Using the Follow-up Sequential Mixed-Method for International Trade Research: A reflective account.

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**Abstract:**

This paper discusses the use of mixed-methods research in international trade economics. The focus of the paper is on the philosophical and procedural dilemmas faced by applied trade researchers in applying mixed-method approach instead of a quantitative only research strategy. Using the account of an illustrative study conducted earlier[[1]](#footnote-1), this paper outlines common challenges of mixed-methods research and suggests solutions based on the pragmatist worldview of research. The challenges outlined are from the philosophical foundation, data and inference integration areas. This paper contributes to advancing mixed-methods research strategy in international trade analysis by providing an empirical legitimacy of the methodology within the field of scholarship.

**Key Words:**

Mixed-method research, Pragmatic Deductivism, Meta-Inference

Word count (5690 approx.)

**Introduction**

In this paper, we reflect upon a study that we conducted using a mixed-methods approach to address a number of issues that researchers may face in applying a similar approach. Our study investigated the institutional impact on apparel trade, the contribution of which was predominately empirical. The theoretical contribution lied in measuring the formal institutional impact (Peng *et al.*, 2009:64) on trade. Our practical contribution was informing the policy making bodies to formulate trade friendly policies to help flourish trade by reducing barriers. The objective of this reflective account is to outline some of the methodological challenges faced at the philosophical and procedural domains during the study and offer practical advice to future researchers wishing to conduct trade analysis using a mixed-methods research strategy. This paper is a follow up of our previous paper (Saha and Bancroft, 2016) and inspired by Ivankova, Creswell and Stick (2006).

The study in question theoretically belongs to international trade economics scholarship. International trade is a branch of economics that analyse the flow of merchandise in the international market. The research scholarship is based on the elegant theories of economics and level of analysis is country level. The discipline follows a very quantitative focused research tradition, and typically there is a strong emphasis on positivistic and deductive research approaches to achieve scientific generality. The wide acceptance of the trade gravity as the analytical model is another important characteristic of this research stream. Publicly available aggregated trade data is the principal data source for macro level research of this nature. Also, proxies and dummy variables are widely used to capture themes that are difficult to explain with quantitative data. The focus on quantitative analysis and highly sophisticated mathematical modelling is a post-1940 phenomenon. The long and rich history of economic discourse commonly used words to disseminate ideas in the forms of books and articles. Romer (2015:89) refers to this changed narrative as *‘mathiness’.* Although most mainstream economist these days believe the inclusion of extreme ‘*mathiness’* gave economics rigour and *near*-scientific generalisability, it takes the focus away from real life phenomena. In addressing this *‘mathiness’* Romer (2015; 89) expressed the concern that instead of establishing a close link this may leave gaps between ‘*statements in natural versus formal language and between statements with theoretical as opposed to empirical content’*. Another empirical issue that needs mentioning is the statistical data availability problem while studying trade flow in emerging and developing countries. To engage in this discourse of *‘mathiness’* and capturing the real life phenomenon we adopted a pragmatic and novel strategy of analysing trade using a mixed-methods research approach. We believe that by adopting a mixed-methods approach, our study benefited from the scientific rigour of quantitative study and the richer understanding of the qualitative approach. We use a variant of mixed-methods research known as the follow-up sequential mixed-methods to analyse the impact of public institutions on the flow of apparel trade. The paper is structured first to provide an abstract of the illustrative mixed-methods research and then to account for the challenges and adopted strategies to address these.

**The Research Example**

The research experience we are reflecting upon is a study of the institutional impact on apparel trade and adopted the follow-up explanatory mixed-method strategy. The study was proposed based on the understanding that the institutional context of an industry may facilitate or impede trade. The research used the Bangladeshi apparel industry as its scope and empirically analysed the impact of the performance of public institutions on it. We measured public institutions as country governance performance. Apparel manufacturing is seen as the first step towards industrialising a lagging economy with an abundant cheap labour supply. Given the very low skill requirement, large numbers of employment can be created in this industry. The international trade negotiations, phasing out of multi-fibre agreements and an insatiable demand for affordable fashion also spread the industry geographically. In many cases, a virtuous cycle of economic growth fuelled by process driven industries such as the apparel industry and an increase in country governance quality is also noticed. However, the available literature on process based manufacturing within trade economics scholarship are mostly micro-level studies. Our extensive literature search established that no empirical study in the field of international trade of apparel had tested the impact of country governance on trade performance. Therefore, the study envisaged to investigate the extent and nature of the impact country governance have on apparel trade. We developed several hypotheses based on two streams of literature for this investigation. Hypotheses on country governance are based on neo-institutional theory stream, while the macroeconomics and distance based hypotheses are developed from international trade literature. We tested the extent of the impact through hypotheses testing using the extended trade gravity model on both exporting and importing countries. We investigated the nature of the impact through qualitative analysis using semi-structured interviews. The study found that country governance variables affect international apparel trade. Although the size of the effect was statistically small (R squared values were considered to be low), they had major economic significance. The findings also proved that governance matters more to the exporting countries compared to their importing partners. This study also gathered evidence that economic growth does not always improve governance. The study contributed to the neo-institutional theory by adding emerging market evidence for further generalisation. It has also provided the empirical evidence to the institution base view literature to further strengthen the arguments to include the institutional factors into the industrial performance discussion. The applied empirical model also adds to the flexibility arguments of the trade gravity model. The most significant contribution this study made was deemed for the policy makers and industry practitioners.

 **The Follow-up Sequential Mixed-Method**

Mixed-method research is in its ‘*reflective period’* and several definitions have emerged that capture the essence of it (Creswell, 2013:23). We find that the definition from Tashakkori and Creswell (2007) is the simplest and most fitting where they categorised mixed-methods approach as a kind of research that adopts both quantitative and qualitative approaches in a study for data analysis and drawing inferences. Categorically there are two broad approaches of a mixed-methods study i) emergent approach and ii) typology approach. The emergent mixed-method approach is a research strategy designed with a dynamic approach that focuses on the interrelations of multiple components of research design. Creswell and Clark (2011:54) define emergent mixed-methods research as a study where the need to use mixed-methods arise during the process of conducting the research instead of a predetermined use of qualitative and quantitative combination. A predetermined combination is known as fixed mixed-methods research design. The study we use as an example for this paper is an emergent mixed-method work given that the need for the approach was conceived during the early phase of the study. In regards to typology based approach Creswell (2013: 60) presented 15 different classifications and advised that researchers who are new to mixed-method strategy are better off starting the process with the typology based approach. Due to space constraint, it is not our intention to discuss all the typologies here; however, we have followed Creswell’s advice and considered Tashakkori and Teddlie (1998) sequential mixed model, which is a variant of explanatory sequential design. The explanatory design starts with a quantitative study phase, and the results are followed up by a qualitative second phase. The emphasis is on the qualitative due to its explanatory nature. This design takes a qualitative strand to explain initial quantitative analysis. There are two explanatory design variant i) follow-up explanations variant and ii) participant selection variant. The follow-up explanation variant is quite common in explanatory design based research, where the priority is placed on the initial quantitative phase, and the follow up qualitative phase explains the quantitative results. Opposed to this, the participant selection variant prioritises the qualitative phase and takes interpretivism/constructivism philosophical strand. Quantitative researchers are drawn to the follow-up explanation variant as it commences with greater quantitative orientation. The quantitative orientation dictates the qualitative method. The two approaches are implemented in two separate phases, and only one type of data is collected at a time. The strengths of the follow-up explanation variant lie in the relative ease of its application and straightforwardness. We adopted the follow-up explanation variant and prioritised quantitative study over qualitative due to two reasons. Firstly, the nature of the research question which is best addressed by mixed data analysis; and secondly, honouring the tradition of trade research which is very quantitative oriented as informed earlier.

 **The Philosophical Dilemma**

We test the implication of public institutions’ quality on international trade in apparel. Our research scope is Bangladeshi apparel trade. Like many mixed-methods researchers, we have experienced the philosophical dilemma in this study. Establishing the guiding research philosophy, what we call pragmatic deductivism, appeared to be a complex issue in our case due to the fact that we embarked upon a methodology that challenged the tradition of international trade research based on positivistic deductivism. The first question we asked ourselves is *what place does a mixed-methods approach have in positivistic research philosophy?* We understand that positivism applies scientific methods and generates testable hypotheses. Findings from the positivistic study can be measured against an established and acceptable body of knowledge (Bryman, 2012). Positivism emphasises on quantifiable results commonly derived from statistical analysis for ‘law-like generalisation’ Saunders *et al.* (2012:135). Since positivism explains and predicts causality, it is particularly suitable for a study that has policy implications and predictive nature. However, the appropriateness of applying the natural scientific model to study social phenomena is under criticism. We consulted Bryman (2012:28) for a summary of these criticisms, and we discovered that research strategy, epistemological and ontological foundations of quantitative research and design methods are the areas where most criticisms are located. Phenomenologists believe that employing the natural science model in social science is incorrect given the difference between the two. Social science investigates people, and inherently people are reflective in nature and interpret the world around them. This interpretation also depends on bounded rationality and other limitations, i.e. education, beliefs, life style, social structure etc. On the other hand, matters that natural science deals with do not have this intuitive power. Hence, the appropriateness of employing natural science models to explain social phenomena is questionable. In addition to this, the functionalities of the natural science model are based on measurement techniques developed by social scientists is rather superficial. Critiques went on to argue as Bryman (2012) summarised that this superficiality raises a serious question on the ecological validity of a quantitative study. Followers of this school claim that the quantitative research undermines the relationship between research and everyday life by over relying on instruments and procedures. Another critique that we must mention here is the arguments of capturing the static view of the world around us ignoring the dynamism of social phenomena. This is more inherent in economics and knowledge based on the grand theories of economics. Our research falls in this area and including the notion of *ceteris paribus* apparently is ubiquitous. Also, our research question is such that accounts for socio-political phenomena, but is not as concerned with the political environment that associates our research questions to the participative philosophy. Neither can it be addressed only by qualitative approaches of constructivism. Therefore, we decided not to succumb to, as Creswell and Clark (2011:44) articulated, the forced-choice dichotomy between positivism and constructivism. We prioritised the research question over the philosophical worldview of the research and adopted a *‘what works’* solution for our philosophical dilemma (Creswell and Clark, 2011:41). Here, we chose a rather pluralistic philosophical stance of pragmatism that focuses on the outcome of the research and fits more than one method of data collection to address the research question. Thus we steer clear from the methodological purist school’s philosophical debate of whether or not to combine different types of data and offer a paradigmatic foundation to our study. Current thoughts on the question of whether or not to combine are not as dominant as they were in the past. Pragmatist and situationalist schools forwarded the idea that different varieties of methods can be associated with different philosophies and the method should adapt to the situation. Mixed-methods research is gaining acceptance in economics research. Responding to the criticism against economics due to its focus on one method of analysis Downward & Mearman (2007) called for mixed-method triangulation in economic studies. However, ontologically our study has preserved its objectivism and adopted a deductive research approach to test the theory in an emerging markets context. The novelty of our work is the validation method of the findings through interviews with professionals involved in this industry which is rooted in our pragmatic deductivism philosophy. Therefore, this study has exploratory quantitative elements and explanatory qualitative elements. We claim this as emergent mixed-method research since the need to use mixed-methods arise during the process of conducting the research (Creswell and Clark, 2011:54). This is designed with a dynamic approach focusing on the interrelations of multiple components of research design. This is also known as a sequential mixed model if typologically categorised (Tashakkori and Teddlie, 1998).

**The Research Strategy Choice**

The second major challenge we faced was to develop a valid justification for a mixed-methods trade study. We have conceptualised validity within the research design as suggested by Creswell and Clark (2011). This model addressed potential validity issues in data collection, data analysis and interpretation. This methodological choice is supported by the earlier use of mixed-methods research for triangulation purposes in economics (Downward & Mearman, 2007). Our quantitative work was modelled on trade gravity theory, and qualitative work was completed with semi-structured interviews. The chosen model variant is quite common in explanatory design based research where the priority is placed on the initial quantitative phase, and the follow-up qualitative phase explains the quantitative results. The popularity of this method lies in its intuitive nature (Creswell & Clark, 2011; Mayring *et al.,* 2008; Johnson & Onwuegbuzie, 2004).

The design feature of our study is presented with the following notation:

$$QUAN\rightarrow Qual= Confirm Significant Factor.$$

To justify the adoption of mixed-method we note three challenges facing our research i) one data source was not sufficient to address the research question ii) the need to explain initial results and iii) generalising issue of the exploratory findings. At the beginning of the study, we discovered there was no reliable source of firm level export data in Bangladesh. To find a solution for this problem, we used industry level aggregated data available from the UN Comtrade data base to test the variables and then validate the findings through interviews with professionals involved in this industry. Here, we took a pragmatist view of the problem and resolved issues by combining research tools. Therefore, this study had exploratory quantitative elements and explanatory qualitative elements. Considering how the research evolved it can be said that the research was an emergent mixed-methods research design.

**The Emerging Countries Trade Data**

The third challenge was to resolve the data availability issue. The quantitative study used aggregated country and industry level data sourced from publicly available data sets. We found that the statistical reporting of countries such as Bangladesh was not as up-to-date as we would expect them to be. The quality of the available data set that measures our independent variable was also causing concern. In the following paragraphs, we detailed how these issues were resolved through alternative data and statistical manipulations. The qualitative data was gathered from 19 semi-structured interviews conducted with the industry elites. There were issues with voice recording the interviews given the nature of questions being asked. Our interview strategy is further discussed later in the paper.

The Quantitative data was sourced from the World Bank, the Comtrade, and the CEP II data bases. Data from all these data sources were merged into a panel data set of 16 years from 2000-2015. The total observation number was 30878 which captured both export and import trade across the 12 product categories within the articles of apparel in an harmonised coding system (HS 96) for all trade partners (Table 1). Our study examined the trade performance of the Bangladeshi apparel industry. To scrutinise the apparel trade performance this study used the overall trade value that accounts for both export and import trade as the base model. The overall trade values included both export and import figures declared by trading nations. Since this study was examining Bangladesh’s trade performance within the apparel sector, the initial data search was conducted using Bangladesh as the reporting country and rest of the world as partner countries with free on board (FOB) values. However, Bangladesh reported data up to the year 2011, and there is a 4 year lag in reporting. To get the most recent data set a second search was conducted using Bangladesh as a partner and the rest of the world as a reporter and thus data up to the year 2015 is found. This data was cost insurance and freight (CIF) values and the trade flow coding system in this data set needed to be treated inversely as code 1 is export value and Code 2 is import value (actual coding is 1 is import and 2 is export)[[2]](#footnote-2). It is common knowledge in emerging/developing country research that many countries statistical reporting system lags behind the OECD regions and most recent data are not always available. To resolve this issue alternatives are suggested to ensure that data availability issue does not discourage emerging market research (Gleditsch, 2002). Our alternative was to use the cost insurance and freight (CIF) values instead of FOB values. It is also understood in trade research that cost insurance and freight (CIF) values are more correctly reported than free on board (FOB) values due to customs rules and reporting standard for FOB. The data set with CIF values observed around 54000 data points. Due to a large spread and abnormality in the distribution sampling method is applied to reduce outliers. A filter of ≥$50000 is applied on the trade values which reduced the data set to 30878. To test the difference between the Free on Board (FOB) and Cost Insurance and Freight (CIF) values the mean for both values for the year of 2011 are compared.

The study tested the impact of public institutions on export performance. Here, formal institutions were understood through the nature and quality of country governance (Oh and Oetzel, 2011; Globerman and Shapiro, 2003; 2002; Cuervo-Cazurra and Genc, 2008). The quality of country governance was measured using the six indicators of government gathered from the World Bank’s world governance indicators (WGI) (Kaufmann, Kraay and Mastruzzi, 2009). The WGI data is used as the measure of government characteristics in this study (Garrido et al., 2014). The six WGI measures are *voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law, and control of corruption*. These measures capture the nature of country governance through which formal and regulatory institutions exercise authority within and beyond national borders. These measures are accounted as estimated scores and ranks. The higher a country perform in the scoring system, the better it performs across these six indicators. Methodologically these indicators are prone to the margin of errors, and this is taken into consideration in the analysis. The range of the data set is between -2.5 to 2.5 and to avoid negative figures 2.5 was added to each data point thus estimation values between 0 and 5 are worked out. This method is also used in Oh and Oetzel (2011:666). The WGI data is not available for the years of 2001 and 2015. To resolve this issue available data of the year 2000 is counted for both the years 2000 and 2001. A similar technique is applied for year 2015 by counting 2014 data. A panel data set was constructed with data for all variables. This panel data was unbalanced since there were missing data for the dependent and independent variables for some countries for some years. We developed several hypotheses from the institutional literature, and these are listed below to demonstrate how propositions are developed for the follow up qualitative stage based on these hypotheses:

*H1. A Democratic environment where the voice of the citizen and accountability of the government are upheld is beneficial to apparel trade. The better a country performs in voice and accountability the more it trades.*

*H2. The likelihood of non-democratic power shift and violent politics increases risk and trade cost. Political stability and absence of violence & terrorism positively impact apparel trade. Apparel trade is expected to thrive when politics are stable.*

*H3. The governments’ ability to formulate and implement business friendly policies promote trade. Exporting countries effectiveness in policy making and implementation will increase the competitiveness of the industry.*

*H4. Efficient regulatory environment ensures that businesses do not have to bear the burden of regulation to the extent that makes them less competitive. High regulatory quality in Bangladesh will increase the apparel industry’s productivity.*

 *H5. The existence of the rule of law brings fairness into the system and provides confidence for economic transactions. Prevalence of the rule of law will promote the apparel industry in a global market.*

*H6. Corruption increases transaction cost and results in collective losses. Trading countries’ success in controlling corruption will lead to reduced transaction cost for the apparel industry.*

*H7. Low labour costs offer a competitive advantage in the apparel industry. Countries with this cost advantage will be competitive in global apparel manufacturing.*

*H8. Preferential trade agreements increase bilateral trade between trading nations and provide apparel exporters with cost competitiveness and increase apparel export.*

*H9. The cost of apparel trading increases with the geographic distance. Hence, distance has a diminishing effect on trade. Apparel traders will look for trading partners closer to their political borders.*

Our quantitative analysis is based on gravity model based regressions and using the STATA 13 software package. We applied ordinary least square (OLS), random effect (RE) and poission estimators for results. The choice of estimators is based on the applied trade theory, nature of the quantitative data and preceding examples. To ensure robustness, we applied negative binomial regression (NBR) and passion pseudo maximum likelihood (PPML) estimators too. Our statistical analysis supported all the hypotheses as the variables appeared significant at 90%, 95% and 99% confidence levels. We also received surprising results for the variable upon which hypothesis 1 was based.

The interviews were conducted for qualitative part of the mixed-method analysis (Birkinshaw, Brannen and Tung, 2011). Qualitative phase was conducted at the second stage of the data collection. At this phase, we captured the perspectives of those people involved in the industry and also contextualised the research problem using the sociocultural and political environment within the research scope (Glesne, 2006). For integration purposes, we developed propositions based on the findings of the quantitative analysis. Interview questions were carefully formulated to address these propositions. The qualitative phase in this study provided a complete understanding of the research problem by exploration, explanation and enrichment of the quantitative findings. The basis of our qualitative analysis was the propositions developed from the inferences of quantitative analysis results. The propositions were:

*Proposition 1.* The quality of country governance has an impact on apparel trade. Governments’ performance in maintaining political stability, accountability, participative democracy, corruption control, regulative efficiency and law enforcement influence international trade.

*Proposition 2.* Lower production costs are the main competitive advantage of the apparel industry. Maintaining lower production costs is only possible through gaining efficiency as the labour cost is rising. Countries with lower production costs will dominate the export trade in apparel.

*Proposition 3.* There is a negative effect of trade cost on export destination selection and trade revenue businesses. With deregulation, infrastructure development and tariff reform trade costs decrease and facilitate trade.

*Proposition 4.* International institutions that govern global trade and facilitate macroeconomic development help exporters to gain competitiveness through preferential trade policies at a macro-level and skill development at a firm level.

We used in-depth semi-structured interviews with the senior executives and owners of the exporting companies and members of various apparel and textile manufacturers’ associations, i.e. Bangladesh Garments Manufacturers and Exporters Association, Bangladesh Textile Manufacturers Association and Bangladesh Knitwear Manufacturers and Exporters Associations. The purpose of these interviews was to develop the case study of the Bangladeshi apparel industry’s export performance based on the domestic and international institutional environment. Our interview questions were developed based on the propositions. We used two sets of questions for two groups of interviewees. The set of questions that were used for firm owners and practitioners had firm level questions along with institutional and macroeconomic ones. The question set for trade associations were more investigative towards lobbying for policy influencing and facilitation areas. We used three categories of issues to establish the scale and scope of the organisations, to scrutinise the sphere of institutional influence and governments’ performance at the public institution level and to identify how global issues influence the apparel trade.

The interviewees were classed as the industry elites (Harvey, 2010:433) and held significant decision making powers and influences. Through their power and influences, the elites can access strategic assets, financial and knowledge based resources without much trouble. The interview strategy was based on Harvey (2010) and similar techniques are successfully used in a recent study on emerging countries resource seeking policies (George, 2015). These industry elites served as the links between the institutional power of the state and industrial influence. We were aware that interviewing elites can be challenging because they were very busy people and usually guard the confidentiality of matters. Gaining access to them was hard without being an insider. To address these issues, the interviews were contacted through their trusted medium. We contacted the Bangladesh Garment Manufacturers and Exporters Association and Dhaka Chamber of commerce to help identify willing interviewees. They provided us with a list of practitioners who fulfilled our selection criteria. This process may be called purposive sampling and benefitted fully from the snowball effect created by the trade bodies. We were also aware of the fact that industry elites may open up during the interview (Mikecz, 2012) or they may be very selective of what information they were willing to provide (Hafner-Burton Hughes and Victor, 2013). Also, it is noted that industrial elites do not like to be asked close-ended questions and prefer to present their views and usually justify those views. Hence, the interviewer designed open ended questions to let the interviewees express their views the way they think appropriate. However, given the time constrained nature of the respondents which were scheduled around the interviewees already hectic schedules some structures are applied to balance the open-end, close-end dilemma.

Geographic distance and associated cost appeared to be one of the biggest problems in the face to face interview process. Although telephone/skype interviews were an available option, in this case, we decided to interview in person as the literature suggests that interviewees tend to provide less information in telephone interviews compared to face-to-face interviews (Sturges and Hanrahan, 2004). Considering this, face-to-face interviewees are organised to gain as much information as possible and also this format helped to gain the trust of the respondents. One interview was conducted in a flight to Istanbul from Dhaka. We had to make a lot of last minute adjustments to our itinerary to gain access to the interviewees. Another issue that we faced was the recording of the interviews. Some respondents were reluctant of being recorded, and few completely refused the recording process (Aberbach and Rockman, 2002). The nature of our questions was deemed to be politically sensitive as answers sometimes required commenting on governments’ policies and way of functioning. It is ideal to note that the Bangladeshi governments ruling system may appear to be a totalitarian democracy (Talmon, 1961) if the Westministerian definition is used. Therefore, interviewees’ preferences in terms of recording are respected. With regards to this, it is worth quoting Harvey (2011:437) where he said:

 *‘Hence, the benefit of having a verbatim script of the interview did not outweigh the cost of losing potentially important off-the-record information’*.

Striking a balance between the complexities of elite interviews and the objectives of the research appeared as one of the biggest challenges during the second phase of data collection stage. The adopted interview strategy was the best fit in the circumstances although there are limitations in this strategy. Transcripts produced from the notes were validated by the interviewees themselves, to ensure all the themes were captured. We received validation by emailing the interviewees the transcript of their interviews. They were also asked to make comments on captured/missed information and approve/disprove transcription as they feel appropriate. This was time-consuming and required much chasing up, however, it was the best fitting strategy to resolve the political sensitivity of the interviews. We analysed our qualitative data using the Nvivo 11 software package.

**Meta-Inference and Integration Issues**

During the analysis period, we took several decisions to get the best possible results within various constraints. A specific issue we faced was to integrate the results at the discussion stage. We understood that at the interpretation stage we had to step back from the detailed results and needed to advance the larger meaning within the research context (Creswell and Clark, 2011:209). For the quantitative results, we consulted previous studies in similar fields for better explanations of our findings to address our hypotheses. We contested our qualitative findings with the earlier quantitative results and other qualitative research in the field and considered that the nature of explanatory study dictates that we design our qualitative study based on the findings of the quantitative results. The development of interview questions, participation criteria and sample selection were all depending on the results we received from the statistical analysis. We followed the construct validity and quantitative reliability strategies to ensure validities of our quantitative study. On the other hand, in our qualitative study, we focused more on the validity side than the nature of reliability. Validity at this stage was ensured by scrutinising credibility and trustworthiness of the articulation of interview comments. We achieved this by keeping ourselves neutral to the judgment of the issues identified from the interview transcripts. At times this appeared hard due to the passion for the subject and national interest of the industry. Our quantitative results helped us to a large extent to preserve neutrality in accounting interviews. The inference followed two distinctive stages as we understood mixed-method research needs to be concluded on the interpretations drawn from separate quantitative and qualitative studies and also across those studies to conceive the whole picture. Teddlie and Tashakkori (2009) called the separate interpretation inference and the combined one meta-inference. At the meta-inference stage, we took a consistent look at the whole data that synthesised both qualitative and quantitative. Therefore, the data analysis occurred in three phases. Phase one was where the quantitative analysis took place. Phase two was for the qualitative data, and at the final phase, qualitative data helped to explain quantitative data. To give an example of the difference in inference and meta-inference we can take a look into the geographic distance variable. Statistical analysis supported the hypothesis based on the geographic distance variable *H9*. Therefore we inferred at this stage that geographic distance matters and trading partners were possibly located geographically at close proximities. However, interestingly qualitative interview questions on geographic distance had not produced any adverse impact. All interviewees unequivocally said geographic distance did not matter in trading partner selection and almost all importers were thousands of miles away from exporting country. The average geographic distance measured was (4800 miles). Therefore, we inferred that geographic distance had not impacted on trading partner selection unless it increased the cost of trading. At the final stage of meta-inference, we concluded that geographic distance effect is more of a statistical phenomenon in apparel trade analysis. It may have an adverse impact on other industries’ international trading but not in apparel. Within the scope of the sector in question, it is the cost of production more than anything that influenced trade partner selection. Thus we reached a better understanding of a phenomenon from multi-stage inference. Another apposite example of explaining initial quantitative finding with the qualitative follow-up is what we mentioned earlier in relation to hypothesis *H1.* Our quantitative analysis found an unusual negative correlation for hypothesis *H1*. It is generally understood that economic growth leads to better governance and *vice versa*. However, we found that growth in the industry had no positive correlation with governance. Puzzled with this finding, we approached our qualitative data where we discovered that our interviewees explained how imposed political stability could damage long term governance performance. This unusual finding led to a whole new understanding of growth and governance phenomenon. We envisage that we will discuss this phenomenon in greater detail in a future article.

**Conclusion**

In this paper, we present an example of a mixed-methods research design to assist researchers new to this methodological approach. We suggest that having a pragmatic mindset and actionable research tactics is the way forward from philosophical and procedural issues in conduction mixed-methods research. We are aware that many willing researchers shy away from mixed-methods studies in a quantitative focus discipline for fear of being a rule breaker. However, the effectiveness of a mixed-methods approach in providing better understanding within broader social science subject groups outweighs the possible backlash for falling out of the discipline’s tradition. Therefore, we propose that it is more important to understand the socio-political phenomena guiding the research question than to rigorously follow the tradition of research that may not outline the complete picture of the phenomena. We believe that in a particular research, addressing the research question rigorously to reach a robust conclusion is more important than the process it follows. We are also optimistic that in the near future new studies will find more efficient ways of conducting mixed-methods research. Our hope is in the evolutionary aspect of this methodology which will deliver more generalizable aspects of mixed-methods findings.

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1. Dissemination of this study in the form of a journal article is a work in progress. More detail can be provided upon readers’ request. [↑](#footnote-ref-1)
2. Export=1, Import=2 [↑](#footnote-ref-2)