response rate of 70.6% from Bank B comprising a 19.9% of the total number of questionnaires was considered, a response rate of 81.4% from Bank C comprising a 21.4% of the total number of questionnaires considered, a response rate of 75.9% from Bank D comprising a 29.7% of the total number of questionnaires considered, an a response rate of 49.2% from Bank E comprising a 12% of the total number of questionnaires considered.

Bank	Total number approached	Total number Participated	Total number considered	Response Rate (%)	Valid %
A	70	60	45	64.3	16.9
B	75	61	53	70.6	19.9
C	70	63	57	81.4	21.4
D	104	91	79	75.9	29.7
E	65	40	32	49.2	12
Total	384	315	266		100

Table: 5.4 Response rate survey (Source: Researcher)

To conduct the semi structured interviews with credit officers, the researcher approached those credit officers that had given their consent on the email. A total of 63 credit officers provided their consent for the interview in the email sent be the researcher. However, the researcher approached 50 credit officers, who were prompt in their reply to the researcher, were available for interview online through SKYPE and showed enthusiasm by not asking the researcher to end the interview earlier (e.g 30 minutes instead of 45 minutes- 1 hour). The interviews were conducted using the SKYPE 8 credit officers from Bank A, 12 credit officers from Bank B, 10 credit officers from Bank C, 15 credit officers from Bank D, and 5 credit officers from Bank E. Furthermore the researcher selected 50 credit officers so that after taking into consideration incomplete/ unanswered questions the researcher could have a response from about 25 participants which according to Saunders et (2016) is a suitable sample size for semi structured interviews. Hence the researcher conducted interviews of credit officers using purposive sampling techniques.

To aid the researcher in conducting semi structured interviews of small enterprise owner for investigating RQ4, the management of SME Business Support Fund provided the contact details of 35 small enterprise owners who were members of the enabling business environment committee at SME Business Support Fund and who had successfully received a bank loan in the last 5 years. To save the time and cost in the field work the researcher used purposeful sampling to contact 30 small enterprise owners located in the city of Lahore (as this is the hometown of the researcher). The researcher was successful in interviewing 25 small business owners. Hence considering that a sample size of 5-25 is sufficient as proposed by Saunders et.al (2019), therefore response from 25 small business owners is appropriate for data analysis.

5.6 Data quality

In quantitative research, reliability is extremely important Reliability is concerned with the extent to which measures applied in the research produce consistency. In other words, it shows the robustness of a questionnaire (Malhotra, 2010; Saunders et al., 2009; Bryman and Bell, 2007).

One of the methods most commonly used to measure reliability is the test-retest method (Dolnicar et al., 2011 cited in Valentin, 2014). In test-retest reliability, identical sets of measures are provided to the same respondents at two separate times under as similar conditions as possible (Valentin, 2014). To determine the similarity between the two tests, correlation coefficients are computed (Valentin, 2014). Several weaknesses of the test-retest method exist wherefore this method is not generally recommended. First, the value of the reliability coefficient depends on the time between the first and the second measurement. For longer time intervals, lower correlation coefficients are expected. Second, the initial measurement may change the respondent's behaviour or thinking (Valentin, 2014). This exacerbates a comparison with the second measurement. Third, the test-retest method may not be compatible with the overall research aim. When the initial reaction to a new phenomenon shall be tested, for example, a second measurement is not suitable. Lastly, the reliability coefficient contains correlations of each item with itself (Valentin, 2014). Therefore, correlations tend to be higher than correlations between different items (Valentin, 2014; Malhotra, 2010; Peter, 1977). Regarding the present research, test-retest was not a suitable method to assess reliability. Besides the weaknesses mentioned above, SMEs are known to be very reluctant to answer questionnaires (Valentin, 2014). Requiring respondents to answer a questionnaire twice instead of once would, therefore, reduce the willingness to take part in a survey (Valentin, 2014). This is also the reason why alternative forms reliability was not tested in the present research. To assess alternative forms reliability, the same respondents are measured with two different scales or instruments at different times (Valentin, 2014). To evaluate whether the same respondents gave similar answers, the scores are correlated. The two scales or instruments need to be as similar as possible. This is the main limitation of the alternative form reliability (Malhotra, 2010 cited in Valentin, 2014). Since it was not possible to administer the same or an equivalent set of scales twice, internal

consistency reliability has been tested. The basic idea of this method is to split measures containing multiple items in two halves and to compute correlations for the two halves. This measure is known as split-half test. High internal consistency can be confirmed by high correlations (Muijs, 2011; Malhotra, 2010). The problem of the split-half method is its dependence on the results on the way scale items are split. Cronbach's coefficient alpha provides a useful method to overcome this problem (Malhotra, 2010; Dolnicar et al., 2011). To compute Cronbach's alpha, the scale items are split in different ways and the average of all possible split-coefficients is calculated (Malhotra 2010). In the present research, Cronbach's alpha has been computed for the core questions about the importance of firm characteristics, owner characteristics, financial indicators, and family social capital for small enterprises in getting access to bank finance, and the influence of compliance requirements from SBP in discouraging credit officers to make referral's under the SBP credit guarantee scheme, to estimate internal consistency reliability. According to literature, the coefficient alpha has to be over 0.7 to prove internal consistency (Bryman and Bell, 2007; Malhotra, 2010; Muijs, 2011). The alpha value for the questions about importance of firm characteristics for small enterprises in getting access to bank finance is 0.849, importance of owner characteristics for small enterprises in getting access to bank finance is 0.745, importance of financial indicators in getting access to bank finance is 0.838, importance of family social capital is 0.786 and the importance of cumbersome reporting requirements in discouraging credit officers to make referral under the SBP credit guarantee scheme is 0.845. Regarding the required value of 0.7 mentioned above, this result demonstrates satisfactory internal consistency for the present research, and the indicators were merged into: small enterprise owners characteristics (by combining the indicators of owners age, owners education, owner experience and e-cib report through the compute function in SPSS), firm characteristics (by combining the indicators of firm age, firm size, firm legal form, and collateral through the compute function in SPSS), financial indicators (by combining the

indicators of liquidity, gearing and timing of income and payments through the compute function in SPSS), family social capital benefits (by combining the indicators of overlapping social networks and lower probability of failure through the compute function in SPSS), and compliance requirements (by combining the indicators of delay in processing of paperwork and excessive reporting requirements through the compute function in SPSS). The data showed a significance of $p>0.05$, hence showing that result demonstrate satisfactory internal consistency for the present research. Furthermore in order to ensure that he issue of Common Method Variance (CMV) is addressed the researcher himself collected the Reponses from the participants in the survey.

5.6.2 Data quality in qualitative research

In semi-structured interviews, reliability is always related to issues of bias and in conducting semi-structured interviews there are two types of biases (Saunders et al., 2019). The first is the interviewer bias which may be created by the interviewer when interpreting responses of participants and also by his way of asking questions (Valentin, 2014.). The researcher reduced the interviewer bias by avoiding enforcing his own thoughts and beliefs about the research topic when asking questions (Valentin, 2014.). Moreover, the researcher tried to not influence interviewee's answers by maintaining a medium pitched voice, and refraining from comments or non-verbal behaviour during the interview. Furthermore, the researcher demonstrated credibility and gained participants' trust by reading the participant information leaflet, consent form prior to the start of the interview to avoid interviewer bias (Saunders et al., 2019; Valentin, 2014.; Easterby-Smith et al., 2008). As opposed to interviewer bias, response bias is mostly related to the interviewee and not necessarily the interviewer, since participants may 'govern' their responses (Saunders et al., 2019, Valentin, 2014.). They might attempt to throw a positive image on their bank business practices, and due to the banking confidentiality, they also might withhold some information deemed sensitive (Valentin, 2014.). To reduce this risk to a minimum, the researcher provided a copy of the interview transcript to the participants after the interview and assured the participants

that any word/comment in the transcript will not be used until the participants approved the interview transcript. Nevertheless, response bias cannot be eliminated with absolute certainty.

5.7 Data Analysis:

5.7.1 Quantitative data

In quantitative analysis, descriptive and inferential statistics were used with regression analysis in SPSS. As shown in figure 5.1 the control variables (table 5.5) were: credit officers age (measured as age group- ordinal variable in SPSS), credit officers education (measured as education level- ordinal variable in SPSS), credit officers experience (measured as experience in group of years- ordinal variable in SPSS). The independent variables to test RQ1(as shown in figure 5.1) were small enterprise owner characteristics: owners age, owners education, owners experience, owner e-cib report (measured on a Likert scale- ordinal variable in SPSS), firm characteristics: firm age, firm size, firm legal form, collateral (measured on a Likert scale- ordinal variable in SPSS), financial indicators: liquidity, gearing, timing of income payment (measured on a Likert scale- ordinal variable in SPSS). The independent variables to test RQ 2 (as shown in figure 5.1) were family social capital benefits: overlapping social networks, lower probability of failure (measured on a Likert scale- ordinal variable in SPSS). The independent variables to test RQ3 (as shown in figure 5.1) were compliance: excessive reporting requirement, delay in processing of applications (measured on a Likert scale- ordinal variable in SPSS). The dependent variable to test RQ1 and RQ2 was the bank loan outcome – a binary question with a Yes/No. answer (dichotomous variable). The dependent variable to test RQ3 was the referral decision to consider a loan under the SBP CGS – a binary question with a Yes/No answer (dichotomous variable).

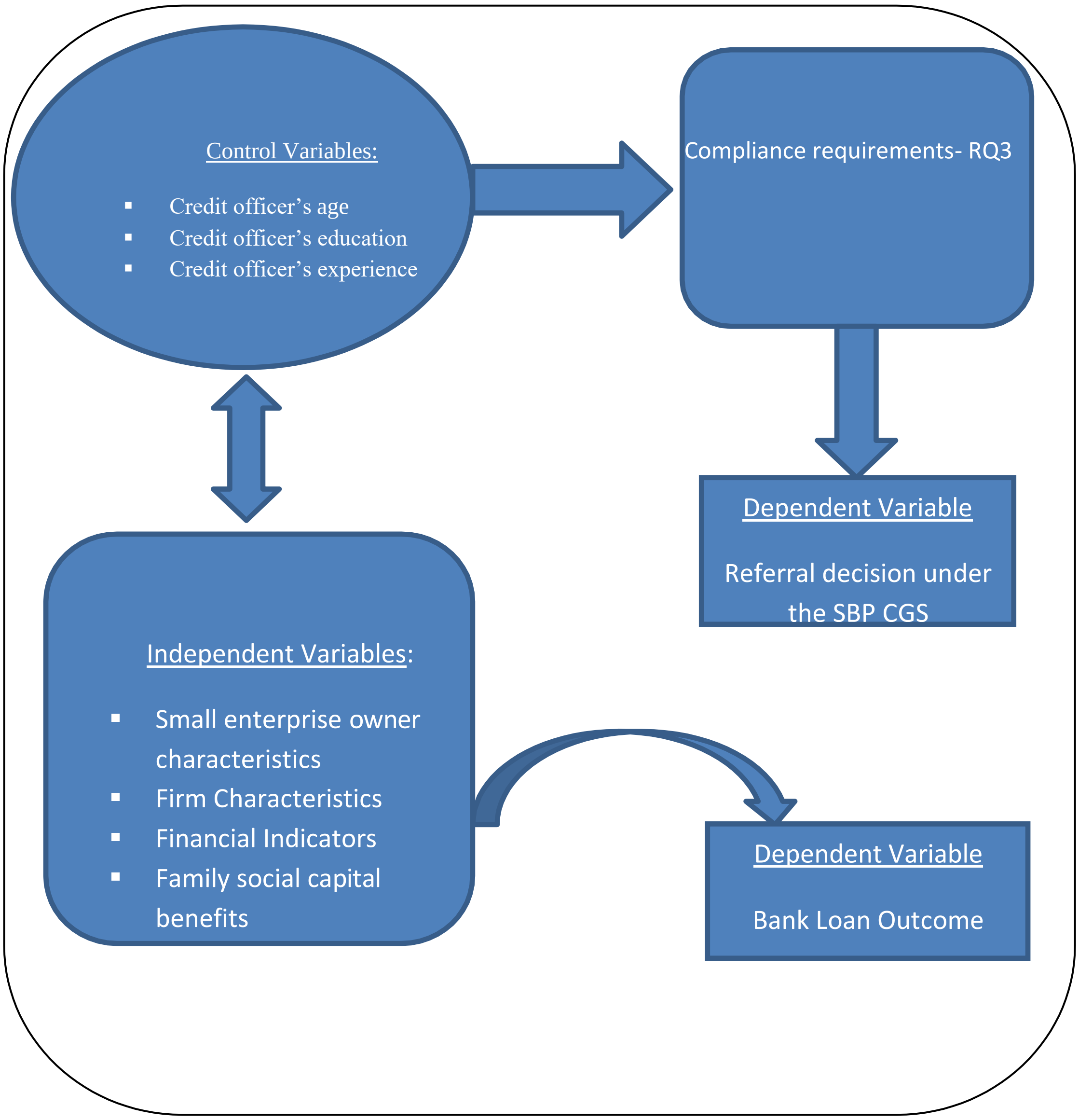

Figure: 5.1 Independent and Dependent Variables

In consistence with the methodology of previous studies (Campanella and Serino, 2019; Fatoki and Asah, 2011, Chua et.al, 2011) the researcher selected binary logistics regression for this study, since the dependent variable was dichotomous. The relationship between the independent and dependent variables was formed as follows:

$$\text{Probability } (Y=1|X_i) = P(Y) = \frac{1}{1+exp^{-[\alpha+\sum_{i=1}^{k} B_i\,(X_i)+\varepsilon_i]}}$$

Where for RQ1 and RQ2:

- $P(Y)$ denotes the probability of the outcome of interest or success or event given the explanatory variables X_i. It is a dummy variable and takes binary value. If the observed credit officer approves the decision for bank loan, the dependent variable Y takes on the value of "1". If the observed credit officer does not approve the application for bank loan, the dependent variable Y takes on the value "0".
- $B_i$are the parameters are the regression coefficient determine the location, slope and spread of the curve, for respective variable at each observation,
- $X_i$the variable at each observation (X_1 = small enterprise owner characteristics , X_2 = firm characteristics, X3= financial indicators, X4= family social capital benefits credit officers educational level, , X_5 = credit officers age, X_6= credit officers experience).
- $\alpha$is the Y intercept.

  ε_i is the error term- assumed as the disturbance parameter ε has a normal distribution
- *Exp* is 2.71828 is the base of the system of natural logarithms. (Ogubazghi and Muturi, 2014)

Where for RQ3:

- $P(Y)$ denotes the probability of the outcome of interest or success or event given the explanatory variables X_i. It is a dummy variable and takes binary value. If the observed made a referral under the SBP CGS, the dependent variable Y takes on the value of "1". If the observed credit officer did not make a referral under the SBP CGS, the dependent variable Y takes on the value "0".
- $B_i$are the parameters are the regression coefficient determine the location, slope and spread of the curve, for respective variable at each observation,
- $X_i$the variable at each observation (X_1 = Compliance requirements , X_2 = credit officers educational Level, , X_3 = credit officers age, X_4= credit officers experience.
- $\alpha$is the Y intercept.

  ε_i is the error term- assumed as the disturbance parameter ε has a normal distribution
- *Exp* is 2.71828 is the base of the system of natural logarithms. (Ogubazghi and Muturi, 2014)

5.7.2 Qualitative data

The researcher faced difficulty in recording interviews as most of the participants did not provide consent for recording the interview. Hence the researcher made notes on MS Word (on his laptop) during the interview. The aim of the interviews was to understand the responses of the Likert scale questions in more detail. In the first step of thematic data analysis the researcher started by reading every transcript without making any notes (Valentin, 2014.). In a second step, read every transcript again, making notes and marking sentences of importance, which were then Coded in categories according to the hypothesis identified in the study, e.g 'owners age', 'firm size', 'firm legal form'. In the next step a separate word documents for every category was produced and the highlighted sentences from every interview were copied in it. The word documents contained tables which consisted of three columns each (Valentin, 2014). The first column contained the label of the interviewee to demonstrate which interviewee made the comment, the second column contained the sentences marked in the transcripts, the third column, contained a summary of key points which were produced to compress long statements (Valentin, 2014). In some cases only one or two key words were used to summarize the key message of the statements (Valentin, 2014). In the next step every word document was read thoroughly to ensure that

the sentences copied were consistent. Moreover, the sentences were checked for code words which had the highest frequency of usage (Valentin, 2014.).

5.8 Conclusion

This chapter provided details of the research design and method to achieve the aims and objectives of this study. The research philosophy of this research is pragmatism (as shown in figure 5.2) as this study as this study used mixed methods (both quantitative and qualitative research designs) to gain an in depth understanding of the importance of small enterprise owner characteristics, firm characteristics, financial indicators, and family social capital benefits in credit risk assessment on bank loans from small enterprises in Pakistan. Furthermore the study also used mixed methods to gain an in depth understanding on the relationship between compliance requirements and credit officer decision to make a referral under the SBP CGS. Moreover the study used qualitative research design to identify the circumstances in which type 2 error of adverse selection takes place. The research participants in this study included credit officers (to generate the supply side data) and small enterprise owners (to generate the demand side data). Since data was collected through a single point in time (from December 2018-August 2019), the time horizon for the study is cross sectional The data collection instruments consisted of self-administered questionnaire, and semi structured interviews of both credit officers and small enterprise owners. The researcher was successful in getting a response of

266 credit officers for the self-administered questionnaire, interviewing 50credit officers, and interviewing 25 small enterprise owners in Pakistan. Quantitative data was analysed using descriptive statistics and binary logistic regression (since the dependent variables used in this study was dichotomous), and the qualitative data was analysed using thematic analysis for the analysis of qualitative data. The next chapter will now analyse the results of the quantitative and qualitative data analysis.

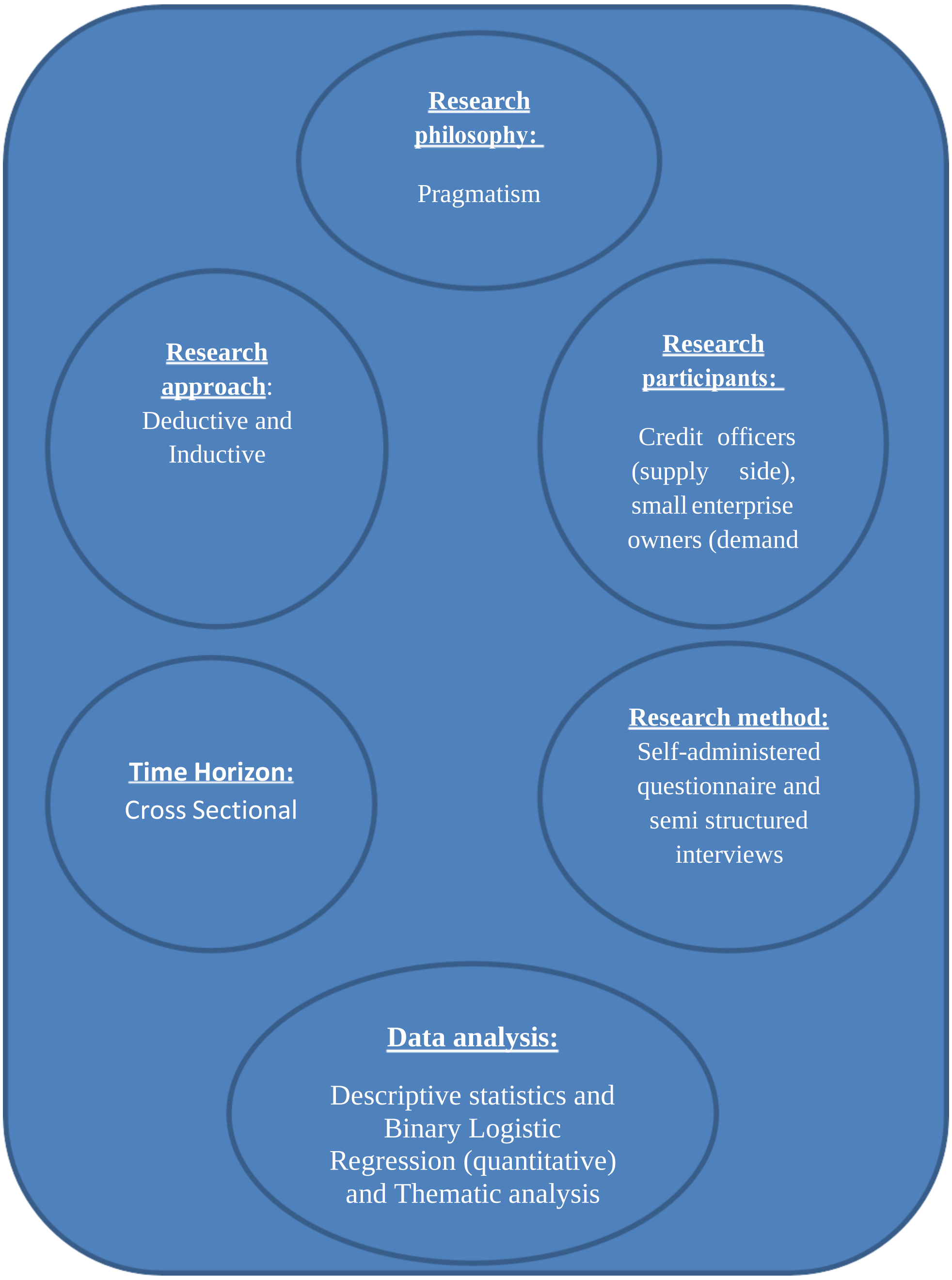

Figure: 5.2 summary of methodology (source: researcher)

CHAPTER- 5

ANALYSIS

Chapter five reports the findings and provides in-depth analysis of the quantitative and qualitative data gathered from the lending managers and the borrowers. To analyse the responses from the interviews and quantitative data, this study uses both qualitative and quantitative approaches to analyse what factors are used by the lending managers to arrive at a positive or negative decision and whether compliance requirements affects credit officers decision to make a referral under the CGS. Furthermore this study used qualitative data to identify the circumstances in which type 2 error of adverse selection (a situation where a commercial bank rejects a loan application from an entrepreneurs; and then following the rejection the entrepreneur gets the loan approved from another bank and also successfully pays back the bank loan) takes place. The findings of the analysis enabled the study to answer the research questions and to accept or reject the hypotheses, thereby realizing the aims and objectives of the study (see Chapter 1). This chapter is divided into 7 sections. The first section is the "introduction" which explains the purpose of this chapter. The second section is the "demographic profile of respondents" which analyses the results from the descriptive statistics of credit officer's survey, credit officer's semi structured interviews, small enterprise owner's semi structured interviews. The third section is "lending decision making" which analyses the importance of small enterprises owner characteristics (owners age, owners education, owners work experience, owners electronic credit information bureau report (E- Cib), firm characteristics (firm age, firm size legal form, collateral), firm financial indicators (Gearing, timing of income payment, liquidity) in credit officers risk assessment of bank loans from small enterprises in Pakistan. The fourth section analyses the relationship between "family social capital benefits" and "access to bank finance" for small enterprises in Pakistan.

The fifth section analyses the relationship between compliance requirements and the "decision to make referral under the State Bank of Pakistan Credit Guarantee Scheme (SBP CGS)". The sixth section discusses 4 case studies on "type 2 errors of adverse selection from small enterprises in Pakistan". The seventh section is the "Conclusion Section" which would summarize the key findings from the chapter and link it with the research aims and objectives.

6.1 Demographic profile of respondents

5.1.1 Demographic profile of the credit officer survey.

Academic literature (Bushman et.al, 2019; Deakins et.al, 2010; Bruns et.al, 2008) suggests that loan officers personal characteristics (loan officers age, loan officers education and loan officers work experience) does influence their ability to accept loan applications. Hence the purpose of this section was to undertake a cross tabulation analysis between loan officers characteristics (loan officers age, loan officer education, loan officer work experience) with the lending decision on loan application from Whizz Tech Pvt Ltd.

In consistence with the findings from Bushman et.al (2019) and Bruns et.al (2008) the cross tabulation results of this study depicted in table 6.1 show that older loan officers (in the age group of 50-59 years) had a higher loan application approval rate (64.4%); whereas younger loan officers (in the age group of 18-29 years) were reluctant in making the decision and thereby demonstrated a higher rejection rate (58.5%). Since 81.9% of the loan officers were between young loan officers (between the age groups of 18-49 years), the overall rejection rate of the loan application from Whizz Tech (Pvt Ltd) was 66.2%, and the acceptance rate was only 33.8%. Similarly 85.7% of the credit officers did not make a referral under the SBP CGS and only 14.2% made a referral under the SBP CGS. Furthermore in consistence with the findings of Bushman et.al (2019) and Deakins et.al (2010) data from table 6.1 also shows that more experienced credit officers (i.e. credit officers with 20 and more years of experience) has a higher loan acceptance rate (51.2%) than less experienced credit officers (credit officers having an experience of 1-10 years) who had an acceptance rate of only 10%. Moreover in consistence with the findings of Bushman et.al (2019) and Bruns et.al (2008) data from 6.1 also shows that credit officers with university educational qualifications (Bachelors and Master's degree) had a higher loan application rate (91%) than credit officers without a university educational qualification (Intermediate) (9%).

Loan outcome		**Rejected loan application (%)**	**Approved loan application (%)**
		66.2	33.8
Referral under SBP credit guarantee scheme		**Yes (%)**	**No (%)**
		14.2	85.7
Age group	**Percentage (%)**	**Rejected loan application (%)**	**Approved loan application (%)**
18-29	6.4	58.5	1.1
30-39	29.3	27.3	13.3
40-49	46.2	11.36	21.2
50-59	18	2.84	64.4
Work experience	**Percentage (%)**	**Rejected loan application (%)**	**Approved loan application (%)**

1-10 years	25.6	45.1	10
11-19 years	34.6	32.3	38.8
20 years and more	39.8	22.6	51.2
Education	**Percentage (%)**	**Rejected loan application (%)**	**Approved loan application (%)**
Intermediate	24.1	38.6	8.8
Bachelors	27.1	29.5	22.2
Masters	48.9	31.8	68.8

Table 5.1 Demographic profile credit officer's survey (source: researcher)

5.1.2 Demographic profile of credit officers- semi structured interviews

In order to investigate the findings of the credit officers survey in greater detail, semi structured interviews were conducted with those credit officers who had participated in the survey. In consistence with the finds from section 6.1.1 the data from table 6.2 also showed that since there were more older credit officers (according to table 6.2, 62% of the credit officers in the semi structured interviews were in the age of 40-49 years) in the semi structured interviews, more credit officers (74%) with university educational qualifications (bachelors and masters degrees) in the semi structured interviews, more experienced credit officers (62%) (credit officers with 20 and more years of experience) in the semi structured interviews; therefore the overall loan application approval rate was higher in the semi structured interviews (60%). However credit officers referral rate under the SBP CGS remained on only 12% in the semi structured interviews made a referral and 88% of the credit officers did not make a referral under the SBP CGS.

	Bank A	**Bank B**	**Bank C**	**Bank D**	**Bank E**	**Total**
Age						
18-29 years	0	0	9	0	0	9 (18%)
30-39 years	0	0	6	4	0	10 (20%)
40-49 years	12	10	0	5	4	31(62%)
	12	10	15	9	4	50 (100%)
Education						
Intermediate	0	10	0	3	0	13 (26%)
Bachelors	6	0	10	4	2	22 (44%)
Masters	6	0	5	2	2	15 (30%)
	12	10	15	9	4	50 (100%)
Work experience						
1-9 years	12	10	9	0	0	6 (12%)
10-19 years	0	0	6	0	0	13 (26%)
20 years and more	0	0	0	9	4	31 (62%)
	12	10	15	9	4	50 (100%)
Loan application Outcome	10	9	4	5	2	30 (60%)
Accepted	2	1	11	4	2	20 (40%)
Rejected						
	12	10	15	9	4	50 (100%)

Referral under CGS						
Yes	2	0	3	1	0	6 (12%)
No	10	10	12	8	4	44 (88%)
	12	10	15	9	4	50 (100%)

Table:5.2 Demographic profile credit officer's semi structured interviews (source: researcher)

5.1.3 Demographic profile of small enterprise owners- semi structured interviews

Academic literature (Campanella and Serino, 2019.; Nguyen, and Luu, 2013; Slavec and Prodan, 2012; Fatoki and Asah, 2011) has also identified the importance of small enterprise owners characteristics in access banking finance. In consistence with the findings of Campanella and Serino, 2019 data from table 6.3, shows that 80% of the entrepreneurs who were successful in obtaining bank finance were prime aged entrepreneurs (entrepreneurs between the age of 30-49 years). Similarly in consistence with the findings of Campanella and Serino (2019) data from table 6.3 shows that 80% of the entrepreneurs who were successful in obtaining bank finance did not have university educational qualifications (i.e. they only had matriculation and intermediate qualifications) majority of the small enterprise owners who took part in the semi structured interviews (50%) were between the age group of 30-39 years. Furthermore in terms of the consistence with the findings of Abdulsaleh and Worthington (2016) 60% of the older enterprises (enterprises having and age of 10 years and more) and 88% of the banks preferred sectors (Restaurants and Textiles) were successful in obtaining bank finance. However data from 6.3 also demonstrates that 96% of the entrepreneurs had to apply multiple times (4 and more times) before getting a loan application accepted and only 40% of the entrepreneurs were successful in paying back their bank loan, thereby demonstrating the presence of type 2 error of adverse selection

	Frequency		Frequency
Age 18-29 years 30-39 years 40-49 years	 5 (20%) 12 (48%) 8 (32%)	**Business age** 1-5 years 5-9 years 10 years and more	 5 (20%) 5 (20%) 15 (60%)
	25 (100%)		25 (100%)
Education Matriculation Intermediate Bachelors	 10 (40%) 10 (40%) 5 (20%)	**Business sector** Restaurants Textile Construction	 10 (40%) 12 (48%) 3 (12%)
	25 (100%)		25 (100%)
Number of times applied for bank loan before getting accepted for a bank loan 1-3 times 4-7 times 8 times and more	 1 (4%) 20 (80%) 4 (16%)	**Fully paid back bank loan** Yes No	 10 (40%) 15 (60%)
	25 (100%)		25 (100%)

Table: 5.3 Demographic profile small enterprise owners semi structured interviews

(source: researcher)

5.2 Lending decision making

5.2.1 Lending Technology and Administration

Academic literature (Flogel, 2018; Flogel, 2016; Deakins at.al, 2010) suggest that due to the close physical distance between decentralised banks and SMEs, decentralised banks are able to acquire more soft information from SMEs than centralised banks; consequently decentralised banks have a higher approval rate of loan applications from SMEs than centralised banks. In consistence with the findings of academic literature (Flogel, 2018, 2016; Deakins at.al, 2010), results from table 6.4 shows that banks with a decentralized administration structure (Bank A and Bank B) had the highest acceptance rate (54.4%) on the loan application from Whizz Tech. In terms of lending technology, although credit scoring is very actively used to perform credit risk assessment on loan applications from SMEs in developed countries (Bedin et.al, 2019; Deakins et.al, 2010; Mason, C. and Stark, M., 2004.); studies from developing countries (Ilyas, 2019; Ekpu, V.U., (2015); Nenova et.al, 2008) suggest that due to the inefficiencies of credit information bureau in providing accurate and up to date information on borrowers, credit scoring loan applications from SMEs becomes complicated. In consistence with the findings of studies from developed countries (Ilyas, 2019; Ekpu, V.U., 2015; Nenova et.al, 2008), results of this study from table 6.4 also suggest that Banks used fixed asset lending (lending on the basis of collateral) to perform credit risk assessment on the loan application from Whizz Tech. The semi structured interviews with credit officers (from decentralised Bank A and bank B) revealed that since credit / default data from electronic credit information bureaus (E-Cibs) is very restricted, their banks only use credit scoring for loan applications from businesses that can provide verifiable financial information either in the form of audited accounts and/or tax returns for the last 3 year to enable the credit scoring software use actual results for forecasting the income and profitability of a business, and since Whizz Tech is a start-up it is subject to fixed asset lending. Interestingly, credit offiecrs from Bank C,D and E mentioned that despite privatisation, Government of Pakistan (GoP) still has a significant influence in their operations, and every time a proposal to install credit scoring software for loan approvals is initiated, GOP is very quick to reject the proposal stating that it’s a very expensive proposal

and there is no guarantee that using the credit scoring software will lead to a decrease in non-performing loans (NPL). The issue of NPL was also raised by credit officers from Bank D who mentioned that in the past their bank used credit scoring, however it was not a good experience because the software was approving loans very easily, leading to such a significant increase in NPL that the parent company (ABC group) had to rescue it from bankruptcy. Subsequent review meeting by the management of Bank D suggested that credit scoring software's were unable to incorporate impact of macro-economic indicators on the profitability of businesses. Interviewee number 36 mentioned:

"Between the year 2007-2010 inflation was increasing at an average of 14% per annum and simultaneously the exchange rate of Pakistani Rupee (PKRS) and United States Dollar (USD) also depreciated by 8%. The credit scoring software was unable to incorporate these effects into its system, consequently we ended up giving more money to borrowers leading to NPLs of almost 57%."

Bank – Lending administration structure	**Percentage (%)**	**Rejected loan application (%)**	**Approved loan application (%)**
A- Decentralised	16.9	8.5	33.3
B- Decentralised	29.3	33.5	21.1
C- Centralised	18.4	18.75	17.7
D- Centralised	23.3	29.5	11.1
E- Centralised	12	9.6	16.6

Lending Technology
Bank A- Fixed asset lending
Bank B- Fixed asset lending
Bank C- Fixed asset lending
Bank D- Fixed asset lending
Bank E- Fixed asset lending

Table 5.4 Lending technology and administration (source: researcher)

5.2.2 Lending Criteria

5.2.2.1 Research question and Hypothesis

Several studies from Turkey (Erdogan, 2019), Libya (Abdulsaleh and Worthington, 2016) and United Kingdom (Deakins et.al, 2010; Mason and Stark, 2004, Fletcher, 1995; Deakins, and Hussain, 1994) have been conducted to analyse how loan officers make lending decisions on loan applications from SMEs (supply side perspective). In particular studies from UK (Deakins et.al, 2010; Mason and Stark, 2004, Fletcher, 1995; Deakins, and Hussain, 1994) used business propositions to analyse the importance of various SME characterises (firm characteristics, financial indicators and SME owner characteristics) that loan officers place when making their credit risk assessment decisions. In the case of Pakistan studies (PMN, 2018; Kouser et.al, 2012) suggest that the high rejection rate on loan applications from small enterprises significantly affects their the growth and survival. Though studies (Waheed and Siddiqui, 2019.; Kouser, et.al, 2012) from Pakistan have analysed commercial banks' lending criteria by examining the importance of firm characteristics, financial indicators and SME owner characteristics in accessing bank finance; these studies have been conducted from the SME owners perspective (demand side), and unlike studies from Libya (Abdulsaleh and Worthington, 2016) and U.K ((Deakins et.al, 2010; Mason and Stark, 2004, Fletcher, 1995; Deakins, and Hussain, 1994) no study in Pakistan has been conducted from credit officers perspective (supply side). Hence this evidently justifies the need to conduct a study from the supply side (credit officers perspective), therefore the first research question for this study and the relevant hypothesis is (figure 6.1 provides details on the control, independent and dependent variables):

RQ1. What is the importance of small enterprise owner characterises (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?

5.2.2.2 Small enterprise owner specific characteristics

5.2.2.2.1 Owners age

Academic literature (Campanella and Serino, 2019 ; Ogubazghi, and Muturi, 2014; Nguyen, and Luu, 2013 and Storey and Greene, 2010) suggest that there is a relationship between owners age and access to bank finance. Moreover commercial banks prefer lending to prime aged owners (owners between the ages of 30-45 years) (Storey and Greene, 2018). However as per table 6.5 the cross tabulation results from the survey of credit officers show that credit officers considered owners age as an unimportant indicator whether they accepted the loan application (57.7%) or whether they rejected the loan application (65.3%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that owner's age is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (78%) or whether credit officers rejected the loan application (66%). In the opinion of credit officers, owners age is checked only to ensure that owners are within the prescribed age bracket of the bank's lending criteria; interviewee number 44 stated:

> *"To be eligible for business loan at our bank, borrowers need to be between the ages of 18-60 years. As long as borrowers are within this age category we are happy to consider their loan application. It doesn't matter whether borrowers are 19, 29, 39, 49 years old."*

The results from the semi structured interview with small enterprise owners also showed that owner's age is an unimportant indicator in credit officers risk assessment on loan applications from small enterprises (78%). However, in the opinion of small enterprise owners, an entrepreneur with strong networks and connections will always be able to obtain bank finance regardless of age, as reported by interviewee number 5:

"I used my networks and connections to get a bank loan approved even at 19 years of age. Whereas some of my friends who did not have any strong networks and connections were told they were too young to get a bank loan, though they were 24 and 25 years old"

Hence the results of this study are inconsistent with Campanella and Serino, (2019) ; Ogubazghi and Muturi, 2014; Nguyen & Luu, (2013)and Storey and Greene (2010) which found a significant relationship between owner age and access to bank finance

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very unimportant	7.3	1.2	8	6	8
Unimportant	50.4	64.1	70	60	70
Neutral	10	10.2	4	8	4
Important	23.2	19.4	8	20	8
Very Important	9.1	5.1	10	6	10

Table: 5.5 Owners age and access to bank finance (Source: Researcher)

5.2.2.2.2 Owners education

Academic literature (Campanella and Serino, 2019 ; Fatoki and Asah, 2011; Irwin and Scott, 2010.) suggest that there is no association between owners education level and access to bank finance. As per table 6.6 the cross tabulation results from the survey of credit officers showed that credit officers considered owner's education as an unimportant indicator whether they accepted the loan application (44.4%) or whether they rejected the loan application (46.5%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that owner's education is an unimportant indicator in the credit officers lending decision whether credit officers accepted the loan application (60%) or whether credit officers rejected the loan application (86%). In the opinion of credit officers though borrowers with high educational levels are expected to have basic financial literacy skills, education level of a borrower does not have any points in the credit risk assessment criteria.

However, as shown in table 6.6 the results of the semi structured interviews with small enterprise owners contradicted with the findings of the credit officers survey and semi structured interview by suggesting that owner education is considered an important indicator in credit officers risk assessment on loan application from small enterprises (64%). In the opinion of small enterprise owners, education provides an opportunity to establish personal networks, thereby making it easier to access bank finance, interviewee number 3 mentioned:

> *"I was struggling to get my bank loan application approved, so I approached my university and asked them to provide me details of the alumni working as credit officer in commercial banks. I started contacting them and that's how I got my loan application approved. In some of the meetings we would spend 20 minutes talking about our university life and only 10 minutes on the loan application."*

Hence the semi structured interviews with small enterprise contradicts, while the survey and semi structured interviews with credit officers are consistent with Campanella and Serino, (2019) ; Fatoki and Asah, (2011); Irwin and Scott, (2010) which found that owner education level is not associated with access to bank finance.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	5.9	2.2	10	20	10
Unimportant	38.5	44.3	50	66	20
Neutral	14.4	9.09	6	2	6
Important	37.9	40.2	20	8	50
Very important	3.3	4.2	14	4	14

Table: 5.6 Owners education and access to bank finance (Source: Researcher)

5.2.2.2.3 Owners experience

Academic literature (Abdulsaleh and Worthington, 2016; Pandula, 2011; Deakins and Hussain, 1994) suggest that owners experience is not associated with an SMEs ability to access bank finance. As per table 6.7 the cross tabulation results from the survey of credit officers showed that credit officers considered owner's experience as an unimportant indicator whether they accepted the loan application (45.5%) or whether they rejected the loan application (56.8%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that owner's experience is an unimportant indicator in the credit officers lending decision whether credit officers accepted the loan application (56%) or whether they rejected the loan application (58%). In the opinion of credit officers, borrowers with extensive work experience in their field should demonstrate their knowledge by submitting a high quality proposal for a bank loan; however borrowers work experience itself does not have any points in the credit risk assessment, interviewee 49 stated:

> *"If a borrower has extensive work experience, then it should reflect in the quality of the business proposal, because at the end of the day bank loan applications are processed based upon the information in the business proposal and not on the CV of the borrower."*

As shown in table 6.7 the results of the semi structured interviews with small enterprise owners agreed with the findings of the credit officers survey and semi structured interview and showed that owner experience is considered as an unimportant indicator in credit officer's risk assessment on loan applications from small enterprises (54%). In the opinion of small enterprise owners, credit officer are more interested in lending to entrepreneurs with strong networks and connections of borrowers rather than rich experience, interviewee number 1 stated:

> *"Before starting my own knitwear manufacturing business, I had already been working in my family knitwear business for the last 12 years. When I applied for bank loans to set up my own business, every credit officer's doubted my ability to run the business and in some cases I was told by credit officers that there is a difference between being an employee and an entrepreneur. Demotivated and disheartened I approached my childhood friend who is a popular politician in my city for some help. He immediately telephoned the bank and the bank manager instantly apologized to me and said that I should have provided my friends reference in the first place to save me from any inconvenience. Within 1 working day my loan application got approved"*

Hence the results of this study are consistent with the findings of Abdulsaleh and Worthington (2016); Pandula (2011); Deakins and Hussain (1994) which found that owner experience is not significantly associated with access to bank finance.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very unimportant	1.1	5.4	14	20	12
Unimportant	44.4	51.4	42	38	42
Neutral	16.6	15.3	6	2	6
Important	34.5	25.5	30	18	32
Very important	3.4	2.4	8	22	8

Table: 5.7 Owners experience and access to bank finance (Source: Researcher)

5.2.2.2.4Electronic credit information bureau report (E-Cib report)

Academic studies (Abdulsaleh and Worthington, 2016.; Fatoki and Asah, 2011) suggest that borrowers with a positive electronic credit information bureau report (e-cib report) find it easier to access bank finance than borrowers with a negative electronic credit information bureau report. However according to table 6.8 the cross tabulation results from the survey of credit officers showed that credit officers considered E-Cib report as an unimportant indicator whether they accepted the loan application (52.4%) or whether they rejected the loan application (45.58%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that owner's experience is an unimportant indicator in the credit officers lending decision whether credit officers accepted the loan application (52%) or whether credit officers rejected the loan application (56%). In the opinion of credit officers, a clean e-cib report of Whizz Tech Directors was irrelevant because they are no longer full time employees of multinational corporations; hence their working status has changed to owners of a start-up applying for its first bank loan. Interviewee 24 stated:

> *"According to the business plan Whizz Tech directors were full time employees in leading multinational corporations prior to launching Whizz Tech. However they are now no longer in full time employment with those multinational corporations, and now they are in charge of a company with no lending history."*

Furthermore the credit officers also mentioned that E-Cib report contains information on a borrowers bank account balance and outstanding loan from only the big 4 commercial banks of Pakistan and that too from their branches in Karachi, Lahore and Islamabad only. Furthermore the requirement of e-cib report was made compulsory by State Bank of Pakistan (SBP) to decrease the level of Non-Performing Loans (NPLs) by identifying borrowers with bad credit history. Hence for a borrower with a negative E-Cib report more justification is required by a bank to sanction a loan. Whereas borrowers with a clean E-Cib report do not get any additional benefit because the E-Cib database is still in its launching phase and the database is not very robust and effective in collecting borrowers information from electricity companies and telecom companies. As stated by interviewee number 26 stated:

Interviewee 32 reported:

> *"The E-Cib database is still in its launching stages. It can only provide information on the borrower's bank balance, and whether they have paid back/defaulted on any previous bank loan. Any robust database should also be able to gain information from*

electricity and telecom companies to identify whether a borrower is able to pay his utility bills on time. As of this moment we are told that SBP is working with electricity and telecom companies and soon E-Cib database will be able to get this information, when this happens we will start taking the E-Cib report more seriously."

According to table 6.8, the semi structured interview results by small enterprise owners also agreed with the results of the credit officers survey and semi structured interviews, and also found that E-Cib report is considered as an unimportant indicator in credit officers risk assessment on loan applications from small enterprises (60%). In the opinion of small enterprise owners, entrepreneurs with strong networks and connections continue to obtain bank financing easily despite having a previous default on bank loan, thereby making it evident that the e-cib report is irrelevant. Recalling experiences where borrowers with strong political connections were still able to acquire bank loans despite having previous history of loan defaults, interviewee number 10 stated:

"I have been a vice president of the chambers of commerce in my city for the last 3 years, and during the last 3 years I have frequently witnessed entrepreneurs with strong political connections to easily obtain bank financing despite having defaulted on previous bank loans. If E-cib is so important than such entrepreneurs (i.e. those who have defaulted on a bank loan) should not be able to obtain bank finance at all, unless they have cleared their outstanding debts."

Hence the results of this study reveal that E-Cib does not have a significant influence in credit officers risk assessment on loan applications from small enterprises in Pakistan, therefore the results of this study are contradictory to the findings of Abdulsaleh and Worthington (2016); Fatoki and Asah (2011)

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	2.2	2.4	4	4	10
Unimportant	50.2	43.18	48	52	50
Neutral	8.88	13.07	8	4	10
Important	34.4	37.2	14	20	20
Very important	4.4	6.3	26	20	10

Table: 5.8 E-Cib report and access to bank finance (Source: Researcher)

5.2.2.2.5 Binary Logistic Regression- Small enterprise owner characteristics

Results from table 6.9 demonstrate that small enterprise owner characteristics have an insignificant relationship with credit officers lending decision on the loan application from Whizz Tech. The model found a significant association between credit officers education level and importance of small enterprise owner characteristics in credit officers lending decision, the results indicate that credit officers with undergraduate and graduate education were 2 times (odds ratio 2.124 for undergraduate and 2.302 for post graduate) more likely to consider small enterprise owner characteristics as important in their credit lending decision. However younger credit officers (aged 18-39 years) and credit officers with less than 19 years of experience (1-10 years and 11-19 years) did not consider small enterprise owner characteristics as an important indicator in their lending decision. The Hosmer and Lemeshaw results of $x^2$5.598 and p value 0.692 > 0.05 indicate the goodness of fit for the model. The model explained 25.1% (cox and snell r square) and 34.8% (Nagelkerke R square*)* of the variance in the importance of small enterprise owner characteristics in credit officers lending decision and was correctly able to identify 75.6% of the cases.

Small enterprise owner characteristics and credit officers lending decision			
	Coef. B	Sig.P	Odds ratio Exp. B
Constant	-.493	0.536	.611
Age			
18-39 years	-.368	.556	.692
40+	-	-	-
Education			
Intermediate	.753	.133	2.124
Bachelors	.834	.078	2.302
Masters	-	-	-
Work experience			
1-10 years	-.983	.011	.374
11-19 years	-2.744	.000	0.064
20+	-	-	-
-2 log likelihood	263.563		
Cox &snellRsquare	0.251		
Nagelkerke R square	0.348		
Hosmer and Lemehsow ***(*** $x^2 and p - value$	5.598 and 0.692		

Table 5.9

5.2.2.3 Firm specific characteristics:

5.2.2.3.1 Firm age

Academic studies (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012;Deakins et.al, 2010; Fletcher, 1995; Deakins and Hussain, 1994) suggest that since older/mature firm have a demonstrable track record/history, they find it easier to obtain bank finance in comparison to younger firm who find it very difficult to obtain bank finance due to little/no track record/history. As per table 6.10 the cross tabulation results from the survey of credit officers show that credit officers considered firm age as in important indicator whether they accepted the loan application (53.9%) or whether they rejected the loan application (58.6%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that firm age is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (52%) or whether credit officers rejected the loan application (78%). However the semi structured interview discussion with credit officers revealed contrasting reasons behind the credit officer's decision. Credit officers who accepted the loan application considered lending to a start-up company like Whizz Tech as an opportunity to develop a long term banking relationship, they highlighted the fact, that since availing bank finance is very difficult for start-up; owners/directors of start-ups mostly become very loyal customers to the bank if they are provided a bank loan during this period. However, credit officers who rejected the loan application stated that since 80% of the start-ups close within the first 3 years of starting their operations in Pakistan ending to a start-up is extremely risky, interviewee number 22 stated:

"Though whizz Tech has a very good proposal, I am not comfortable in lending to a start-up. It's just too risky. In my experience more than 80% of start up companies

closed their business within the first three years of their operation, though many had solid business proposals."

The semi structured interview with small enterprise owners as shown in Table 6.10 also agreed with the findings of the credit officers survey and semi structured interviews and also found firm age as an important indicator in credit officers risk assessment on loan applications from small enterprises (90%). Though in the opinion of small enterprise owners, bank loan application rejection rate from small enterprises is very high for enterprises without strong networks and personal connections, hence a start-up firm should not even attempt to obtain bank loan if it does not have strong networks and personal connection, as reported by interviewee number 2:

"For a start-up firm (i.e. aged less than 5 years old) obtaining a bank loan is entirely dependent upon the quality of its networks and personal connections. If a firm does not have these, then I would recommend not to even walk into a commercial bank, as the experience can be extremely demotivating. "

Hence the supply side results of this study are consistent with the studies (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012;Deakins et.al, 2010; Fletcher, 1995; Deakins and Hussain, 1994) which also suggested that older firms find it easier to obtain bank finance. However the demand side results suggest that firms with strong networks and political connections may be able to obtain bank finance regardless of the firm age. Hence the demand side results of this study are inconsistent with (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012;Deakins et.al, 2010; Fletcher, 1995; Deakins and Hussain, 1994)

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	2.2	2.3	10	8	0
Unimportant	30.2	33.6	30	12	10
Neutral	13.6	5.5	8	2	0
Important	52.4	54.2	50	70	60
Very important	1.5	4.4	2	8	30

Table: 5.10 Firm age and access to bank finance (Source: Researcher)

5.2.2.3.1 Firm size

Academic literature (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016) which suggested that larger firms find it easier to obtain bank finance as banks consider them to be more profitable customers than smaller firms. According to table 6.11 the cross tabulation results from the survey of credit officers show that credit officers considered firm size as in important indicator whether they accepted the loan application (57.4%) or whether they rejected the loan application (45.2%). The semi structured interviews confirmed the findings of the survey and revealed that banks have to consider loan applications from small enterprises to comply with State Bank of Pakistan (SBP) regulations which have made it compulsory for commercial banks to lend specifically to small enterprises in Pakistan, interviewee number 16 mentioned:

> *"SBP has made it compulsory for commercial banks to promote lending to small enterprises, hence we have to show that we consider loan applications from small*

enterprises and we duly perform credit risk assessment on their business propositions."

According to table 6.11 the results of the semi structured interviews with small enterprise owners also revealed that firm size is an important indicator in credit officers risk assessment on loan application from small enterprises (70%). However in the opinion of small enterprise owners, commercial banks target medium enterprises as part of their lending portfolio because commercial banks view medium enterprises as firms with lower probability of failure/business closure. Hence credit officers would expect the owner of the small enterprise to demonstrate in their business plan that the bank loan would help the firm expand into a medium enterprise, interviewee number 4 reported

Credit officers would not sanction a loan to a small enterprise unless the business plan demonstrates that the bank loan would help the small enterprise expand to a medium enterprise."

Hence the results of this study are inconsistent with studies (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016) which suggested that larger firms find it easier to obtain bank finance than smaller firms.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	4.4	3.2	2	12	0
Unimportant	30.5	41.1	40	30	30
Neutral	7.7	10.5	8	10	0
Important	55.2	40.1	44	40	50
Very important	2.2	5.1	6	8	20

Table: 6.11 Firm size and access to bank finance (Source: Researcher)

5.2.2.3.2 Firm legal form

Academic literature (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012) suggest that legally incorporated firm find it easier to obtain bank finance as they are subject to higher financial disclosure / financial reporting requirements than non-legally incorporated firms. As per table 6.12 the cross tabulation results from the survey of credit officers show that credit officers considered firm legal form as in important indicator whether they accepted the loan application (64.3%) or whether they rejected the loan application (51.7%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that firm legal form is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (76%) or whether credit officers rejected the loan application (66%). In the opinion of credit officers since a legally incorporated businesses is required by law to maintain some form of financial statements, hence a legally incorporated business is more formal and reliable than sole proprietorships, interviewee 9 stated:

"Unlike sole proprietorships, it is compulsory for legally incorporated firms to maintain some form of financial statements. Hence legally incorporated firms are more formal and reliable."

According to table 6.12 the results of the semi structured interviews with small enterprise owners also revealed that Firm legal form is an important indicator in credit officer's risk assessment on loan applications from small enterprises (80%). In the opinion of small enterprise owners, rejection rate of bank loan applications from sole traders is so high that credit officer should specify in their bank loan requirements that it is mandatory for a business to be legally incorporated, interviewee 2 stated:

"In my 14 years of business experience, I have never seen a sole trader being able to obtain bank loan. Every sole trader that I have known was told to legally incorporate their business into a private limited company if they really wanted a bank loan. I don't understand why this is not specified in the bank lending requirements. "

Hence the results of this study are consistent with studies (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012) which also suggested that legally incorporated firms find it easier to obtain bank finance than non-legally incorporated firms.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	4.7	2.3	4	10	10

Unimportant	24.4	22.8	14	20	10
Neutral	6.6	23.2	6	4	0
Important	61.2	47.2	64	60	60
Very important	3.1	4.5	12	6	20

Table: 6.12 Firm legal form and access to bank finance (Source: Researcher)

5.2.2.3.3 Collateral

According to academic literature (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh, and Worthington, 2016; Kouser et.al, 2012; Deakins et.al, 2010) entrepreneurs who pledge adequate collateral (i.e. sales proceeds of an asset is enough to recover the principal loan amount with interest) are able to demonstrate their confidence in the business proposal to banks, hence borrowers with adequate collateral are perceived as low risk in comparison to borrowers with inadequate collateral. As per table 6.13 the cross tabulation results from the survey of credit officers show that credit officers considered firm legal form as in important indicator whether they accepted the loan application (63.3%) or whether they rejected the loan application (66.4%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that firm legal form is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (90%) or whether credit officers rejected the loan application (90%). However the semi structured interview discussion with credit officers revealed that credit officers who accepted the loan application from Whizz Tech considered collateral worth 90% of the total loan value as adequate, interviewee 5 stated:

> *"Pledging gold worth 90% of the total loan value shows that Whizz Tech directors are committed and serious in the business. I wouldn't have even spent 1 minute reading the business proposal if I knew that the borrower did not have adequate collateral for the bank loan."*

Conversely credit officers who rejected the loan application from Whizz Tech desired the value of collateral to be at least 150% of the loan value due to the fluctuation in the price of gold in the market interviewee 3 stated:

> *"Whizz Tech has pledged gold as collateral worth 90% of the total loan value. Considering the fact that the price of gold fluctuates, I would expect Whizz Tech to pledge gold worth 150% of the total loan value*

According to table 6.13 the results of the semi structured interviews with small enterprise owners also revealed that collateral is an important indicator in credit officers risk assessment on loan applications from small enterprises (90%). In the opinion of small enterprise owners, banks are more concerned about the collateral than the actual business plan, interviewee 10 stated:

> *"In my last 3 meetings for bank loan at 3 different banks, credit officers spent approximately 70% of our meeting time discussing the value of my collateral (my house) and checking the legal documents to ensure that I was the legal owner. We barely spent time discussing my business proposal."*

Hence the results of this study are consistent with studies (Waheed and Siddiqui, 2019.; Erdogan, 2019; Abdulsaleh, and Worthington, 2016; Kouser et.al, 2012; Deakins et.al, 2010) which also suggested that firms with adequate collateral find it easier to obtain bank finance than firms with inadequate collateral. However according to the supply side results of this study it is difficult to ascertain how much collateral is considered as adequate collateral.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	1.2	3.01	4	2	0
Unimportant	32.1	21.5	4	4	0
Neutral	3.3	9.09	2	2	10
Important	60.2	64.2	80	70	70
Very important	3.1	2.2	10	20	20

Table: 6.13 Collateral and access to bank finance (Source: Researcher)

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5.2.2.3.4 Binary Logistic Regression- Firm Characteristics

Results from table 6.14 demonstrate that firm characteristics have a significant relationship with credit officers lending decision on the loan application from Whizz Tech. The model found that that credit officers are 2 times (odds ratio 2.348) likely to consider firm characteristics as in important indicators in their credit decision making. Furthermore results from table 6.4 demonstrate that credit officers with university qualifications (Bachelors and Masters) are 2 times (odds ratio 2.010 for Bachelor's degree and odds ratio and odds ratio 2.067 for Masters degree) likely to consider firm characteristics as an important indicator in their lending decision. However credit officers with less than 20 years of experience (experience 1-19 years) and young credit officers (credit officers in the age range of 18-39 years) did not consider firm characteristics as an important indicator in their lending decision. The Hosmer and Lemeshaw results of $x^2$13.7 and p value 0.090> 0.05 indicate the goodness of fit for the model. The model explained 26.3% (cox and snell r square) and 36.4% (Nagelkerke R square*)* of the variance and was correctly able to identify 75.2% of the cases.

Firm characteristics and credit officers lending decision			
	Coef. B	Sig.P	Odds ratio Exp. B
Constant	.853	.012	2.348
Age			
18-39 years	-.191	.756	.826
40+	-	-	-
Education			
Intermediate	-	-	-
Bachelors	.698	.169	2.010
Masters	.726	.127	2.067
Work experience			
1-10 years	-.668	.104	.513
11-19 years	-2.235	.000	.107
20+			
-2 log likelihood	259.372		
Cox &snellRsquare	0.263		
Nagelkerke R square	0.364		
Hosmer and Lemehsow ***($x^2 and p - value$***	13.7 and 0.090		

Table 6.14

5.2.2.4 Firm financial indicators

5.2.2.4.1 Gearing

Academic literature (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994) has identified gearing as an important financial indicator in making lending decisions on loan applications. As per table 6.15 the cross tabulation results from the survey of credit officers showed that credit officers considered gearing as an important indicator whether they accepted the loan application (65.5%) or whether they rejected the loan application (53.9%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that gearing is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (68%) or whether credit officers rejected the loan application (56%). In the opinion of credit officers who accepted the loan application considered Whizz Tech's gearing ratio of 10:90 (10% debt and 90% equity) as very positive ratios indicating very little reliance on debt to finance the finance, interviewee 2 reported:

> *"Gearing ratio of 10: 90 shows that Whizz Tech directors are making substantial investment from their own resources, this is a very positive sign."*

However credit officers who rejected the loan application wanted Whizz Tech directors to apply for smaller loans to build their credit history, interviewee 1 reported:

> *"Whizz Tech directors should apply for smaller loans e.g., PKRS 50,000 that is equivalent to gearing ratio of 1: 99 to build a credit history, once this is full paid then they should apply for bank loans to achieve a gearing ratio of 10: 90"*

However according to table 6.15 the results of the semi structured interviews with small enterprise owners revealed that gearing is an unimportant indicator in credit officers risk assessment on loan applications from small enterprises (90%). In the opinion of small enterprise owners, entrepreneurs with previous banking relationship, and strong networks and connections can avail bank finance easily even with a high gearing ratio; whereas entrepreneurs without previous baking relationships and weak/no networks and connections will always struggle to avail bank finance even with a low gearing ratio, as reported by interviewee 5:

> "*There is no doubt that if an entrepreneur has previous banking relationships and strong networks and connections then a gearing ratio of 40:60 is not a high risk and a loan will get sanctioned. On the other hand if an entrepreneur does not have previous banking relationships and weak/little networks and connections then a gearing ratio of 4: 96 is considered as a high risk and a loan will not get sanctioned."*

Hence the supply side results of are consistent; whereas the demand results are inconsistent with studies (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994) which suggested that gearing is an important indicator in loan offices credit risk assessment on loan applications.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application	Accepted loan application (%)	Rejected loan application (%)	(%)
Very unimportant	3.4	4.5	14	6	30
Unimportant	23.4	30.24	16	30	30
Neutral	7.7	11.36	2	8	10
Important	50.3	43.4	54	44	0
Very important	15.2	10.5	14	12	0

Table: 6.15 Gearing and access to bank finance (Source: Researcher)

5.2.2.4.2 Timing of income and payments

Academic literature (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994)has identified timing of income and payment as an important financial indicator in making lending decisions on loan applications. As per table 6.16 the cross tabulation results from the survey of credit officers showed that credit officers considered timing of income and payments as an important indicator whether they accepted the loan application (76.6%) or whether they rejected the loan application (57.3%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that timing of income and payments is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (78%) or whether credit officers rejected the loan application (70%). In the opinion of credit officers who accepted the loan application considered forecasted balance sheet, as a sign of good financial literacy, interviewee 22 stated:

> *"I am pleased to see that Whizz Tech directors have demonstrated their financial literacy through the timing of income and payments."*

However credit officers who rejected the loan application considered the figures in the timing of income and payment to be unrealistic and made up to only impress credit officers in granting a bank loan, interviewee 37 stated:

> *"From my experience most of the figures in the income and payments are unrealistic and it seems as if they have been made up to impress credit officers in accepting the loan application. I will be surprised if Whizz tech will achieve even 75% of these forecasted figures."*

According to table 6.16 the results of the semi structured interviews with small enterprise owners revealed that timing of income and payments is an important indicator in credit officers risk assessment on loan applications from small enterprises (60%). However in the opinion of small enterprise owners, though timing of income and payments is important, entrepreneurs with previous banking relationship, and strong networks and connections can easily convince credit officers on their estimated income and payments; whereas entrepreneurs without previous baking relationships and weak/no networks and connections will always struggle convince credit officers on their income and payments, as reported by interviewee 5:

"*Timing of income and payments is very important, but credit officers easily believe estimated income and payment figures from entrepreneurs with whom they have previous banking relationships and strong networks/connections. Whereas entrepreneurs not possessing previous banking relationships and weak/little networks and connections will always struggle in convincing credit officers on their estimated income and payment figures."*

Hence the results of this study are consistent; with studies (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994) which suggested that timing of income and payments is an important indicator in loan offices credit risk assessment on loan applications from SMEs.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	1.9	6.5	8	8	30
Unimportant	12.9	19.8	10	6	30
Neutral	8.6	16.4	4	16	10
Important	56.2	45.2	60	50	20
Very important	20.4	12.1	18	20	10

Table: 6.16 Timing of income and payment and access to bank finance (Source: Researcher)

6.3.2.4.3 Liquidity

Academic literature (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994) has identified liquidity as an important financial indicator in making lending decisions on loan applications. As per table 6.17 the cross tabulation results from the survey of credit officers showed that credit officers considered liquidity as an important indicator whether they accepted the loan application (72.2%) or whether they rejected the loan application (53.9%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that liquidity is an important indicator in the credit officers lending decision whether credit officers accepted the loan application (68%) or whether credit officers rejected the loan application (62%). In the opinion of credit officers who accepted the loan application considered liquidity, as a sign of good financial literacy and the ability of the firm to payback the bank loan. However credit officers who rejected the loan application considered the cash balance figures to be unrealistic and made up to only impress credit officers in granting a bank loan, interviewee number 11 stated:

> *"It looks as if the figures in closing cash balance are unrealistic and are made up only to impress credit officers in accepting the loan application."*

According to table 6.17 the results of the semi structured interviews with small enterprise owners revealed that liquidity is an important indicator in credit officers risk assessment on loan applications from small enterprises (85%). However in the opinion of small enterprise owners, though liquidity is important, entrepreneurs with previous banking relationship, and strong networks and connections can easily convince credit officers on the liquidity of their business; whereas entrepreneurs without previous baking relationships and weak/no networks and connections will always struggle to convince credit officers on the liquidity of their business, as reported by interviewee number 2:

"*Liquidity is very important because you have to convince the bank that the business generates sufficient cash to meet it debt payment. However entrepreneurs with previous banking relationships and strong networks/connections can easily convince credit officers on the liquidity of the business, while entrepreneurs not possessing previous banking relationships and weak/little networks and connections will always struggle in convincing credit officers on the liquidity of their business.*"

Hence the results of this study are consistent; with studies (Sann, 2019; Hussain, et.al, 2018; Dima, 2018; Fletcher 1995; Deakins, and Hussain, 1994) which suggested that liquidity is an important indicator in loan offices credit risk assessment on loan applications from SMEs.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Very Unimportant	6.8	2.3	12	14	0
Unimportant	7.7	29.3	14	10	5
Neutral	13.3	14.5	6	14	10
Important	55.4	44.4	50	60	70
Very important	16.8	9.5	18	2	15

Table: 6.17 Liquidity and access to bank finance (Source: Researcher)

6.2.2.4.4 Binary Logistic Regression- Firm Financial Indicators

Results from table 6.18 demonstrate that firm financial indicators have a significant relationship with credit officers lending decision on the loan application from Whizz Tech. The model found that credit officers are 8 times more likely (odds ratio 7.953) to consider firm characteristics as in important indicators in their credit decision making. Furthermore the model also found that credit officers age 18-39 and more were 2 times (odds ratio 1.67) more likely to consider firm financial indicators as an important factor in their credit decision making. Credit officers with intermediate education were 1 time more likely (odds ratio 1.2) and undergraduate education 2 (odds ratio 2.152) times more likely to consider financial indicator as an important factor in their credit decision making. Similarly credit officers with 1-10 years of work experience were 3 times (odds ratio 2.564) and 11-19 years of work experience were more 22 times (odds ratio 21.597) more likely to consider financial indicators as an important factor in their credit decision making The Hosmer and Lemeshaw results of $x^2$16.08 and p value 0.041> 0.05 indicate the goodness of fit for the model. The model explained 30.3% (cox and snell r square) and 42% (Nagelkerke R square***)*** of the variance and was correctly able to identify 80.8% of the cases.

Financial Indicators and credit officers lending decision			
	Coef. B	Sig.P	Odds ratio Exp. B
Constant	2.074	.019	7.953
Age			
18-39 years	.513	.419	1.670
40+	-	-	-
Education			
Intermediate	.196	.619	1.217
Bachelors	.766	.120	2.152
Masters	-	-	-
Work experience			
1-10 years	.942	.022	2.564
11-19 years	3.073	.000	21.597
20+	-	-	-
-2 log likelihood	244.390		

Cox &snellRsquare	0.303
Nagelkerke R square	0.420
Hosmer and Lemehsow $(x^2 and p - value$	16.080 and 0.041

Table: 5.18 (Source: Researcher)

5.3 Family social capital benefits and access to bank finance

5.3.1 Research question and Hypotjesis

Academic literature has also identified the role of family social capital in enabling SMEs to obtain bank finance; however this does not reach univocal results (Murro and Peruzzi, 2019). Study conducted by Chua et.al (2011) and Arregle, et.al, (2007) found that family involvement in ownership and family involvement in management enables SMEs to use the family social capital through overlapping social networks, thus overcoming adverse selection by reducing information asymmetry and enabling SMEs to obtain bank finance. On the contrary study conducted by Murro and Peruzzi, (2019) and Pindado et.al, (2011) found that family firms are more likely to be credit rationed than non-family owned firms due high level of information asymmetry which arises due to conflicts between controlling family members and minority shareholders. Family ownership firms play a key role in the Pakistani economy (Zulfiqar and Fayyaz, 2014). According to Jabeen et al. (2012) and SMEDA (2009) almost 65% of the private limited companies in Pakistan are family owned. However no study has examined the relationship between family social capital and access to bank finance for small enterprises in Pakistan. Hence the second research question for this study and the relevant hypothesis (figure 6.2 provides details on the control, dependent and independent variables) is: **RQ2. Do family social capital benefits affect credit officers lending decision making on loan applications from small enterprises in Pakistan?**

H4. There is a significant relationship between family social capital benefits and credit officers lending decision on loan applications from small enterprises in Pakistan.

5.4.2. Overlapping social networks

Studies conducted by Chua et.al (2009) and Arregle, et.al, (2007) found a positive relationship between family overlapping social networks and access to bank finance for SMEs. As per table 6.20 the cross tabulation results from the survey of credit officers showed that credit officers disagreed on the influence of overlapping social networks in their credit lending decision, whether they accepted the loan application (44.6%) or whether they rejected the loan application (67.6%). The survey findings were confirmed by semi structured interview results of credit officers which also showed that credit officers disagreed on the influence of overlapping social networks, whether credit officers accepted the loan application (60%) or whether they rejected the loan application (68%). In the opinion of credit officers, bank make lending decision strictly on the basis of their requirements mentioned on their website and loan brochures, interviewee 26 stated:

> *"Nowhere on our website or any other marketing material have we stated that firmly firms or firms with family social capital will get additional points on our credit risk assessment criteria. I did get impressed by the fact that a family member of Whizz Tech directors who is an established businessman has made an investment in Whizz Tech and is occupying a seat amongst the board of directors, but it didn't influence my decision and my decision was made purely on the business plan of Whizz Tech."*

However as per the table, semi structured interview results with small enterprise owners agreed on the influence of overlapping social networks (60%) in the credit officers lending decision on loan application from small enterprises. In the opinion of small enterprise owners overlapping social networks are more important than the skills and abilities of an entrepreneur in gaining access to bank finance, as reported by interviewee 1:

> *"I wanted to start my business independently as I was very proud of my degree that I got from abroad and I wanted to show my family members my skills and abilities. After numerous unsuccessful attempts at securing a bank loan I approached my father to help me out. My father (a well to do businessman) simply called his golf buddy a bank manager at our local bank and told him to help me out. Within 2 working days of my father's call I was successful in obtaining a bank loan"*

Hence the results of the credit officers survey and semi structured interviews are inconsistent, while the results of the small enterprise owners semi structured interviews are consistent with Chua et.al (2009) and Arregle, et.al, (2007) which also found a positive relationship between family overlapping social networks and access to bank finance for SMEs.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured Interviews
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)	(%)
Strongly disagree	10.2	7.3	20	24	10
Disagree	34.4	60.3	40	44	20
Neutral	21	6.25	16	8	10
Agree	30.2	16.5	12	1	40
Strongly agree	4.2	9.6	12	8	20

Table: 5.19 Overlapping social networks and access to bank finance (Source: Researcher)

5.3.3 Lower probability of failure

Studies conducted by Chua et.al (2009) and Arregle, et.al, (2007) suggest that family firms are considered to have a lower probability of failure, hence improving their access to bank finance. As per table 6.21 the cross tabulation results from the survey of credit officers showed that credit officers disagreed on the notion that firms with family social capital are considered to have a lower probability of failure in their credit lending decision, whether credit officers accepted the loan application (48.8%) or whether they rejected the loan application (72.15%). The survey findings were confirmed by semi structured interview results of credit officers which also showed on the notion that firms with family social capital are considered to have a lower probability of failure in their credit lending decision, whether credit officers accepted the loan application (64%) or whether they rejected the loan application (60%). In the opinion of credit officers, there is no guarantee that firms with family social capital have a lower probability of failure because if firms with family social capital had a lower probability of failure then lending to family firms would have been so much easier and the problem of Non-Performing Loans (NPLs) would be minimal, and consequently banks loan brochures would clearly mention that firms with family social capital are encouraged to apply; interviewee 26 stated:

> *"The average NPLs from the small enterprise sector is around 65%. This figure of 65% includes only those small enterprises that have defaulted, if the figures of those businesses that have missed payments and yet have not been categorized as NPL is also included then 86% of small enterprises are unable to payback or default on their loans. If firms with family social capital had a lower probability of failure, then this NPL figure would be very low and we could easily target such firms and actively*

advertise on our websites and loan brochures that firms with family social capital are particularly encouraged to apply."

However as per table, the semi structured interview results with small enterprise owners agreed on the notion that firms with family social capital are considered to have a lower probability of failure in their credit lending decision (65%) in the credit officers lending decision on loan application from small enterprises. In the opinion of small enterprise owners, commercial banks are of the view that firms with family social capita have a lower probability of default as it would bring a bad image to the family name, interviewee 10 reported:

""During my tenure as the vice president of the chambers of commerce in my city, I have organized 2 conferences on improving access to bank finance for small enterprises. In both of these conferences I noted that bank representatives were very eager to discuss their financing options/products with family firms and were ignoring entrepreneurs without family social capital. When I asked the bank representatives why they were engaging with family firms more actively, they said that family firms or firms with family social capital has a lower probability of failure because a bankruptcy would bring a bad image to the family name."

Hence the supply side results of the study are inconsistent, while the demand results of the study are consistent with Chua et.al (2009) and Arregle, et.al, (2007) which suggested that firms with family social capital are perceived to have a lower probability of failure when accessing bank finance.

	Survey- Cross tabulation		Credit officers- Semi structured interview		Small enterprise owners- Semi structured interviews
	Accepted loan	Rejected loan	Accepted loan	Rejected loan	(%)

	application (%)	application (%)	application (%)	application (%)	
Strongly disagree	12.4	9.95	32	40	5
Disagree	36.4	62.2	32	20	20
Neutral	23.3	7.9	16	12	10
Agree	25.4	17.04	8	12	40
Strongly agree	2.5	2.8	12	16	25

Table: 5.20 (Source: Researcher)

5.3.4 Family social capital and Access to bank finance- Binary logistic regression

Results from table 6.22 demonstrate that family social capital does not have a significant relationship with credit officers lending decision. The results showed that neither credit offiecrs age, credit offiecrs education and credit officers experience had a significant relationship with the access to bank finance decision for Whizz Tech. The Hosmer and Lemeshaw results of x^2 7.244and p value 0.511> 0.05 indicate the goodness of fit for the model. The model explained 33.5% (cox and snell r square) and 46.4% (Nagelkerke R square*)* of the variance and was correctly able to identify 82% of the cases.

Family Social Capital Benefits and access to bank finance			
	Coef. B	Sig.P	Odds ratio Exp. B
Constant	-.049	.005	.953
Age 18-39 years 40+	 -1.55	 .001	 .211
Education Intermediate Bachelors Masters	 -1.227 -1.828	 .041 .001	 .293 .161

Work experience			
1-10 years	-1.636	.10	.195
11-19 years	-2.265	.000	.104
20+			
-2 log likelihood	232.020		
Cox &snellRsquare	.335		
Nagelkerke R Square	.464		
Hosmer and Lemehsow $(x^2 and p - value$	7.244 and .511		

Table: 5.21 (Source: Researcher)

5.4 Compliance requirements and credit guarantee scheme (CGS) referral decision

5.4.3 Research question and Hypothesis

In order to overcome the obstacle of collateral requirements and adverse selection for SMEs Governments of various countries have initiated Credit Guarantee Schemes (CGS) (Jones-Evans, D., 2015.). However, literature investigating the impact of CGS in reducing the access to bank finance gap for SMEs has mixed results. Valentin (2014) interviewed 10 bank managers in Germany and found that bank loan officers would discuss the SME loan application with a guarantee bank before they apply for the guarantee; consequently a guarantee application submitted by a bank is rarely rejected by the guarantee bank. However study conducted by Agnese et.al, (2018) in UK found that as a result of the 2007 economic recession there was an increase in the number of loan defaults from SMEs, and as result very few SME loans were considered under the Enterprise Finance Guarantee (EFG) scheme in

UK. Study conducted by Deakins et.al (2010) also suggested that loan officers would rarely make referrals under the EFG due to the high default rate and compliance requirements. In the case of Pakistan study conducted by Nadeem, T. and Rasool, R., (2018)stated that credit officers expressed their reservations with regards to cumbersome reporting requirements from SBP for making a referral under the SBP CGS. Furthermore studies by Dang and Chuc, 2019. in Vietnam, Aboojafari et.al (2019) in Iran, and Yagci (2018) in Turkey suggest that excessive reporting requirements and delay in the processing of applications influences credit officers decision to make a referral under the CGS, therefore the third research question and the relevant hypothesis is (figure: 6.3 provides details on the control, dependent and independent variables):

RQ3. Do compliance requirements affect credit officer's decision to consider a loan application from small enterprises under the SBP credit guarantee scheme?

H5. There is a significant relationship between compliance requirements and credit officers decision to consider loan applications from small enterprises in Pakistan under the SBP credit guarantee scheme.

5.5.2 Excessive reporting requirements

Studies by Dang and Chuc, (2019) in Vietnam; Aboojafari et.al, (2019) in Iran, and Yagci, (2018) in Turkey suggest that due to excessive paperwork credit officers may be reluctant to consider a loan application under the CGS. As per table 6.23 the cross tabulation results from the survey of credit officers showed that credit officers who made a referral under the CGS disagreed (52.6%) on the influence of excessive reporting requirements in their decision to make a referral under the CGS. However credit officer's who did not make referral under the CGS, agreed (74.1%), on the influence of excessive reporting requirements in their decision. The survey findings were confirmed by semi structured interview results of credit officers which also showed that credit officers who made a referral under the CGS disagreed (60%) on the influence of excessive reporting requirements in their decision to make a referral under the CGS. In the opinion of credit officer's reporting requirements are necessary to promote transparency in using public funds, interviewee 21 stated:

> *"Reporting requirement are there to promote transparency in the use of public funds. Credit officers complain about time it takes to complete the paperwork, but when the accountability courts starts investigating into unfair practices, then the same credit officers take these paperwork's as a sign of relief."*

However credit officer's who did not make referral under the CGS, agreed (74.1%), on the influence of excessive reporting requirements in their decision. In the opinion of credit officers they would rather reject the loan application, interviewee 22 stated:

> *"It takes 7 forms to gain an acceptance from SBP under the CGS. I would rather reject this application and process 2 other applicants who have significant collateral instead."*

Since 85.7% (as shown in table 6.1) of the credit officers refused to make a referral under the CGS, it is evident that excessive reporting does affect credit officers ability to make a referral under the CGS, hence the results of this study are consistent with Dang and Chuc (2019) in; Aboojafari et.al, (2019), and Yagci, (2018).

	Survey- Cross tabulation		Credit officers- Semi structured interview	
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)
Strongly disagree	12.3	4.4	16	20

Disagree	40.33	8.7	44	4
Neutral	13.1	12.7	10	10
Agree	30.1	49.6	20	26
Strongly agree	4.16	24.5	10	40

Table: 6.22 Excessive reporting requirements and CGS referral decision

(Source: Researcher)

5.5.3 Delay in processing of applications

Study conducted by Dang and Chuc, (2019) in Vietnam; Aboojafari et.al, (2019) in Iran, and Yagci, (2018) in Turkey suggested that due to delay in processing of paperwork, credit officers may be reluctant to consider a loan application under the CGS. As per table 6.24 the cross tabulation results from the survey of credit officers showed that credit officers who made a referral under the CGS disagreed (54.6%) on the influence of delay in processing of applications in their decision to make a referral under the CGS. However, credit officers who did not make a referral under the CGS agreed (73.6%) on the influence of delay in the processing of applications in their decision. The survey findings were confirmed by semi structured interview results of credit officers which also showed that credit officers credit officers who made a referral under the CGS disagreed (54%) on the influence of excessive paperwork requirements in their decision to make a referral under the CGS. In the opinion of credit officers accessing public funds does take time to ensure proper accountability, interviewee 30 stated:

> *"I mentioned very clearly in my decision, if Whizz Tech directors want to avail the CGS facility then they should wait 3 months for the decision. It may sound a lot of time to the entrepreneurs but the reality is that the accountability courts are very active these days and whenever they (accountability organizations) see that public*

funds have been accessed in a very short span of time then they start getting suspicious."

However credit officers who did not make referral under the CGS strongly agreed (73.6%) on the influence of delay in processing of paperwork in their decision, interviewee 42 stated:

"CGS applications are processed on a quarterly basis, and if there is a query by SBP then the query needs to be resolved and again resubmitted in the next quarter. I personally know about 7 cases where due to SBP queries and the quarterly submission issue, CGS application were taking 6 months, eventually we decided to cancel the applications."

Since 85.7% (as shown in table 6.1) of the credit officers refused to make a referral under the CGS, it is evident that delay in processing of paperwork does affect credit officers ability to make a referral under the CGS, hence the results of this study with Dang and Chuc (2019); Aboojafari et.al, (2019), and Yagci, (2018).

	Survey- Cross tabulation		Credit officers- Semi structured interview	
	Accepted loan application (%)	Rejected loan application (%)	Accepted loan application (%)	Rejected loan application (%)
Strongly disagree	10.3	3.5	4	6
Disagree	44.33	3.1	50	12
Neutral	4.6	19.8	10	4
Agree	32.36	60.3	30	60
Strongly agree	8.41	13.3	6	18

Table: 6.22 Delay in processing of applications and CGS referral decision (source: researcher)

5.4.4 Binary logistics regression- compliance requirements

Results from table 6.25 demonstrate that compliance requirement has a significant relationship with credit officers decision to consider a loan application under the SBP credit guarantee scheme, thereby accepting H7. The results also suggest that credit officers aged 18-39 were 6 times (odds ratio 6.478), credit officers with intermediate level of education were 5 times more likely (odds ratio 4.585), credit officers with bachelors level of education were 6 times more likely (odds ratio 5.609), credit officers with work experience of 1-10 years were 50 times more likely (odds ratio 49.858) and credit officers with work experience of 11-19 were 3 times more likely (odds ratio 2.792) to agree that compliance requirements affected their decision to consider loan applications under the SBP credit guarantee scheme . The Hosmer and Lemeshaw results of $x^2 4.2$ and p value 0.756> 0.05 indicate the goodness of fit for the model. The model explained 45.2% (cox and snell r square) and 80.8% (Nagelkerke R square***)*** of the variance and was correctly able to identify 92% of the cases.

Compliance requirements and credit officers decision to make referrals under the CGS			
	Coef. B	Sig.P	Odds ratio Exp. B
Constant	4.830	.000	125.187
Age			
18-39 years	1.868	.095	6.478
40+	-	-	-

Education			
Intermediate	1.523	.286	4.585
Bachelors	1.724	.288	5.609
Masters	-	-	-
Work experience			
1-10 years	3.909	.007	49.858
11-19 years	1.027	.283	2.792
20+			
-2 log likelihood	58.001		
Cox &snellRsquare	.452		
Nagelkerke R square	.808		
Hosmer and Lemehsow $(x^2 and p - value$	4.2 and .756		

Table: 6.24 (Source: Researcher)

5.5Adverse selection

5.5.1 Research Question

Academic literature has identified a number of reasons that can lead to adverse selection.. Studies by (Vashishtha, 2019; Deakins and Hussain, 1994) suggest that since type I error may adversely affect the career of the bank loan officer therefore loan officer may adopt a very risk averse approach to lending decision making. Furthermore studies by Uchida et.al (2012) and Berger and Udell, 2002 has shown that due to high loan officer turnover and institutional frictions loan officers are unable to communicate the soft information that they have gathered within the banking organization without significantly diluting its content, hence this may lead to both type 1. Furthermore studies (Ruziev and Webber, 2019; Claessens et.l, 2008) suggest that family networks and political connections can help SMEs gain preferential access to bank finance, and this may lead to type 1 error of adverse selection. Hence there exists a gap in the literature as no study has been conducted to identify cases in which type 2 error adverse selection. To fill in this research gap the fourth research question for this study is: **RQ4. What are the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?**

5.5.2 Case- 1

This knitwear garments export business was formed as a sole proprietorship in 2002 in a single 1 room rented office with only 1 machine. In 2010 the business had bought its own 500 square yards factory building with 70 machines, employing 30 full time workers and converted their legal status to private limited company. Till 2010 the company was exporting knitwear garments to Europe, UK and USA with a maximum order size of 10,000 knitwear garments per shipment. However in 2011, the company had now got hold of three major orders for 50,000 knitwear garments each (i.e. 150,000 knitwear garments in total) from USA. The total cost of the orders was equivalent to approximately PKRS 10 million. As per the trading rules the company was able to obtain 30% (PKRS 3 million) of the financing for the orders from the USA retailers as down payment. This meant that the remaining 70% (PKRS 7 million) had to be financed by the owner of the business. The owner was finding it difficult to finance PKRS 7 million investment from his own resources as he had spent most of his retained earnings in buying the 500 square yards factory building in 2010, hence he decided to approach banks for a loan.

The owner of the business decided to approach Bank A (also Bank A used in this study) as he had been banking with them since he started operation in 2002. The owner was very confident that Bank A would lend the loan to him due to his previous banking relationships. However when the owner approached the bank, he found out that his relationship manager had now left the Bank A. The owner being confident about his previous baking relationship asked the existing credit officer to consider his loan application for PKRS 7 million. To the utmost surprise of the owner, the credit officer instantly rejected his loan application. The credit officer found the business proposition to be extremely risky due to the influence of exchange rate risk, and felt that the financial statements did not incorporate any element of exchange rate risks and furthermore the credit officer was of the view that a PKRS loan for 7 million was too big for the business.

According to the owner he felt as if he was insulted and wanted to leave the bank instantly, but before going he asked for the contact details for his previous relationship manager. The staff of Bank A provided him the contact details of his previous relationship manager who tuned out to be working for Bank B (also Bank B used in this study). The owner contacted his previous relationship manager and told him about his financing requirements. The previous relationship manager invited the owner to Bank B and within 5 working days opened his account and sanctioned the loan of PKRS 7 million payable in 5 years' time from Bank B. Although the loan was supposed to be paid back in 2016 (after 5) years but the owner was able to pay back the loan with interest in 2014 (after 3 years).

Hence the results from case 1 are consistent with the findings of Uchida et.al (2012) and Berger and Udell, (2002) which suggest that there is a loan officer-entrepreneur relationship and no bank-entrepreneur relationship.

5.5.3 Case -2

This restaurant business was formed in 2006 and is involved in selling Pakistani sweets and savouries, with 20 full time employees. Located on Bedian road in Lahore, the restaurant (owned by the owner)was not able to attract many customers due poor road infrastructure. However in 2012 massive the Government of Punjab (Pakistan) engaged in major infrastructure upgradation and as part of the programme Bedian road infrastructure was upgraded. The restaurant now started witnessing 3 times increase in customer footfall. Now the restaurant owner wanted to upgrade his restaurant by upgrading his interior decorations. The costs of this worked out to be PKRS 1.5 million. The restaurant owner decided to approach a bank for financing his infrastructure upgradation of PKRS 1.5 million.

The restaurant owner approached Bank C (also Bank C as used in this study) as it had a branch close to his restaurant. The credit officer at Bank C rejected the loan application within 5 minutes stating that all of the financial statements for the restaurant were prepared on a single entry basis. The restaurant owner got very disappointed because his highest educational qualification was matriculation and he was simply unable to understand double entry accounting system. The restaurant owner discussed his situation with other restaurant owners on Bedian road, and they advised him to go to Bank A as it had a higher success rate in approving loan applications from small enterprises. The restaurant owner approached Bank A and to his relief the credit officer approved his loan application. The restaurant owner narrated is previous experience with Bank C to the credit officer of Bank A and the credit officer of Bank A replied that to encourage lending to small enterprises Bank A credit officers have been trained on single entry accounting system . Though the restaurant owner applied for a loan of PKRS 1.5 million to be payable in 5 years' time, the restaurant owner was able to fully pay back the loan with interest in 4 years' time.

Findings from case 2 are consistent with the findings from PMN (2018) that credit officers trained on analysing single entry financial statements have a higher probability of accepting bank loan applications from small enterprise in Pakistan.

6.6.4 Case 3

This software house was formed in 20109 (with 20 full times employees as at 2013), when the entrepreneur decided to start his own business after working with various software houses in Pakistan for 5 years. The business involved designing and maintaining websites for medium sized textile export companies. The owner wanted to expand his business by opening a branch in Kot Lakhpat Industrial Estate, Lahore where most of his clients and many potential clients were located. The cost of the relocation was estimated to be PKRS 2.5 million. However the owner only had PKRS 1 million for this expenditure, and for the remaining 1.5 million the owner wanted to secure a bank loan. The owner was ready to pledge gold and jewellery worth PKRS 1.8 million as collateral.The business had achieved tremendous results in the last 3 years when the NOPAT (net operating profit after taxation) had increased by 20% in year 1, 25% in year 2 and 35% in year 3.

The owner had to face multiple loan rejections (6 times) and the main reason for rejection was the high risk of IT sector. The owner got extremely disappointed and while talking to some of his friends he found out that a few of his college class fellows had started a career in banking and were working with Bank B (also Bank B used in this study). The owner approached his class fellows working in Bank B and was able to secure a bank loan within 5 working days. In the words of the owner, credit officers at Bank B were better able to understand the business plan because they were themselves computer science graduates. The loan was approved for 5 years but the owner paid pack the loan in 4 years and 10 months.

Findings from case 3 are consistent with Vashishtha, (2019); Deakins and Hussain, (1994) as IT sector is generally perceived to be a risky sector and as Bruns et.al (2008) and

Deakins et.al (2010) suggest loan officers prefer lending to those businesses with which they have similar experience and personal relationships.

6.6.5 Case- 4

This textile retail outlet started in 2011 after splitting rom the family textile retail business in 2010. The family firm was formed by the owner’s father in 1972, and in 2010 after the death of the owners fathers there was a feud in the family and the owner along with his three brothers wanted to end the feud by selling off the family retail outlet and starting their own separate businesses. After settling all legal claims the owner bought a retail shop in the posh region of Gulberg Lahore, however in this process the owner had exhausted most of his inheritance money, hence he wanted a bank loan to finance his working capital for stock and inventory (warehousing cost) which amounted to PKRS 1.25 million.

The owner had to face multiple loan rejections as credit officers were considering the business proposition to be too risky. The owner recalled that one credit officer said to me that though you have valuable collateral, but banks do not make lending decisions based upon the strength of the collateral alone. The owner got very disappointed and while discussing his issues with his father’s friends he found out that one of his father’s friend was working as a credit officer in Bank C (also bank C as used in this study). The owner applied to Bank C for his loan, and his loan was approved in 2 working days and to the owners surprise the credit officer said “We are confident you won’t default on a loan of PKRS 1.5 million to put your collateral worth PKRS 25 million in danger”. The loan was sanctioned for 7 years but the owner was able to pay the loan back in 5 years.

Findings from case 4 are consistent with the findings of Ruziev and Webber (2019) and Claessens et.al, (2008) which suggest that family networks and connections does improve entrepreneurs chances of obtaining bank finance.

5.6 Conclusion

The supply side results of the binary logistics regression showed that H1 is not supported as there was no relationship found between small enterprise owners characteristics and credit officers lending decision making. The supply side results of the binary logistics regression for H1 were supported by the supply side semi structured interview results. However the demand side semi structured interviews revealed that due to the influence of networks and personal connections: owner’s age, owner experience, and e-cib report does not have a relationship with credit officers lending decision, though owners education has a relationship with credit officers lending decision as it provides small enterprise owners the opportunity to develop personal connections with credit officers.

The supply side results of the binary logistics regression showed that H2 is supported there was a relationship found between firm characteristics and credit officers lending decision making. The results from the semi structured interviews of both demand side and supply results have shown that firm characteristics has a significant influence on the credit officers risk assessment on loan application from small enterprises. However the demand side results suggest that networks and personal connections play a significant role in aiding young and small firms to access bank finance.

The supply side results of the binary logistics regression showed that H3 is supported there was a relationship found between firm financial indicators and credit officers lending decision making. The demand side and supply side semi structured interview results also recognized the importance of firm financial indicators in credit officers risk assessment of loan applications from small enterprises. However the demand side qualitative results suggest that networks and personal connections play a key role in convincing credit officers on the financial projections of the business proposals.

The supply side results of the binary logistics regression showed that H4 is not supported as there was no relationship found between family social capital benefits and credit officers lending decision making. The supply side results semi structured interviews with credit officers also suggested that family social capital benefits do not influence credit officers lending decision on loan applications from small enterprises in Pakistan. However the demand side results of this study suggested that family social capital benefits plays a very important role in the credit risk officers lending decision from small enterprises in Pakistan

The supply side results of the binary logistics regression showed that H5 is supported as there was a relationship found between compliance requirements and credit officers lending decision making. Results of semi structured interviews from both supply side and demand side also suggested that compliance requirements do affects credit officer's decision to consider a loan application under the credit guarantee scheme.

The fourth research question aimed to identify circumstances in which type 2 error of adverse selection takes place on bank loan applications from small enterprises in Pakistan. The results from case 1 are suggested that there is a loan officer-entrepreneur relationship and no bank-entrepreneur relationship. Findings from case 2 found that credit officers trained on analysing single entry financial statements have a higher probability of accepting bank loan applications from small enterprise in Pakistan. Findings from case 3 suggest that loan officers prefer lending to those businesses with which they have similar experience and personal relationships. Findings from case 4 suggest that family networks and connections does improve entrepreneurs chances of obtaining bank finance. Please refer to figure 6.3

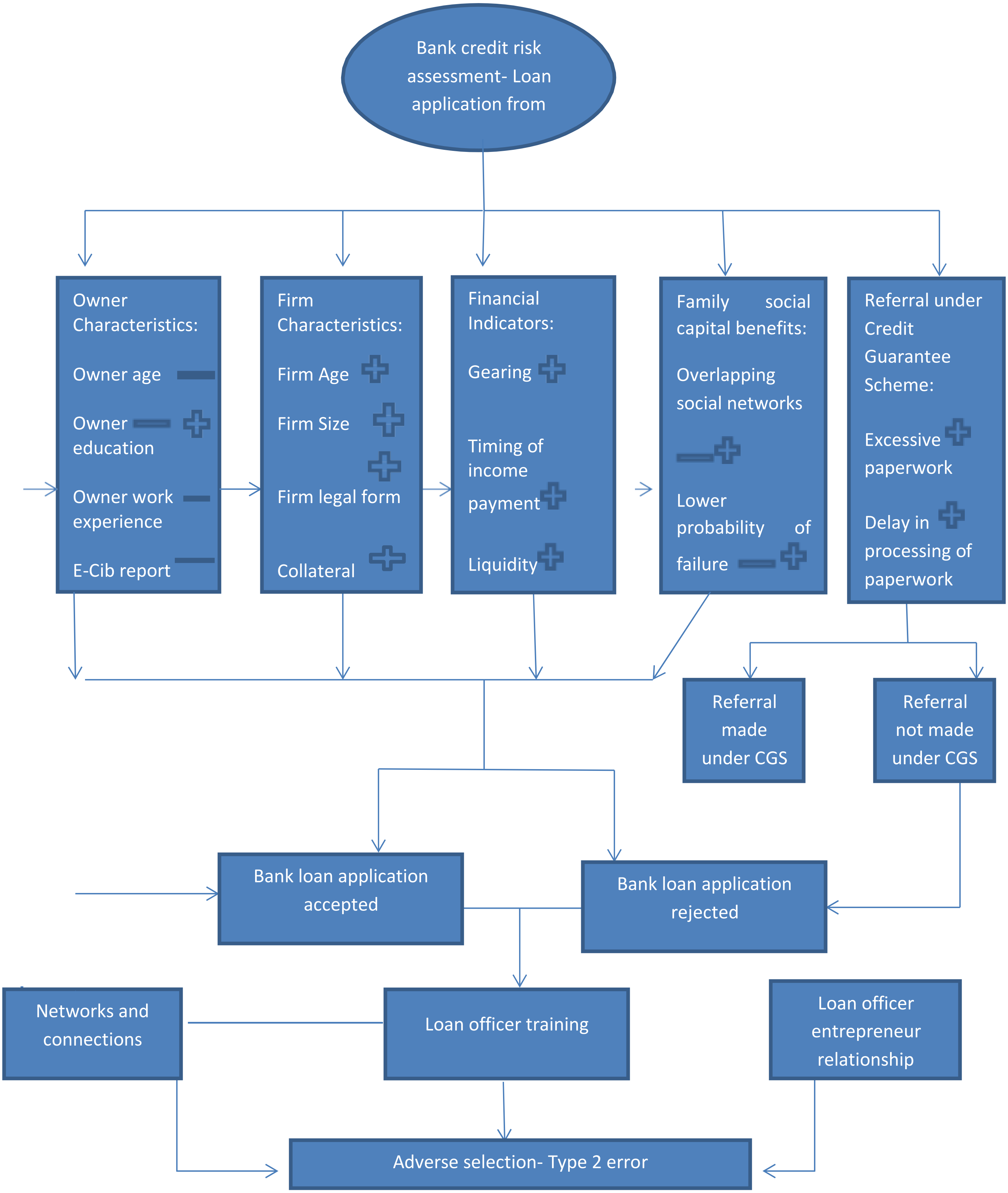

Figure 6.1 (Source: Author

CHAPTER – 6

CONCLUSION

This chapter is the last part of this thesis and is divided into five parts. The first part of this chapter will provide a summary of the main findings in this research study. The second part will discuss the contribution to knowledge associated with the findings of this study. The third part will develop recommendations for both policy makers and academics based upon the findings of this study. The fourth par will identify the future area of research. Lastly, the fifth part will discuss the limitations of this study.

6.1 Summary of the main findings

To realise the aim and objective of this study, a conceptual framework (see figure 6.3) is developed that explained the importance of small enterprise owner characteristics, firm characteristics, firm financial indicators, and family social capital benefits in the bank credit risk assessment of loan applications from small enterprises in Pakistan. The first hypothesis examines the relationship between small enterprise owner characteristics (owners age, owners education, owners experience and e-cib report with credit officers lending credit officers. The supply side binary logistic regression results suggested that there is no relationship between small enterprise owner age and credit officers lending decision on loan applications. The supply side semi structured interviews further explained that owners age is used to only check the age eligibility of the borrower and it does not have any weightage in the credit risk assessment criteria, therefore this is inconsistent with the findings of Campanella, F. and Serino, L.,(2019) and Nguyen, N. and Luu, N., (2013) which suggested that young entrepreneurs are less likely to be accepted for bank loan than older applicants.

The demand side semi structured interview results confirmed the findings of the supply side results by suggesting that owner's age is not important in credit officer's credit decision making. However the demand side semi structured interview results stated that networks and personal connection can help young entrepreneurs in accessing bank finance. The supply side semi structured results explained that though banks perceive owners with high level of education to have basic financial literacy, there are no points awarded on education levels in the risk assessment criteria, thereby making owner education unimportant in the credit lending decision. Hence the supply side results are consistent with the Campanella and Serino (2019). ; Fatoki and Asah (2011); Irwin and Scott (2010) which suggest that there is no association between owners education level and access to bank finance. However the demand side semi structured interviews with small enterprise owners revealed that owners education has a relationship with credit officers lending decision because it provides an opportunity to the small enterprise owners to develop personal connections with credit officers. The supply side semi structured interview results stated that tough banks perceive borrowers with extensive work experience in their field to demonstrate their knowledge by submitting a high quality proposal for a bank loan, there are no points awarded on experience levels in the credit risk assessment criteria, thereby making owners experience as unimportant in the credit lending decision. Hence the supply side results are consistent with the findings of Abdulsaleh and Worthington (2016); Pandula, (2011); Deakins and Hussain (1994) which suggested that owners experience is not associated with an SMEs ability to access bank finance. The results from the demand side semi structured interviews confirmed the findings of the supply side results and stated that banks are more interested in lending to entrepreneurs with strong networks and connections of borrowers rather than rich experience. The supply side semi structured interviews explained that the E-Cid database is not very robust and effective in collecting borrower information from multiple sources (such as electricity and

telecommunication companies) since it's in the early phases of its development. Hence E-Cib report is not given any weightage in the credit risk assessment of loan application. Furthermore the demand side semi structured interview results also stated that networks and personal connections can assist borrowers with negative E-cib report to avail bank finance. Hence the results of this study are inconsistent with Abdulsaleh and Worthington, (2016), and Fatoki and Asah, (2011) which suggested that borrowers with a positive electronic credit information bureau report (e-cib report) find it easier to access bank finance than borrowers with a negative electronic credit information bureau report.

The second hypothesis examines the relationship between firm characteristics (firm age, firm size, firm legal form and collateral) and bank lending decision making. The supply side binary logistic regression results suggested that there is a relationship between firm characteristics and credit officers lending decision on loan applications. The supply side semi structured interviews further explained that credit officers who rejected the loan application considered young firm to be too risky to lend, whereas credit officers who accepted the loan application considered lending to young firms as an opportunity to develop a long term banking relationship. However the demand side semi structured interviews suggested that networks and personal connections can help young firms in availing bank finance, thereby making firm age as unimportant in bank lending decision making. Hence the supply side results of this study are consistent and demand side results inconsistent with studies of Waheed and Siddiqui (2019); Erdogan (2019) and Deakins et.al, (2010) which suggested that firm age is an important indicator in bank lending decision making. The supply side semi structured interviews explained that since State Bank of Pakistan (SBP) had made it mandatory to lending to small firms through the small firms prudential regulations, therefore firms size is an important indicator in bank lending decision making. However the demand side semi structured interviews suggest that networks and personal connections are more than important than firm size to avail bank finance. Hence the results of this study are inconsistent with the Waheed and Siddiqui (2019); Erdogan (2019); Abdulsaleh and Worthington (2016) which suggested that larger firms find it easier to obtain bank finance as banks consider them to be more profitable customers than smaller firms. Results from both demand side and supply side semi structured interview suggest firm legal formation is an important indicator in the bank lending decision making as legally incorporated firms are subject to higher disclosure and reporting requirements than non-legally incorporated firms. Hence the results of this study are consistent with the findings of Erdogan (2019); Abdulsaleh and Worthington (2016); and Kouser et.al, (2012) which also suggested that legally incorporated firm find it easier to obtain bank finance as they are subject to higher financial disclosure / financial reporting requirements than non-legally incorporated firms. According to academic literature (Waheed and Siddiqui, 2019; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012; Deakins et.al, 2010) entrepreneurs who pledge adequate collateral (i.e. sales proceeds of an asset is enough to recover the principal loan amount with interest) find it easier to obtain bank finance than entrepreneurs with inadequate collateral. In consistence with academic literature (Waheed and Siddiqui, 2019; Erdogan, 2019; Abdulsaleh and Worthington, 2016; Kouser et.al, 2012; Deakins et.al, 2010) the results of both demand side and supply side semi structured interview also revealed that possessing adequate collateral is important to access bank finance. However, according to this study defining adequate collateral is difficult because some credit officers may consider collateral worth 90% of the Loan to Value (LTV) as adequate, whereas some credit officers may consider collateral worth

% of the LTV as adequate.

The demand side and supply side semi structured interview results suggest that firm financial indicators are important indicators in bank lending decision making. However the demand side results have shown that networks and personal connections play a key role in convincing credit officers on the financial projections of the business proposals. Hence the results of this study are consistent with (Abdulsaleh and Worrington, 2018; Deakins et.al 2010; Burns and Fletcher 2008; Mason and Stark 2003; Deakins and Hussain 1994; Fletcher, 1995) which found a significant relationship between firm financial indicators and access to bank finance.

The second research question examined the relationship between family social capital benefits (overlapping social networks and lower probability of failure) and credit officers lending decision making. The supply side results from binary logistic regression found no relationship between family social capital benefits and credit officers lending decision making. The supply side semi structured interviews further explained that banks makde lending decision on the business proposals only and do not give any additional points to family firms or their social networks. Hence the results of the supply side results of this study are consistent with Murro and Peruzzi (2019) which suggested that family firms do not have greater access to bank finance than non-family firms and inconsistent with Chua et.al (2009) and Arregle, et.al (2007) which suggested that family firms find it easier to access bank finance than non-family firms.. However the demand side semi structured interview results of this study suggested that firms with family social capital can avail benefits of overlapping social networks and banks perception of lower probability of failure to have greater access to bank finance than non-family firms. Hence the demand side results are consistent with Chua et.al (2009) and Arregle, et.al, (2007) and contradictory to Murro and Peruzzi (2019).

The third research question aimed to examine the relationship between compliance requirements (excessive reporting requirements and delay in processing of application) and credit officers decision to make referral under the SBP credit guarantee scheme. Results from both supply side and demand side are consistent with Dang and Chuc (2019) Aboojafari et.al

(2019) and Yagci (2018) which found that compliance requirements do affects credit officer's decision to consider a loan application under the credit guarantee scheme.

The fourth research question aimed to identify circumstances in which type 2 error of adverse selection takes place on bank loan applications from small enterprises in Pakistan. The results from case 1 are consistent with the findings of Uchida et.al (2012) and Berger and Udell, 2002 which suggest that due to difficulty in communicating soft information through the banks organizational hierarchy and high loan officer turnover rate there exist a loan officer-entrepreneur relationship and no bank-entrepreneur relationship. Findings from case 2 are consistent with the findings from PMN (2018) that credit officers trained on analysing single entry financial statements have a higher probability of accepting bank loan applications from small enterprise in Pakistan. Findings from case 3 are consistent with Vashishtha (2019); Deakins and Hussain (1994) as IT sector is generally perceived to be a risky sector and as Bruns et.al (2008) and Deakins et.al (2010) suggest loan officers prefer lending to those businesses with which they have similar experience and personal relationships. Findings from case 4 are consistent with the findings of Ruziev and Webber (2019) and Claessens et.al, (2008) which suggest that family networks and connections does improve entrepreneurs chances of obtaining bank finance. Please refer to figure 6.3.

6.2 Contribution of the study

Previous studies from United Kingdom (Deakins et.al, 2010; Deakins and Hussain, 1994; Fletcher, 1995) used a business plan to examine bank lending decision making. This maiden study in Pakistan, also used a business plan to examine bank lending decision making, and then compared the results to the studies from United Kingdom (Deakins et.al, 2010; Deakins and Hussain, 1994; Fletcher, 1995). In consistence with the findings of Deakins and Hussain (1994) the results of this study also suggest that credit officers give more importance to firm characteristics and financial indicators rather than the skills and abilities of the entrepreneur.

Academic literature examining the relationship between family social capital benefits and access to bank finance for small enterprises does not reach univocal results. This study made another significant contribution to the literature by finding a difference of opinion between supply side and demand side results on the relationship between family social capital benefits and small enterprises access to bank finance. According to the supply side results of this study credit officers do not believe that family social benefits improve access to bank finance for small enterprises in Pakistan. However, according to the demand side results of this study small enterprise owner in Pakistan believe that family social capital benefits does improve small enterprises access to bank finance.

Academic literature discussing the relationship between compliance requirements and credit officers' decision to make referral under the credit guarantee scheme for SMEs is scarce. This study made another significant contribution to the literature by finding a significant association between compliance requirements and the credit officer's decision to make a referral under the State Bank of Pakistan Credit Guarantee Scheme.

The circumstances in which Type 2 error of adverse selection from bank credit risk assessment on loan applications from small enterprises is another area with scarcity of academic literature. This study made another significant contribution to the literature by identifying 4 cases to demonstrate how type 2 errors of adverse selection from bank credit risk assessment on loan applications from small enterprises in Pakistan takes place.

6.3 Recommendations

To educate potential borrowers, banks in UK provide sample business plan templates and loan calculators on their website. Banks in Pakistan can benefit by also uploading sample business plan templates and loan calculators on their website, as currently there is no such practice.

The results of this study also found that since soft information is difficult to transmit across the banks organizational hierarchy there is a credit officer- entrepreneur relationship and no bank-entrepreneur relationship. Hence there is a need to develop a more formal record of meetings between the entrepreneur and the credit officer to develop the bank-entrepreneur relationship.

The results of this study have also found that credit officers prefer lending to selected business sectors due to their knowledge on certain business areas. Hence banks should focus on training credit officers to enable them understand the business cycles of a range of business sectors and not just a selected few sectors (which credit officers learn through their experience).

The research also revealed that young credit officers are less likely to lend to small enterprises than older credit officers; hence this demonstrate the need to train young credit officers on SME financing.

The findings of this study also revealed that SBP did not thoroughly discuss the compliance requirements with the commercial banks before finalizing the referral procedure for the CGS for small enterprises in Pakistan. Hence SBP needs to revise the referral procedure by discussing it extensively with commercial banks.

6.4 Further areas of research

Since most of the literature on credit risk assessment of loan applications from small enterprises has suggested that loan officers may be biased in their decision making; identifying the bias of small enterprise owners in accepting the rejection decision on loan applications can prove to be a substantial contribution to the literature.

Another major finding from the study was that young credit officers had a higher loan application rejection rate; whereas older credit officers had a higher loan application acceptance. Hence this justifies the need to evaluate whether young credit officers are biased in their credit risk assessment of loan applications from small enterprises in Pakistan.

The research participants from the demand side of the study were male credit officers. Another valuable contribution to literature can be doing a comparison between the male and female credit officers to evaluate which gender has a higher tendency to accept loan applications from small enterprises in Pakistan.

In the United Kingdom (UK), British Business Bank was established to promote lending to SMEs and implement the loan guarantee schemes. Hence it would be a valuable contribution to examine whether establishing a separate financial institution / credit guarantee company would encourage commercial banks to actively participate in the SBP credit guarantee scheme.

Lastly all of the commercial banks in this study adopted the fixed asset lending technology. Furthermore 3 out of the 5 commercial banks mentioned that there was not enough financial justification to adopt the credit scoring system, and 1 commercial bank stated that they used credit scoring in the past but due to high default rate it is no longer used. Since credit scoring is a popular lending technology in the developed economies, identifying the limitations of the credit scoring technology in Pakistan can also make a significant contribution to the literature.

6.5 Limitations of the study

The researcher faced a number of limitations throughout the course of this research study. Firstly due to the limitation in budget and time the researcher could conduct this study only in the city of Lahore, Pakistan (the hometown of the researcher)

In order to avoid any personal and confidential questions, the researcher asked the participant to only give the information they are comfortable in sharing. Consequently, the researcher could not identify the presence of bias from both credit officers and small enterprise owner's perspective in the credit decision making process.

Even though the researcher clearly gained approval from the research participants (from both credit officers and small enterprise owners) for the duration of the interview (i.e. they were told it can take between 35-40 minutes), most of the participants were unwilling to participate after 20 minutes. Consequently only 20 out of the 50 credit officers who participated in the semi structured interviews answered all of the questions by the researcher.

Although the researcher conducted a pilot study to make sure that the sample business plan was as close to reality as possible; the researcher felt during the field work that some credit officers would have actively engaged in the research study if the researcher was using a real business plan (i.e of a real organization).

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Appendices

6.5.1 Appendix I- Descriptive Analysis by cross tabulation on credit officers characteristics and importance of small enterprise owner characteristics, firm characteristics, financial indicators, family social capital benefits in lending decision making, and cross tabulation on credit officers characteristics and compliance requirements in the loan referral decision under the SBP CGS.

6.5.2 *Appendix II- Business Plan of Whizz Tech Pvt (Ltd)*

6.5.3 Appendix III- Survey questionnaire, and semi structured interview guide.

Appendix I

Descriptive Analysis by cross tabulation on credit officers characteristics and importance of small enterprise owner characteristics, firm characteristics, financial indicators, family social capital benefits in lending decision making, and cross tabulation on credit officers characteristics and compliance requirements in the loan referral decision under the SBP CGS.

Cross tabulation- credit officers age and small enterprise owner age

		Small enterprise owner age			Total
		unimportant	Neutral	important	
Age	18-39	101	53	25	179
	40-59	49	17	21	87
Total		150	70	46	266

Table 1a

Cross tabulation- credit officers education and small enterprise owner age

		Small enterprise owner age			Total
		unimportant	Neutral	important	
Education	Intermediate- GCE A Levels	43	13	8	64
	Bachelors degree- undergraduate	35	24	13	72
	Masters degree	72	33	25	130
Total		150	70	46	266

Table 1b

Cross tabulation- credit officers work experience and small enterprise owner age

		Small enterprise owner age			Total
		unimportant	Neutral	important	

Work_Experience	1-10 years	94	48	12	154
	11-19 years	39	15	27	81
	20 years and more	17	7	7	31
Total		150	70	46	266

Table 1c

Cross tabulation- credit officers age and small enterprise owner experience

		Small enterprise owner experience			
		unimportant	Neutral	important	Total
Age	18-39	100	51	28	179
	40-59	41	29	17	87
Total		141	80	45	266

Table 2a

Cross tabulation- credit officers education and small enterprise owner experience

		Small enterprise owner experience			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	38	17	9	64
	Bachelors degree- undergraduate	36	24	12	72
	Masters degree	67	39	24	130
Total		141	80	45	266

Table 2b

Cross tabulation- credit officers work experience and small enterprise owner experience

		Small enterprise owner experience			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	90	47	17	154
	11-19 years	40	19	22	81
	20 years and more	11	14	6	31
Total		141	80	45	266

Table 2c

Cross tabulation- credit officers age and small enterprise owner education

		Small enterprise owner education			
		unimportant	Neutral	important	Total
Age	18-39	90	62	27	179
	40-59	32	30	25	87
Total		122	92	52	266

3a

Cross tabulation- credit officers education and small enterprise owner education

		Small enterprise owner education			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	24	21	19	64
	Bachelors degree-undergraduate	30	25	17	72
	Masters degree	68	46	16	130
Total		122	92	52	266

3b

Cross tabulation- credit officers work experience and small enterprise owner education

Count

		Small enterprise owner education			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	90	47	17	154
	11-19 years	40	19	22	81
	20 years and more	11	14	6	31

Total		141	80	45	266

3c

Cross tabulation- credit officers age and small enterprise owner e-cib report

Count

		E_CIB			
		unimportant	Neutral	important	Total
Age	18-39	81	65	33	179
	40-59	39	25	23	87
Total		120	90	56	266

Table: 4a

Cross tabulation- credit officers education and small enterprise owner e-cib report

		E_CIB			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	33	18	13	64
	Bachelors degree- undergraduate	31	28	13	72
	Masters degree	56	44	30	130
Total		120	90	56	266

Table 4b

Cross tabulation- credit officers work experience and small enterprise owner e-cib report

		E_CIB			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	72	60	22	154
	11-19 years	35	15	31	81
	20 years and more	13	15	3	31
Total		120	90	56	266

Table: 4c

Cross tabulation- credit officers age and firm age

		Firm_Age unimportant	Neutral	important	Total
Age	18-39	74	26	79	179
	40-59	41	3	43	87
Total		115	29	122	266

Table: 5a

Cross tabulation- credit officers education and firm age

		Firm_Age unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	36	9	19	64
	Bachelors degree-undergraduate	35	8	29	72
	Masters degree	44	12	74	130
Total		115	29	122	266

Table: 5b

Cross tabulation- credit officers work experience and firm age

		Firm_Age unimportant	Neutral	important	Total
Work_Experience	1-10 years	65	24	65	154
	11-19 years	37	3	41	81
	20 years and more	13	2	16	31
Total		115	29	122	266

Table: 5c

Cross tabulation- credit officers age and firm legal form

		Firms_Pvt_Ltd_Company			
		unimportant	Neutral	important	Total
Age	18-39	1	4	12	17
	40-59	116	43	90	249
Total		117	47	102	266

Table: 6a

Cross tabulation- credit officers education and firm legal form

		Firms_Pvt_Ltd_Company			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	39	12	13	64
	Bachelors degree-undergraduate	38	12	22	72
	Masters degree	40	23	67	130
Total		117	47	102	266

Table: 6b

Cross tabulation- credit officers work experience and firm legal form

		Firms_Pvt_Ltd_Company			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	9	10	49	68
	11-19 years	35	22	35	92
	20 years and more	73	15	18	106
Total		117	47	102	266

Table: 6c

Cross tabulation- credit officers age and firm size

		Firm_Size			
		unimportant	Neutral	important	Total
Age	18-39	3	5	9	17
	40-59	113	39	97	249
Total		116	44	106	266

Table: 7a

Cross tabulation- credit officers education and firm size

		Firm_Size			
		unimportant	Neutral	Important	Total
Education	Intermediate- GCE A Levels	40	9	15	64
	Bachelors degree-undergraduate	35	11	26	72
	Masters degree	41	24	65	130
Total		116	44	106	266

Table: 7b

Cross tabulation- credit officers work experience and firm legal form

		Firm_Size			
		unimportant	Neutral	Important	Total
Work_Experience	1-10 years	9	14	45	68
	11-19 years	43	16	33	92
	20 years and more	64	14	28	106
Total		116	44	106	266

Table: 7c

Cross tabulation- credit officers age and collateral

		Collateral			
		unimportant	Neutral	important	Total
Age	18-39	0	0	17	17
	40-59	82	19	148	249
Total		82	19	165	266

Table: 8a

Cross tabulation- credit officers education and collateral

		Collateral			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	30	6	28	64
	Bachelors degree-undergraduate	28	4	40	72
	Masters degree	24	9	97	130
Total		82	19	165	266

Table: 8b

Cross tabulation- credit officers work experience and collateral

		SME_Owner_Collateral			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	5	5	58	68
	11-19 years	26	9	57	92
	20 years and more	51	5	50	106
Total		82	19	165	266

Table: 8c

Cross tabulation- credit officers age and gearing

		Gearing			Total
		unimportant	Neutral	important	
Age	18-39	4	1	12	17
	40-59	124	26	99	249
Total		128	27	111	266

Table: 9a

Cross tabulation- credit officers education and gearing

		Gearing			Total
		unimportant	Neutral	Important	
Education	Intermediate- GCE A Levels	24	14	26	64
	Bachelors degree-undergraduate	35	5	32	72
	Masters degree	69	8	53	130
Total		128	27	111	266

Table: 9b

Cross tabulation- credit officers work experience and gearing

		Gearing			Total
		unimportant	Neutral	Important	
Work_Experience	1-10 years	21	7	40	68
	11-19 years	61	2	29	92
	20 years and more	46	18	42	106
Total		128	27	111	266

Table: 9c

Cross tabulation- credit officers age and liquidity

		Liquidity			
		unimportant	Neutral	important	Total
Age	18-39	15	0	2	17
	40-59	34	57	158	249
Total		49	57	160	266

Table: 10 a

Cross tabulation- credit officers education and liquidity

		Liquidity			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	8	23	33	64
	Bachelors degree- undergraduate	6	12	54	72
	Masters degree	35	22	73	130
Total		49	57	160	266

Table: 10 b

Cross tabulation- credit officers work expereince and liquidity

		Liquidity			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	22	7	39	68
	11-19 years	18	13	61	92
	20 years and more	9	37	60	106
Total		49	57	160	266

Table: 10 c

Cross tabulation- credit officers age and timing of income and payments

		Timing_of_income_payment			
		unimportant	Neutral	important	Total
Age	18-39	0	0	17	17
	40-59	23	56	170	249
Total		23	56	187	266

Table: 11 a

Cross tabulation- credit officers education and timing of income and payment

		Timing_of_income_payment			
		unimportant	Neutral	important	Total
Education	Intermediate- GCE A Levels	3	20	41	64
	Bachelors degree- undergraduate	4	14	54	72
	Masters degree	16	22	92	130
Total		23	56	187	266

Table: 11b

Cross tabulation- credit officers work expereince and timing of income and payment

		Timing_of_income_payment			
		unimportant	Neutral	important	Total
Work_Experience	1-10 years	6	7	55	68
	11-19 years	13	18	61	92
	20 years and more	4	31	71	106

Total	23	56	187	266

Table: 11c

Cross tabulation- credit officers age and overlapping social networks

		Disagree	Neutral	Agree	Total
Age	18-39	3	9	5	17
	40-59	156	21	72	249
Total		159	30	77	266

Table: 12 a

Cross tabulation- credit officers education and overlapping social networks

		Disagree	Neutral	Agree	Total
Education	Intermediate- GCE A Levels	45	0	19	64
	Bachelors degree- undergraduate	46	5	21	72
	Masters degree	68	25	37	130
Total		159	30	77	266

Table: 12 b

Cross tabulation- credit officers work expereince and overlapping social networks

		Disagree	Neutral	Agree	Total
Work_Experience	1-10 years	33	17	18	68
	11-19 years	54	10	28	92

20 years and more	72	3	31	106
Total	159	30	77	266

Table: 12 c

Cross tabulation- credit officers age and lower probability of failure

		FC2 Disagree	FC2 Neutral	FC2 Agree	Total
Age	18-39	3	10	4	17
	40-59	160	25	64	249
Total		163	35	68	266

Table: 13a

Cross tabulation- credit officers education and lower probability of failure

		Disagree	Neutral	Agree	Total
Education	Intermediate- GCE A Levels	47	0	17	64
	Bachelors degree-undergraduate	50	6	16	72
	Masters degree	66	29	35	130
Total		163	35	68	266

Table: 13b

Cross tabulation- credit officers work expereince and lower probability of failure

		FC2 Disagree	FC2 Neutral	FC2 Agree	Total
Work_Experience	1-10 years	30	20	18	68

	11-19 years	50	12	30	92
	20 years and more	83	3	20	106
Total		163	35	68	266

Table: 13c

Cross tabulation- credit officers age and excessive reporting requirements

		Disagree	Neutral	Agree	Total
Age	18-39	6	6	5	17
	40-59	46	64	139	249
Total		52	70	144	266

Table: 14a

Cross tabulation- credit officers education and excessive reporting requirements

		Disagree	Neutral	Agree	Total
Education	Intermediate- GCE A Levels	3	30	31	64
	Bachelors degree-undergraduate	14	21	37	72
	Masters degree	35	19	76	130
Total		52	70	144	266

Table: 14b

Cross tabulation- credit officers work expereince and excessive reporting requirements

		Disagree	Neutral	Agree	Total
Work_Experience	1-10 years	24	10	34	68

	11-19 years	21	15	56	92
	20 years and more	7	45	54	106
Total		52	70	144	266

Table: 14c

Cross tabulation- credit officers age and delay in processing of applications

		Disagree	Neutral	Agree	4	Total
Age	18-39	2	9	6	0	17
	40-59	33	50	165	1	249
Total		35	59	171	1	266

Table: 15a

Cross tabulation- credit officers age and delay in processing of applications

		CGC				
		Disagree	Neutral	Agree	4	Total
Education	Intermediate- GCE A Levels	3	9	52	0	64
	Bachelors degree-undergraduate	8	15	49	0	72
	Masters degree	24	35	70	1	130
Total		35	59	171	1	266

Table: 15b

Cross tabulation- credit officers work expereince and delay in processing of applications

		Disagree	Neutral	Agree	4	Total
Work_Experience	1-10 years	16	18	34	0	68
	11-19 years	13	19	59	1	92
	20 years and more	6	22	78	0	106

Total	35	59	171	1	266

Table: 15c

Appendix II

Business Plan of Whizz Tech Pvt (Ltd)

Business Plan

Whizz Tech

January 2018

Strictly confidential

No contact to me made with present employers under any circumstances

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

<u>Summary of proposals:</u>

Whizz Tech is established to provide IT services to the retail industry. The company will focus on three principal areas of services:

i) Development of point of sale (POS) system.

ii) Inventory management

iii) Website development and maintenance

These areas will form the basis for the growth and expansion of the business where our expertise in POS system development and Inventory management will be the main activity in the initial stages. From this base growth will develop into the other areas which will then provide a comprehensive website development and maintenance services for the clients.

All of the Directors have acquired specialised skills during their work experience with established software houses to respond to the changing demands and needs of their clients. All the Directors have a clean e-CIB record.

A strong association with the Nitisol Technologies Pakistan will expand business opportunities for both companies and will provide technical advantage for joint initiatives in other markets.

Detailed proposal for an association with the Nitisol Technologies, Pakistan are as outlined in page 9.

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

The Participants:

The profile of the directors is as follows:

***Kamran Shah, B.Sc., M.Sc., MBA**

Currently a partner with a Touchstone Pvt (Ltd), he will be the Managing Director with principal responsibility for policy and future business direction.

Khawaja Khurrum Toseef, B.Sc, M.Sc.

Currently an Head of Information Systems with a Techsol Pvt (Ltd), he will be the Technical Director with specific responsibilities for cost control, integration and expansion of the business in IT areas for both the company and our clients.

Arif Azeem, B.Com, ACCA

Currently employed as Finance Director of Technologix Pvt (Ltd), he will be responsible for financial matters with the company and provide expert contractual advice for the clients.

(CV's of the above participants - Appendix-1)

* Mr. Kamran Shah is the family member (cousin) of Salman Shah (a businessman in Lahore having 10% ownership in the firm and assumed to be a customer of the banks having past experience of fully paying back the bank loan with interest)

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

Business Philosophy:

The company will offer and exceptional personal service based upon the knowledge, expertise and involvement of the Directors. Market research has shown that the ability to develop point of sale system with inventory management (such as that provided currently by the Nitisol technology) will provide the company a major advantage over its competitors.

To maintain this philosophy we aim to provide:

(i) Development of a user friendly POS system customized according to requirements of the retail stores.

(ii) Development of a user friendly inventory management system (IMS) which includes the features: reorder points and product identification.

(iii) Training staff members on operating and debugging errors in the POS and IMS.

To enhance the company's image we intend to establish a permanent residence in Lahore with easy access to all major roads and rail links. We are currently negotiating the lease for an office with a prestigious location in Gulberg, Lahore, Pakistan.

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

<u>Strategy for Growth:</u>

The problem with IT software's:

According to our market research report of 2017, owners of retail shops in Pakistan have shown a strong desire to install POS and IMS in their stores. However due to lack of customization and non-user friendly software's the owners of retail outlets found little benefits of installing these software's, therefore, the company has adopted the following:

Project management:

We believe that in order to deliver exceptional customer service a project manager needs to be assigned for each major commercial area in the city. For example the city of Lahore will have 6 project managers, one each for the main commercial areas of: Gulberg, Model Town, Garden Town, Defence, Cantonment, and Shadra.

The project managers will be responsible for communicating with the owners of retail shops throughout the entire duration of the project (from installation to training)

Customization:

One of our core strengths is to customize the POS and IMS software in Urdu language (the official language of Pakistan). This would help in making the software more user friendly for all stakeholders of retail shops in Pakistan. All of our competitors are able to offer the POS ad IMS software's in English only, hence we forecast a high demand for our software's.

We can also customize the POS and IMS software's according to the financial requirements of our customers. The minimum price of POS software is PKRS 200,000 and for IMS software is 175,000. However, we can offer POS software's for PKRS 135,000 and IMS for 110,000 with basic features, making the products affordable and beneficial to our customers.

Business plan for period January 2018 to January 2022

for

Whizz Tech **January 2018**

Strategy for Growth (Contd):

The potential market is extensive (in the order of PKRS 1.5 to 2 billion of revenue in Pakistan). We believe we can secure a share of the market that will enable us to get a turnover of at least PKRS 150 million within 8 years' time.

The potential market:

We are confident that our software's will be suitable in the following retail sectors: super markets, departmental Stores, pharmacy and fast food restaurants.

We fully recognize the difficulty in launching a new company, therefore to address this challenge we have negotiated agreements with two marketing agencies having extensive experience of working with retailers in Pakistan to promote our company. The marketing companies will be paid on a commission basis of 2% on the total value of the project referred by them.

Whizz Tech **5**

Business plan for period January 2018 to January 2022

for

Whizz Tech **January 2018**

Company structure:

Launch arrangement/First Year

It is intended to set up as a private limited company comprising the three Directors, who will be responsible for running the company. Once the agreement with Nitisol Technologies Pakistan is finalized, the shareholding structure of the company will be amended accordingly. See page 7 for our proposal with regard to the possible financial agreements with Nitisol Technologies.

Second and Subsequent years

As mentioned on Page 4 our strategy for growth includes hiring 6 project managers in the city of Lahore, Pakistan. In due course we anticipate restructuring the organizational structure to include managing the Project Managers under the responsibility of Technical Director.

See below for our proposal with regard to the possible alternatives for a Hashoo group involvement.

Whizz Tech 6

Business plan for period January 2018 to January 2022

for

Whizz Tech January 2018

Proposal for an association with Nitisol Technologies:

We have identified three possibilities to develop our arrangement with Nitisol technologies Pakistan, they are as follows:

i) Salman Hashwani becomes a meaningful shareholder in Whizz Tech.

Such a shareholding structure we would strongly identify our association with Nitisol technologies. We believe that we have much to offer Nitisol technologies as they are unable to reach out to reach out to Supermarkets and Departmental stores because their POS and IMS software's are very expensive. A strong association with Nitisol Technologies will enable us to reach out to reputed super markets like AL Fatah and Jalal sons Pakistan.

Financial Option:

(a) Outright cash injection of PKRS 20 million in return for a 20% shareholding in Whizz Tech

(b) Initial injection of cash (PKRS 15 million) with subsequent injections at pre agreed intervals. This is less risky option; consequently a maximum shareholding up to 15% maximum is envisaged.

(c) Nitisol Technologies secure fee earning for Whizz Tech. Under this arrangement, a pre agreed commission rate would be paid by Whizz Tech in the form of shareholding up to an agreed maximum, following which cash arrangements will be made. This is also a less risky option for Nitisol Technologies.

ii) Salman Hashwani would become a minority shareholder of Whizz Tech with a 5% share of the equity for a direct capital injection of PKRS 5 million. Activites between Nitisol Technologies and Whizz Tech would be broadly as i) above.

Generally:

We are presently arranging our finance for a loan of PKRS 500,000 (PKRS0.5 million) through major commercial banks. The Directors have accepted to leave well paid jobs and are initially injecting PKRS 300,000 into the business. The Directors have also accepted to pledge Gold worth PKRS 750,000 as Collateral.

Whizz Tech **7**

Business plan for period January 2018 to January 2022

for

Whizz Tech **January 2018**

Assumptions on workload for cashflow:

Due to a severe downturn in the Pakistani macroeconomic conditions, we expect to receive minimum contracts) in the initial seven months of trading, following which time we expect to secure 6 contract of approximately PKRS 675,000. This will allow our fee income to flow at a rate suggested in our cash flow forecast for the first year, and thereafter when the Pakistani market is expected to have stabilized from the macroeconomic downturn we anticipate an increase in our market share in line with that recovery. At the peak of the fourth year of trading we anticipate an increase in income per month of PKRS 954,166 and to have secured PKRS 11.45 million worth of contracts. We would like to mention that all Directors expect to achieve an earning capacity of PKRS 7 million per head per annum from year 4.

Proposed start date:

The provisional start date is set for 1st June 2018, suggesting that our company structure and financing would need to be in place before 2nd May 2018. The Technical Director intends to commence earlier than the proposed start date to establish the standard operating procedures.

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

APPENDIX- 1 **Curriculum Vita of Directors**

Principal Director: Kamran Shah, B.Sc., M.Sc., MBA

Address: T-165, Phase III, Defence Housing Authority (DHA),

Lahore Cantonment, Lahore, Pakistan. Post Code: 54000

Telephone: 042-35834520

Place/Date of Birth: Lahore, 5th May 1969

Marital Status: Married with two daughters.

Education/Qualification:

B.Sc. in Computer Sciences, University of Punjab, 1992

M.Sc. in Computer Sciences, University of Punjab, 1993

MBA, Lahore School of Economics, 1999

Professional Experience:

1992-1998 Trainee Software Engineer (1992), promoted to Team Leader (1996)- Keyset Pvt (Ltd), Lahore, Pakistan

1998-date Head of Projects (1998), promoted to Managing Director (2008)- Touchstone Pvt (Ltd), Lahore, Pakistan

Resume of last five years

Direct managerial responsibility for the securing and execution of major commercial work. He has worked on schemes ranging in value from PKRS 10 million to PKRS 350 million. He also has direct client contacts with main clients at national and local levels.

Whizz tech **9**

Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

APPENDIX- 1 **Curriculum Vita of Directors**

Technical Director: Khawaja Khurrum Toseef A.R.I.C.S.

Address: S-62, Phase III, Defence Housing Authority (DHA),

Lahore Cantonment, Lahore, Pakistan. Post Code: 54000

Telephone: 042-35864399

Place/Date of Birth: Karachi, 8^{th} August 1979

Marital Status: Married with two sons.

Education/Qualification: B.Sc. Computer Sciences, University of Punjab, 2002

M.Sc. Computer Sciences, University of Punjab, 2004

Professional Experience: 2004-2013 Trainee Software Engineer (2004), promoted to systems analyst (2006) and Senior systems analyst (2008)- Technologix, Karachi, Pakistan

2013-date Head of Information Systems- Techsol Pvt (Ltd), Lahore, Pakistan

Resume of last five years

Currently heads the information systems department at Techsol and has concentrated in recent years on the systems designs for retail, banking and heavy manufacturing industries. He has been instrumental in developing the IT infrastructure for some of the leading KSE 100 index companies.

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Business plan for period January 2018 to January 2022

for

Whizz Tech. **January 2018**

APPENDIX- 1 **Curriculum Vita of Directors**

Finance Director: Arif Azeem.

Address: T-183, Phase III, Defence Housing Authority (DHA),

Lahore Cantonment, Lahore, Pakistan. Post Code: 54000

Telephone: 042-35838438

Place/Date of Birth: Lahore, 8th August 1972

Marital Status: Married with four sons.

Education/Qualification: B.Sc. Computer Sciences- University of Central Punjab- 1993

ACCA (UK), 2003

Professional Experience: 1998-2002 Finance Executive- i2e, Karachi, Pakistan

2002-2005 Finance and Administration Manager- Systems Limited, Karachi, Pakistan

2005-date Senior Finance and Administration Manager (2005) promoted to CFO- Alpine consulting (2012)

Resume of last five years

He has been in the software industry of Pakistan since 1998. Prior to becoming the CFO at Alpine consulting, he was for many years responsible for finance and administration department. In addition to his responsibilities for preparation and maintenance of financial statements, he was also responsible for vetting and selection of contractors and managing consultants.

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APPENDIX- 2 An overview of the Nitisol Technologies

Nitisol Technologies is one of the most reputed software houses in Pakistan, founded by Mr. Salman Hashwani. The company was established in 1992 and is headquartered in Lahore, Pakistan. Nitisol Technologies has developed over the years, POS and IOS software for various retail outlets in Pakistan. During the initial years of its inception Nitisol Technologies developed inventory management systems for various restaurants in Pakistan. It was in 1998, when Nitisol Technologies achieved their first major commercial success when Nirala sweets approached Nitisol technologies to develop their cash register and POS systems. Despite the economic recession of 1999, Nitisol Technologies witnessed a growth in its revenue as it was able to expand its customer base from retailers to luxury hotels. According to the latest annual report of 2017, Nitisol Technologies has earned a revue of PKRS 955 million and employ 700 full time staff members. It is also one of the best performing companies in the KSE 100 index.

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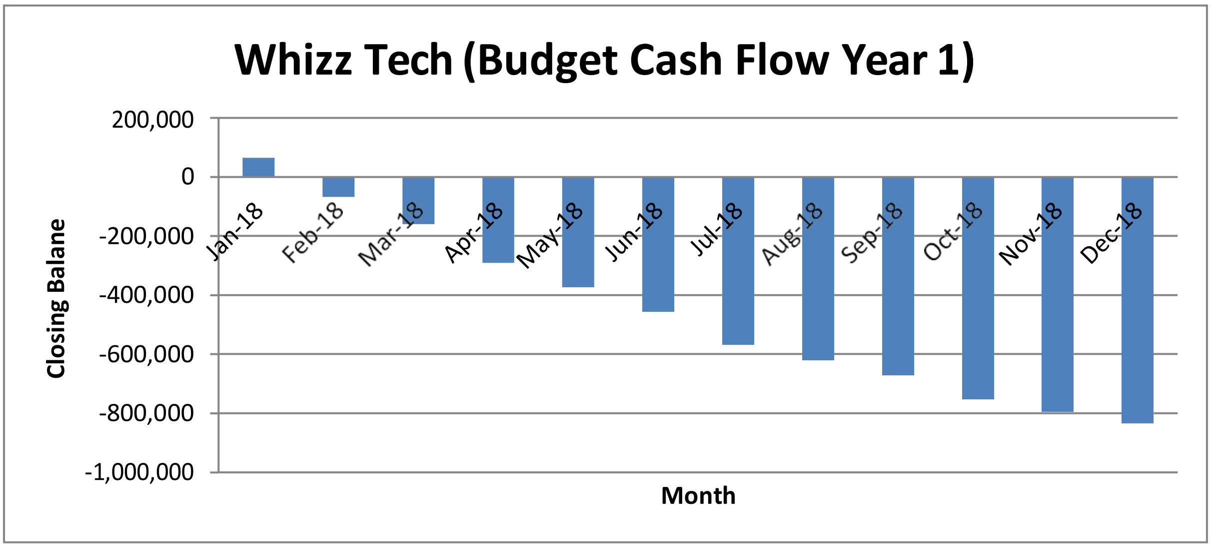
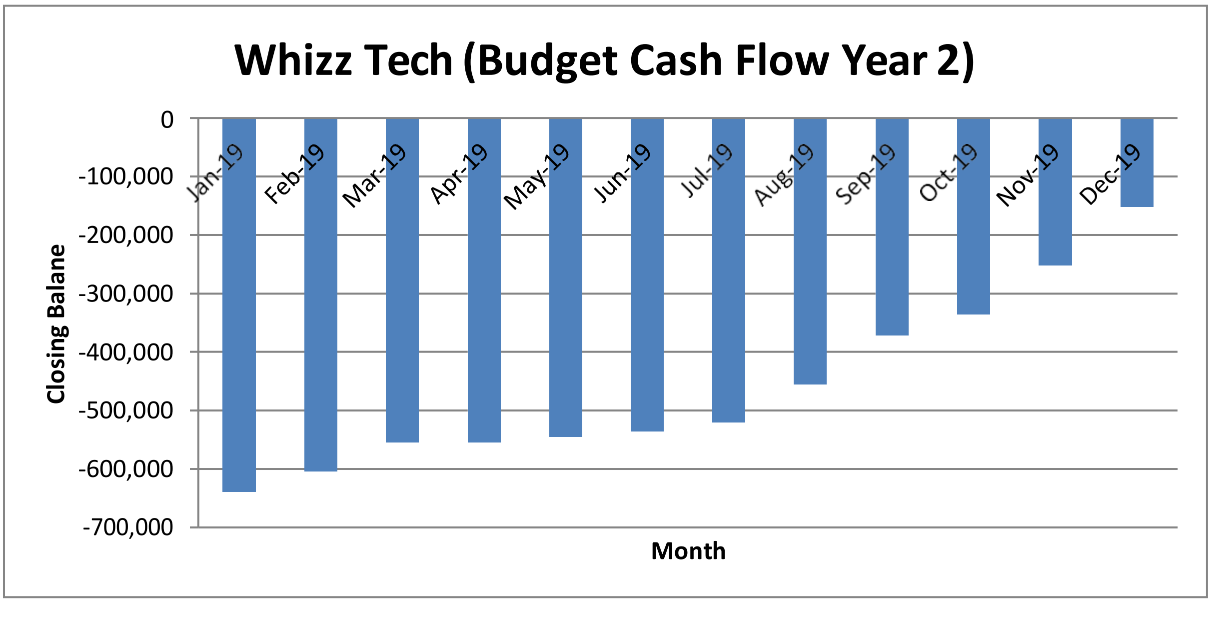
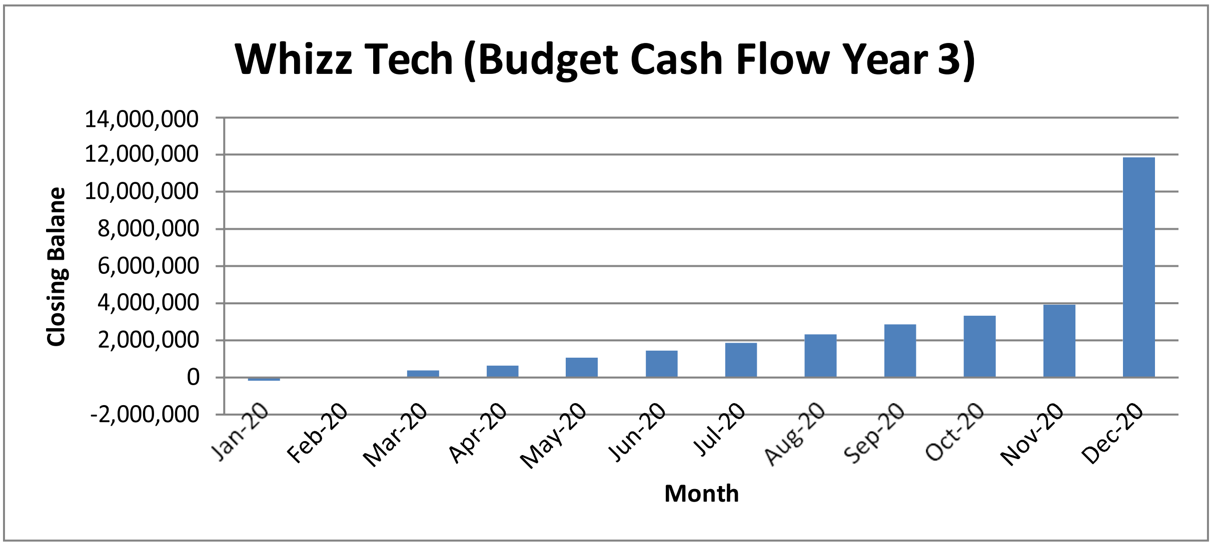
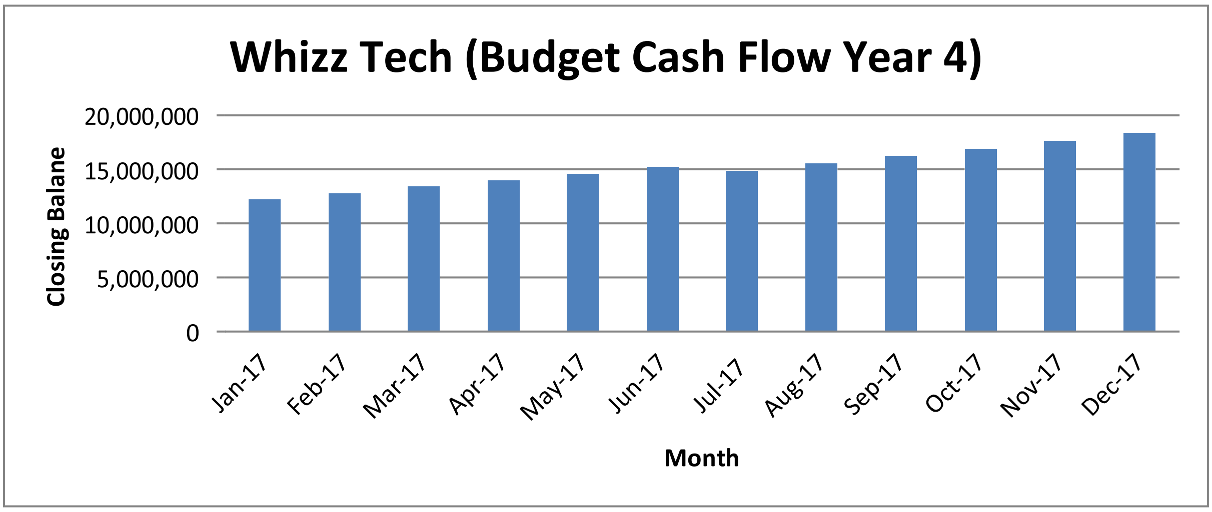
Whizz Tech **12**






Whizz Tech (Budget Cash Flow Year 3)
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
-2,000,000
Closing Balane
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Month


Whizz Tech (Budget Cash Flow Year 4)
20,000,000
15,000,000
10,000,000
5,000,000
0
Closing Balane
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Month

Participant Information Leaflets- Credit Officers- Survey

Study Title: **Bank credit assessment methods and adverse selection on loan applications from small enterprises- a case study of commercial banks in Pakistan**

The aim of this study is to investigate how commercial banks performance credit risk assessment of loan applications from small businesses in Pakistan, and to evaluate the effectiveness of Credit Guarantee Scheme (CGS) to overcome finance gap for Small businesses in Pakistan.

2. This research study attempts to answer the following research questions:

S.No	Research Question
RQ. 1	What is the importance of small enterprise owner characteristics (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?
RQ.2	Do family social capital benefits affect credit officers lending decision on loan

	applications from small enterprises in Pakistan?
RQ.3	Do compliance requirements affect credit officer’s decision to make a referral under the SBP credit guarantee scheme for small enterprises?
RQ.4	What are the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?

3. The purpose of this participation information leaflet is to inform you aboutthe project to enable you can decide whether you want to take part.

4. You have been invited to take part in this study as you are working as a credit officer for a commercial bank in Pakistan, and having the responsibility for conducting credit risk assessments of SME loan applications.

5. Participation in the study is voluntary. You have the right to not answer any particular question, and the right to cancel the interview at any time during the interview

6. The survey shall last for 25 minutes. The researcher shall record your views on his laptop during the survey. The researcher shall provide you a transcript of the survey for review before the results can be used for this study.

7. Your views shall enable the researcher to achieve the research aims and answers to the research questions as mentioned in Para 2 above.

8. Your views given in this survey are purely your own views and do not reflect the views of your firm.

9. To ensure confidentiality and anonymity the name of the bank and your name shall not appear in any stage of the study, and shall be replaced with codes such “credit officer”, “Bank A”.

10. The data gathered during the study shall be electronically on the BCU desktop of the researcher (protected by a password only known to the researcher) and locked cabinet allocated to the

researcher by BCU. The data shall be stored until the completion of the researchers PhD study. Upon completion the electronic data shall be erased in line with guidance from BCU IT department and physical data will be destroyed via BCU's confidential waste facilities.

11. As a participant of this study you have the:

- the right to informed consent,
- the right to withdraw from the study at any stage (without prejudice),
- the right to anonymity and data protection.

12. The study is partially funded by the researcher's employer- University of Wolverhampton and partly self-funded by the researcher.

13. The study shall be reviewed by the researcher's supervisor- Professor Dr. Javed Ghulam Hussain, Professor of Entrepreneurial Finance, Birmingham City University.

14. Details of the researcher's supervisors are given as below:

(i) Professor Dr. Javed Ghulam Hussain, Professor of Entrepreneurial Finance, Birmingham City University, The Curzon Building, 4 Cardigan Street, Birmingham , B4 7BD, Email: Javed.hussain@bcu.ac.uk,
Tel: + 44 (0) 121 331 5690

(ii) Professor Hatem El-Gohary, Professor of Marketing, Birmingham City University, Curzon Building, Room C209, 4 Cardigan Street, B4 7BD, Birmingham, UK, Tel: 0044 121 202 4616, E-mail: hatem.elgohary@bcu.ac.uk .

15. The researchers contact details are as under:

Email: Arsalan.Khawaja@mail.bcu.ac.uk

Address: MN 209, Faculty of Social Sciences, University of Wolverhampton Business School, Nursery Street, Wolverhampton, WV1 1AD.

Telephone: 01902 323934

16. Please sign the consent form provided by the researcher.

17. For any complaints regarding this research study please contact the Insurance Lead at Birmingham City University.

BIRMINGHAM CITY University

Consent form- Credit Officers

<u>Study Title:</u> **<u>Bank credit assessment methods and adverse selection on loan applications from small enterprises- a case study of commercial banks in Pakistan</u>**

This study investigates how commercial banks perform credit risk assessment of loan applications from small businesses in Pakistan. Furthermore, it evaluates the effectiveness of Credit Guarantee Scheme (CGS) to overcome finance gap for Small businesses. It has been suggested that an awareness of the bank credit assessment criteria can assist owner/managers of SMEs to prepare viable business propositions, hence improving the chances of obtaining external finance. Moreover an evaluation of CGS can help academics, SME owners and policy makers understand the effectives of CGS in reducing the finance gap for SMEs. To investigate experience of lenders (supply side) and borrowers (demand side) the study uses a mixed method, Quantitative and Qualitative, approaches with survey of credit offiecrs and semi structured interview with the owners of SMEs and credit officers working in commercial banks in Pakistan.

2. You have been invited to take part in this study as you are working as a bank loan officer for a bank in Pakistan and are responsible for loan credit risk assessments.

3. You have the right to withdraw from the study at any time and also you can refuse to answer any particular question.

4. Please tick the following boxes to indicate:

a) You have read and understood the information sheet; ☐

b) You have had the opportunity to ask questions; ☐

c) You understand that participation is entirely voluntary; ☐

d) You have agreed to:

- to be interviewed, ☐
- the interview to be recorded; ☐

e) You understand that you have the right withdrawat any stage of the study without prejudice, and any information recorded during the interview will ☐ be deleted if you do not feel comfortable.

f) You understand your right to anonymity/confidentiality ☐

____

Date:_____________ Signature

Survey of Bank Loan Officers

Name of the Bank (optional) ____

Name of the respondent (optional)____

Designation and branch (city/village) ____

1). General Information.

A1- What is your age bracket?

- 18-29
- 30-39
- 40-49
- 50-59

A2- What is your highest educational qualification

	Intermediate (GCE A Levels)
	Bachelor’s Degree (Undergraduate)
	Master’s Degree (Postgraduate)

A3. How many years of work experience do you have?

- 1-10 years
- 11-19 years
- 20 years and more

(2) Lending Administration and Technology

B1. Which of the following best describes your bank's SME lending administration policy? Please tick in the appropriate box

My bank practices a centralized SME lending strategy (in which case all small enterprise lending decisions are taken at the head office)	
My bank practices a decentralized SME lending strategy (in which case all small enterprise lending decisions are taken at the branch levels)	

B2. Which lending technology is used by your bank to perform credit risk assessment on loan applications from small enterprises?

- Credit Scoring
- Fixed asset lending

(3). Lending Decision for Whizz Tech (Please read the business plan for Whizz Tech to answer the questions in this section)

3.1. Would you approve a loan of PKRS 500,000 (0.5 million) payable in the next 5 years to Whizz Tech (Pvt) Ltd?

- Yes
- No

3.2. How important are the following indicators in your assessment of SME loan application? 1- Very unimportant, 2- Somewhat unimportant, 3- Neither important nor unimportant, 4- Somewhat important, 5- Very important

Gearing	1	2	3	4	5
Timing of income payments	1	2	3	4	5
Liquidity	1	2	3	4	5
Firm age	1	2	3	4	5
Firm Size	1	2	3	4	5

Firm’s organisational form(Pvt ltd company)	1	2	3	4	5

E-cib report	1	2	3	4	5

Owner age	1	2	3	4	5

Owner qualification	1	2	3	4	5

Owner experience	1	2	3	4	5

4.) Family social capital benefits

4.1 On page 2 of the Business plan of Whizz Tech its is mentioned that Mr. Kamran Shah is the family member (cousin) of Salman Shah (a businessman in Lahore having 10% ownership in the firm and assumed to be a customer of the banks having past experience of fully paying back the bank loan with interest). So do you agree that the following indicators affected your decision in accepting the loan application from Whizz Tech? 1- Strongly disagree, 2- Disagree, 3- Neither agree or disagree, 4- Agree, 5- Strongly agree

Overlapping social networks	1	2	3	4	5

Lower probability of failure	1	2	3	4	5

(5.) Credit Guarantee Schemes

5.1 On page 7 of the Business plan of Whizz Tech. The Directors are pledging Gold worth PKRS 750,000 as collateral. Would you make a referral under the SBP credit Guarantee Scheme?

- Yes
- No

5.2. Do you agree that the following indicators affected your decision to make a referral under the SBP CGS? 1- Strongly disagree, 2- Disagree, 3- Neither agree or disagree, 4- Agree, 5- Strongly agree

Excessive paperwork requirements	1	2	3	4	5

Delay in processing and approval	1	2	3	4	5

Participant Information Leaflets- Credit Officers- Semi structured interviews

Study Title: **Bank credit assessment methods and adverse selection on loan applications from small enterprises- a case study of commercial banks in Pakistan**

The aim of this study is to investigate how commercial banks performance credit risk assessment of loan applications from small businesses in Pakistan, and to evaluate the effectiveness of Credit Guarantee Scheme (CGS) to overcome finance gap for Small businesses in Pakistan.

2. This research study attempts to answer the following research questions:

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RQ. 1	What is the importance of small enterprise owner characteristics (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision making on loan applications from small enterprises in Pakistan?
RQ.2	Do family social capital benefits affect credit officers lending decision on loan applications from small enterprises in Pakistan?
RQ.3	Do compliance requirements affect credit officer's decision to make a referral under the SBP credit guarantee scheme for small enterprises?
RQ.4	What are the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?

3. The purpose of this participation information leaflet is to inform you aboutthe project to enable you can decide whether you want to take part.

4. You have been invited to take part in this study as you are working as a credit officer for a commercial bank in Pakistan, and having the responsibility for conducting credit risk assessments of SME loan applications.

5. Participation in the study is voluntary. You have the right to not answer any particular

question, and the right to cancel the interview at any time during the interview

6. The interview shall last for 45 minutes. The researcher shall record your views on his laptop during the survey. The researcher shall provide you a transcript of the survey for review before the results can be used for this study.

7. Your views shall enable the researcher to achieve the research aims and answers to the research questions as mentioned in Para 2 above.

8. Your views given in this survey are purely your own views and do not reflect the views of your firm.

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Tel: + 44 (0) 121 331 5690

(ii) Professor Hatem El-Gohary, Professor of Marketing, Birmingham City University, Curzon Building, Room C209, 4 Cardigan Street, B4 7BD, Birmingham, UK, Tel: 0044 121 202 4616, E-mail: hatem.elgohary@bcu.ac.uk .

15. The researchers contact details are as under:

Email: Arsalan.Khawaja@mail.bcu.ac.uk
Address: MN 209, Faculty of Social Sciences, University of Wolverhampton Business School, Nursery Street, Wolverhampton, WV1 1AD.
Telephone: 01902 323934

16. Please sign the consent form provided by the researcher.

17. For any complaints regarding this research study please contact the Insurance Lead at Birmingham City University.

Consent form- Credit Officers

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3. You have the right to withdraw from the study at any time and also you can refuse to answer any particular question.

4. Please tick the following boxes to indicate:

e) You have read and understood the information sheet; ☐

f) You have had the opportunity to ask questions; ☐

g) You understand that participation is entirely voluntary; ☐

h) You have agreed to:
- to be interviewed, ☐
- the interview to be recorded; ☐

e) You understand that you have the right withdrawat any stage of the study without prejudice, and any information recorded during the interview will ☐ be deleted if you do not feel comfortable.

f) You understand your right to anonymity/confidentiality ☐

____

Date: _____________ Signature

Credit Officers- Semi structured interviews

Name of the Bank (optional) ____

Name of the respondent (optional)____

Designation and branch (city/village) ____

1). General Information.

A1- What is your age bracket?

- ☐ 18-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59

A2- What is your highest educational qualification

	Intermediate (GCE A Levels)
	Bachelor’s Degree (Undergraduate)
	Master’s Degree (Postgraduate)

A3. How many years of work experience do you have?

- ☐ 1-10 years
- ☐ 11-19 years
- ☐ 20 years and more

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B1. Which of the following best describes your bank’s SME lending administration policy? Please tick in the appropriate box

My bank practices a centralized SME lending strategy (in which case all small enterprise lending decisions are taken at the head office)	
My bank practices a decentralized SME lending strategy (in which case all small enterprise lending decisions are taken at the branch levels)	

B2. Which lending technology is used by your bank to perform credit risk assessment on loan applications from small enterprises? Please explain

- Credit Scoring
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- Yes
- No

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Gearing	1	2	3	4	5
Reason for the rating					

Timing of income payments	1	2	3	4	5
Reason for the rating					

Liquidity	1	2	3	4	5
Reason for the rating					

Firm age	1	2	3	4	5
Reason for the rating					

Firm Size 1 2 3 4 5

Reason for the rating

Firm's organizational form(Pvt ltd company) 1 2 3 4 5

Reason for the rating

E-cib report 1 2 3 4 5

Reason for the rating

Owner age 1 2 3 4 5

Reason for the rating

Owner qualification 1 2 3 4 5

Reason for the rating

Owner experience 1 2 3 4 5

Reason for the rating

4.) Family social capital benefits

4.1 On page 2 of the Business plan of Whizz Tech its is mentioned that Mr. Kamran Shah is the family member (cousin) of Salman Shah (a businessman in Lahore having 10% ownership in the firm and assumed to be a customer of the banks having past experience of fully paying back the bank loan with interest). So do you agree that the following indicators affected your decision in accepting the loan application from Whizz Tech? 1- Strongly disagree, 2- Disagree, 3- Neither agree or disagree, 4- Agree, 5- Strongly agree

Overlapping social networks 1 2 3 4 5

Reason for the rating

Lower probability of failure 1 2 3 4 5

Reason for the rating

(5.) Credit Guarantee Schemes

5.1 On page 7 of the Business plan of Whizz Tech. The Directors are pledging Gold worth PKRS 750,000 as collateral. Would you make a referral under the SBP credit Guarantee Scheme?

- Yes
- No

5.2. Do you agree that the following indicators affected your decision to make a referral under the SBP CGS? 1- Strongly disagree, 2- Disagree, 3- Neither agree or disagree, 4- Agree, 5- Strongly agree

Excessive paperwork requirements	1	2	3	4	5
Reason for the rating					

Delay in processing and approval	1	2	3	4	5
Reason for the rating					

Participant Information Leaflets- Small enterprise owner- semi structured interviews

Study Title: **Bank credit assessment methods and adverse selection on loan applications from small enterprises- a case study of commercial banks in Pakistan**

The aim of this study is to investigate how commercial banks performance credit risk assessment of loan applications from small businesses in Pakistan, and to evaluate the effectiveness of Credit Guarantee Scheme (CGS) to overcome finance gap for Small businesses in Pakistan.

2. This research study attempts to answer the following research questions:

S.No	Research Question
RQ. 1	What is the importance of small enterprise owner characteristics (owners age, owners education, owners experience, owners e-cib report), firm characteristics (firm age, firm size, firm legal form, collateral) and firm financial indicators (liquidity, gearing, timing of income payment) in credit officers lending decision

	making on loan applications from small enterprises in Pakistan?
RQ.2	Do family social capital benefits affect credit officers lending decision on loan applications from small enterprises in Pakistan?
RQ.3	Do compliance requirements affect credit officer's decision to make a referral under the SBP credit guarantee scheme for small enterprises?
RQ.4	What are the circumstances in which type 2 error of adverse selection takes place on loan applications from small enterprises in Pakistan?

3. The purpose of this participation information leaflet is to inform you about the project to enable you can decide whether you want to take part.

4. You have been invited to take part in this study as you are an owner of an small enterprise in Pakistan.

5. Participation in the study is voluntary. You have the right to not answer any particular question, and the right to cancel the interview at any time during the interview

6. The interview shall last for 45 minutes. The researcher shall record your views on his laptop during the survey. The researcher shall provide you a transcript of the survey for review before the results can be used for this study.

7. Your views shall enable the researcher to achieve the research aims and answers to the research questions as mentioned in Para 2 above.

8. Your views given in this survey are purely your own views and do not reflect the views of your firm.

9. To ensure confidentiality and anonymity the name of the bank and your name shall not appear in any stage of the study, and shall be replaced with codes such "owner 1", "enterprise 1".

10. The data gathered during the study shall be electronically on the BCU desktop of the

researcher (protected by a password only known to the researcher) and locked cabinet allocated to the researcher by BCU. The data shall be stored until the completion of the researchers PhD study. Upon completion the electronic data shall be erased in line with guidance from BCU IT department and physical data will be destroyed via BCU's confidential waste facilities.

11. As a participant of this study you have the:

- the right to informed consent,
- the right to withdraw from the study at any stage (without prejudice),
- the right to anonymity and data protection.

12. The study is partially funded by the researcher's employer- University of Wolverhampton and partly self-funded by the researcher.

13. The study shall be reviewed by the researcher's supervisor- Professor Dr. Javed Ghulam Hussain, Professor of Entrepreneurial Finance, Birmingham City University.

14. Details of the researcher's supervisors are given as below:

(i) Professor Dr. Javed Ghulam Hussain, Professor of Entrepreneurial Finance, Birmingham City University, The Curzon Building, 4 Cardigan Street, Birmingham , B4 7BD, Email: Javed.hussain@bcu.ac.uk,

Tel: + 44 (0) 121 331 5690

(ii) Professor Hatem El-Gohary, Professor of Marketing, Birmingham City University, Curzon Building, Room C209, 4 Cardigan Street, B4 7BD, Birmingham, UK, Tel: 0044 121 202 4616, E-mail: hatem.elgohary@bcu.ac.uk .

15. The researchers contact details are as under:

Email: Arsalan.Khawaja@mail.bcu.ac.uk

Address: MN 209, Faculty of Social Sciences, University of Wolverhampton Business School, Nursery Street, Wolverhampton, WV1 1AD.

Telephone: 01902 323934

16. Please sign the consent form provided by the researcher.

17. For any complaints regarding this research study please contact the Insurance Lead at Birmingham City University.

Consent form- Credit Officers

Study Title: **Bank credit assessment methods and adverse selection on loan applications from small enterprises- a case study of commercial banks in Pakistan**

This study investigates how commercial banks perform credit risk assessment of loan applications from small businesses in Pakistan. Furthermore, it evaluates the effectiveness of Credit Guarantee Scheme (CGS) to overcome finance gap for Small businesses. It has been suggested that an awareness of the bank credit assessment criteria can assist owner/managers of SMEs to prepare viable business propositions, hence improving the chances of obtaining external finance. Moreover an evaluation of CGS can help academics, SME owners and policy makers understand the effectives of CGS in reducing the finance gap for SMEs. To investigate experience of lenders (supply side) and borrowers (demand side) the study uses a mixed method, Quantitative and Qualitative, approaches with survey of credit offiecrs and semi structured interview with the owners of SMEs and credit officers working in commercial banks in Pakistan.

2. You have been invited to take part in this study as you are working as a bank loan officer for a bank in Pakistan and are responsible for loan credit risk assessments.

3. You have the right to withdraw from the study at any time and also you can refuse to answer any particular question.

4. Please tick the following boxes to indicate:

i) You have read and understood the information sheet; ☐

j) You have had the opportunity to ask questions; ☐

k) You understand that participation is entirely voluntary; ☐

l) You have agreed to:

- to be interviewed, ☐
- the interview to be recorded; ☐

e) You understand that you have the right withdrawat any stage of the study without prejudice, and any information recorded during the interview will

☐

be deleted if you do not feel comfortable.

f) You understand your right to anonymity/confidentiality ☐

____

Date:_____________ Signature

Small enterprise owner- semi structured interviews

A). General Information on the small enterprise owner.

A1- What is your age bracket

1. 18-29
2. 30-39
3. 40-49
4. 50-59

A3- What is your highest educational qualification

1	Primary
2	Middle
3	Matriculation (GCE O Levels)
4	Intermediate (GCE A Levels)
5	Bachelor's Degree (Undergraduate)
7	Master's Degree (Postgraduate)

(B). Business Information- General

B1. What is your business sector?

1	Restaurants
2	Textile
3	Construction

B2. What is the number of employees in your business?

1. 6-9
2. 10-19
3. 20-29
4. 30-39

5. 40-49

B3. How long have you been in business?

1. Less than 1
2. 1-3
3. 4-6
4. 7-9
5. 10 and above

B4. What is the status of the business?

1. Sole trader
2. Partnership
3. Private limited company
4. Public limited company

B5. What was your estimated annual turnover (this year)?

1. Less than PKRS 25 million
2. PKRS 25 millon- PKRS 49 million
3. PKRS 75 million- PKRS 99 million
4. PKRS 100 million- PKRS 124 million
5. PKRS 125 million- PKRS 150 million

(C). Access to Bank Finance

C1. What was the purpose of the loan?

1. Starting a business
2. Business expansion
3. Working capital requirements

C2. What was the loan amount?

1. Less than PKRS 5 million
2. Between PKRS 5 million- PKRS 9 million
3. Between PKRS 10 million- PKRS 14 million
4. Between PKRS 15 million- PKRS 19 million
5. Between PKRS 20 million- PKRS 24 million
6. PKRS 25 million and above

C3. Was your loan application accepted?

1. Yes (If Yes go to C4)
0. No

C4. **Number of times applied for bank loan before getting accepted for a bank loan**

1. 1-3

2. 4-7

3. 8 and more

Please provide details of your experience

C5. Were you able to full pay back the bank loan on time?

1. Yes
0. No

How important are the following indicators in your assessment of SME loan application? 1- Very unimportant, 2- Somewhat unimportant, 3- Neither important nor unimportant, 4- Somewhat important, 5- Very important

Gearing	1	2	3	4	5
Reason for the rating					

Timing of income payments	1	2	3	4	5
Reason for the rating					

Liquidity	1	2	3	4	5
Reason for the rating					

Firm age	1	2	3	4	5
Reason for the rating					

Firm Size	1 2 3 4 5
Reason for the rating	

Firm's organizational form(Pvt ltd company)	1 2 3 4 5
Reason for the rating	

E-cib report	1 2 3 4 5
Reason for the rating	

Owner age	1 2 3 4 5
Reason for the rating	

Owner qualification	1 2 3 4 5
Reason for the rating	

Owner experience	1 2 3 4 5
Reason for the rating	

Overlapping social networks (firms with family social capital)	1 2 3 4 5
Reason for the rating	

Lower probability of failure (firms with family social capital)	1 2 3 4 5
Reason for the rating	