Application of Package Based Data Analysis: An Explanation with Service Sector Research Study

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OVERVIEW OF THE SERVICE SECTOR

Introduction

In the recent past, many changes have happened in all most all the sectors in the world and these changes have inspired the scholars to come up with new initiatives to uplift the living standards of people. One of the key drivers of the changes in the resent past is globalisation. Globalisation has become a crucial phenomenon with profound impacts on many sectors. Most important thing about globalisation is that it can be an opportunity and a threat at the same time. Organisations which are highly adaptable to this changing nature of the global market have been able to capitalise on the opportunities of the globalisation. This unstoppable phenomenon has captured the global banking sector too. There have been many changes happening in the way the certain aspects of the banking industry are conceptualised and functioned.

Background

Following the prolonged war, Sri Lankan economic growth has rebounded significantly. Amongst the other sectors, banking sector continues to dominate the financial sector by accounting for 52 percent of the total assets of the financial system. The government has intensified its investments on infrastructure development and is working based on the five hub concept i.e. Port, Aviation, Energy, Knowledge and Commerce. Therefore, the banking industry has a vital role to play in this unique post conflict development to aggregate economic growth in providing financial services to those emerging market opportunities. Improving the performance of the banks can be identified as one strategy of capitalizing on the emerging market opportunities. Improving the performance can be achieved through improving the quality of the banks.

Quality of service industry. Quality is a highly discussed and researched area. Quality management is used in organisations as a means of improving the performance (Prajogo & Sohal 2002) and it emerged in the process of finding how to run an organisation better (Peters, 1999). World economy is becoming dominated by the service sector (Gupta, McDaniel, & Herath, 2005). Therefore, quality management of services has attracted a lot of attention and importance in quality management literature. Interestingly, research on service industry has found that quality of service is a major determinant of the success of service organisations (Bharadwaj & Menon, 1993). Further, they found that the quality of service is positively related to profitability and market share of the organisation. Confirming the above finding, Lockwood (1994) says that quality of service delivery can create significant strategic advantages to organisations to face difficult market conditions. According to the literature review done by Posselt and Förstl (2011), the main determinant of service quality is the employee expertise. They elaborate employee expertise as the capability of winning the trust of customers through the demonstration of strong behavioural competencies like displaying motivation, friendliness, courtesy, and efficiency. Furthermore, they state that ability to understand the customer's needs is essential in fulfilling their expectations of the service offering. This is confirmed by Gupta, McDaniel, and Herath (2005). They say that customer service and quality of customer service is crucial to gain competitive advantage to a service organisation. Therefore, it can be stated that there is implications in literature that by improving the customer-provider interface of a service encounter, the performance of the service organisation can be improved. Consequently, research suggests that human resources management (HRM) could be very useful in improving the customer provider interface (Iqbal, Arif, & Abbas, 2011). Furthermore, it is found that HRM is the key to sustained quality improvement of service organisations and HRM plays a major role in implementing quality management systems (Batt & Moynihan, 2006; Bowen & Lawler, 1992;

Gur, 2011; Irfan, Mohsin & Yousaf, 2009). Research suggest that HRM could be very useful in improving the customer provider interface and there by the performance of universities (Iqbal et al., 2011). Further, it is found in service quality literature that the quality of the organisation depends on the quality of the frontline employees. Jackel (2011) states that selection of appropriate frontline staff is a critical factor in ensuring the quality. At the same time, research has found that customer perception of the service offered is a main determinant of the service quality (Edvardsson, 1998; Groth & Dye, 1999). Further, the perception of customers of the service quality should be given priority to stay profitable and retain customers (Schneider, White, & Paul, 1998). It was identified that the construct of 'quality' of services is studied and measured from the customer perspective (Brady & Cronin, 2001; Siddiqui & Sharma, 2010). In other words, quality is measured as the perceived quality of customers. Perceived quality is defined as a consumer's judgment about an entity's overall excellence or superiority (Parasuraman, Zeithaml, & Berry, 1988). Interestingly, research has found frontline employees who directly interact with customers play a key role in creating a positive or a negative image in customer's mind (Alexandrov & Babaku, 2007).

As discussed above, literatures on service quality suggest that the customer – service provider interface is important in determining service quality of a service provision. Johnston (1995) states that the intangible aspects of the customer-service provider interface have a significant impact on perceived service quality. Study done by Liljander and Strandvik (1997) confirms the above doubt by finding that positive or negative emotions created in a customer in a service encounter influence the perceived service quality. Edvardsson (2005) provides evidence to the above by stating that emotions play a major role in forming perceptions about service quality. Further, research finds that emotions management of service providers has an impact on the emotions of the customers (Hochschild, 1983; Kernbach & Schutte, 2005). Therefore, there is implication in research that emotions

management of service providers has an impact on the perceived quality of service offered by them.

Gender and service quality. Service industry pays special attention to gender of the frontline employees (Mathies & Burford, 2010). Further, Mathies and Burford (2010) state that some service industries are dominated by one gender stereotype over the other. For example, the right gender for the job of a flight attendant is considered to be female. Furthermore, Babin and Boles (1998) state that service delivery is more emotionally exhaustive for females than males. It is confirmed by the findings of Mathies and Burford, (2010) and Lin, Chiu, and Hsieh, (2001). According to Lin et al. (2001), females are more emotional than males and that is due to the inherent gender differences. Additionally, there is evidence in research that there is a gender difference in emotions management of employees (Bennie & Huang, 2010). In accordance with that many studies have found that the level of emotional intelligence of males and females differ (Petrides & Furnham, 2006; Schutte, et al., 1997).

Emotions. Throughout the history scholars have studied about emotions related to various disciplines; in medicine related to brain functions and nervous systems, in sociology emotions in interpersonal relationships, in human resources management emotions in organisations and in aesthetics emotions are used and represented using music, painting and drama (Berkman & Lieberman, 2009; Phan et al., 2004). Even today studies on emotions are carried out and the importance of studying about emotions keeps on increasing (Fletcher & Clark, 2003; Grandey, 2000; Green, 2009; Gross & Thompson, 2006). According to Green (2009), there are three reasons to pay increased attention on understanding emotions. First reason is, in the past, emotions were considered to be private and personal. Those days the general acceptance was emotions are generated based on personal discretion. But recent studies on emotions have found that the society, social environment of individuals and the social role of the individual play a main role in generation or construction of emotions (Green,

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2009; Hochschild, 1983; Mann, 1999). Second, emotions were considered to be irrational and dysfunctional in workplaces and in decision making (Grandey, 2000; Green, 2009; Lakomski, 2010). Therefore, it was believed that emotions should be managed or removed from workplaces to enhance work. Third, emotions were considered to be subjective which were considered difficult to measure or evaluate with the existing theories and tools (Green, 2009). These three reasons describe the complexity of emotions and they increase the significance of studying about emotions and emotions management at workplace. Therefore, to proceed with the current study of understanding emotions management and its relationship with the perceived service quality, it is important to understand what emotions are.

Defining emotions is not an easy task as the word emotion has no clear boundary (Gross, 2006; Scherer, 2005). According to Gross (2006), the nature of emotions vary from mild to intense, brief to extended, simple to complex, and private to public. This complicated nature of emotions has made it difficult to construct one definition which captures the full dimension or the scope of emotions. Therefore, most scholars try to identify the features of emotions. Hall (1998) states that even though there are many different types of emotions three common characteristics of emotions can be identified. Those are; 1. Emotions are largely non-purposeful and instinctive, which means that the emotions that humans express common to most mammals. 2. Emotional behaviours are related to the brain and the autonomic nervous system. 3. Emotions are innate to a large degree. For example, sociologists have found that facial expressions associated with the basic emotions such as fear, anger, and happiness are the same across cultures. Further, studying in to the characteristics of emotions, Gross (2006) identifies three features of them. First feature is related to what gives rise to emotions. It is said that emotions arise depending on the situation and with relation to the current goals of the individual. Further, it can be elaborated as the cause of arousal of

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an emotion depends on the meaning or the interpretation of the current situation of an individual. If the situation, individual or the meaning the situation holds for that individual changes, then the emotion will also change. In simple words, it is an individual's appraisal of a situation that gives rise to a particular emotion (Eysenck & Keane, 2000; Lazarus, 1993; Nezlek, Vansteelandt, Mechelen, & Kuppens, 2008).

Second feature identified by Gross (2006) is about the fundamental components of emotions. According to him, functions of emotions involve the whole body of an individual. Specifically, changes in subjective experience, behaviour and central and peripheral psychology domains are directly involved (Ekman, 1999; Phan et al., 2004). The subjective experience is what one feels or feels like doing in a given situation (Nezlek et al., 2008). These feelings or impulses lead to behavioural responses or in simpler terms feelings lead an individual to act in a certain manner. These behavioural responses are generated by the changes in the central and peripheral nervous system with the metabolic support provided for action. This combination of the psychological and behavioural responses system involved with emotions play a vital role in development of emotion in an individual from their infancy, through their early childhood.

Third feature identified by Gross (2006) is the malleability of emotions. According to Gross (2006), emotions are such that they can interrupt what an individual is doing and force themselves upon the awareness of the individual. Emotions are viewed as response tendencies that can be modulated in a large number of ways too. Most interesting thing about the third feature of emotions is that it gives rise to the possibility for managing, controlling or regulating emotions.

Further, in the framework of component process model another model developed to describe emotions, emotions are defined as "an episode of interrelated, synchronised changes in the states of

all or most of the five organismic subsystems in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism" (Scherer, 2001 as cited in Scherer 2005, p. 697). By carefully looking at this definition we can notice that the some features of emotions identified by Gross (2006) is also there in this definition too. This definition talks about the second feature of the Gross's definition. That is the involvement of whole body and all the subsystems of a human body in responding to internal or external stimulus. Damasio (2003) defines emotions as "a collection of changes in body and brain states triggered by a dedicated brain system that responds to specific contents of one's perceptions, actual or recalled, relative to a particular object or event" (as cited in Bechara & Damasio, 2004, p. 339). By looking at Damasio's definition, it can be noticed that it also confirms the three features identified by the definition of Gross (2006). All the three definitions commonly identify the external and internal triggers of emotions, integration of mind and body in responding to emotions and the subjectivity or individuality of emotional responses. Therefore, a working definition for emotions can be constructed for this study as "a collection of behavioural psychological or cognitive changes in an individual to an evaluation of external or internal stimuli".

After identifying the definition of emotions and with the understanding that emotions have a feature which can be managed or regulated, it is important to look at the ways of managing them in work settings.

Many studies suggest that emotional intelligence is a stronger predictor of job performance (Naseer et al., 2011). Therefore, it is widely used in studies to understand the employee performance. Salovey and Mayer (1990) define emotional intelligence as "the ability to monitor one's own and others' feelings, to discriminate among them, and to use this information to guide one's thinking and action" (p. 186). In this definition some key components of emotional

intelligence can be identified as: 1. identifying one's own emotions and emotions of the others, 2. using emotions effectively and efficiently, 3. understanding variations of emotions, 4. Managing or regulating one's own emotions and emotions of others. Daniel Goleman, a pioneer of research in the field of emotional intelligence, identifies five competencies of emotional intelligence as self-awareness, social awareness, self-management, self-motivation and relationship management (Culver, 1998; Stys & Browns, 2004). Emotional intelligence model suggested by Salovey and Mayer (1990) operationalise emotional intelligence competencies as identifying, using, understanding and managing one's own and others emotions. In Goleman's operationalisation of the emotional intelligence construct, the recognition and regulation of one's own emotions are considered separately from other's emotions recognition and regulation. The other main measure of emotional intelligence is the Bar – On model. It has four components namely: interpersonal, intrapersonal, adaptability and stress management (Barackett & Mayer, 2003). Interestingly, research has found that there are significant similarities between the different measures of emotional intelligence (Barackett & Mayer, 2003). Cameron (2004) operationalises emotional intelligence as a combination of seven dimensions, namely: Innovation, Self-Awareness, Intuition, Emotions, Motivation, Empathy and Social Skills. These seven dimensions are based on the findings of Goleman (1995), Mayer and Salovey (1993) and Cameron (2004). They are determined to measure the level of emotional intelligence in a work setting. Further, emotional intelligence is considered as a major antecedent of emotional labour (Johnson, 2007) and the level of emotional intelligence of individuals has many consequences such as stress and burnout, employee satisfaction, leadership qualities and performance.

CRITICAL REVIEW OF LITRATURE

Introduction

      This chapter presents the conceptualisation and the theoretical framework of the study. Selected constructs of the study, relationships between them, conceptual framework development and the operationalisation of constructs are presented here. In addition, hypotheses of the study are also derived in this chapter.

Emotional intelligence and Perceived Quality of Service

      Emotional intelligence is the other main construct of the study. An important finding is that higher the level of emotional intelligence employees experience more positive emotions, they are more empathic and more able to manage customers' emotions (Mikolajczak, Menil, & Luminet, 2007). In addition to that, it was noticed that employees with higher levels of emotional intelligence confronted with less difficult situations with customers. Therefore, it can be argued that level of emotional intelligence of service providers will impact the quality of their service. Since banking employees are conceptualised as service providers throughout this study, it can be concluded that level of emotional intelligence of them will be a main determinant of their service quality. Therefore, a hypothesis can be raised as:

> **H1**: Emotional intelligence is positively related to the perceived service quality of the banker

Gender as a moderator

Gender difference is a widely studied topic in management literature. Gender differences in levels of emotional intelligence and usage of emotional labour strategies in widely discussed in research (Brotheridge & Grandey, 2002; Erickson & Ritter, 2001; Meier, Mastracci, & Petrides & Furnham, 2006; Schutte et.al, 1997; Wilson, 2006). Further, service industry pays special attention to gender of the frontline employees (Mathies & Burford, 2010). Further, Mathies and Burford (2010) state that some service industries are dominated by one gender stereotype over the other. For example, the right gender for the job of a flight attendant is considered to be female. Furthermore, Babin and Boles (1998) state that service delivery is more emotionally exhaustive for females than males. It is confirmed by the findings of Mathies and Burford, (2010) and Lin, Chiu, and Hsieh (2001). According to Lin, Chiu, and Hsieh (2001), females are more emotional than males and that is due to the inherent gender differences. Further, Sánchez-Núñez et al. (2008) say women are better in identifying emotions of others, high in empathy and they are more understanding. Their study confirms that women report a high level of emotional intelligence than men. It is confirmed by the past studies (Petrides & Furnham, 2006; Schutte, et al., 1997). Additionally, Norsby (2007) states that the usage of emotional faking or emotional suppression is more for males and females use genuine emotional expression of expected emotions more. There is evidence in research to confirm that finding (Brotheridge & Grandey, 2002; Erickson & Ritter, 2001; Meier, Mastracci, & Wilson, 2006; Wharton, 2009) Therefore, it can be stated that there is implications in research to say that gender moderates the relationship between emotions management and perceived service quality of bankers. Hence, the hypotheses can be raised as:

H2: Gender moderates the relationship between the emotional intelligence and perceived service quality of bankers such that for women perceived quality of service is more than for men

Operationlisation

Emotional Intelligence. Emotional intelligence is operationalised different ways by different scholars. Those different definitions and operationalisations are described in Chapter 2. As mentioned in Chapter 2, research has found that there are significant similarities between the different measures, operationalisations of emotional intelligence (Barackett & Mayer, 2003). Based on the findings of Goleman (1995), Mayer, and Salovey (1995) , (as cited in Cameron, 2004) seven dimensions of emotional intelligence which are determined to measure the level of emotional intelligence in a work setting. Those seven dimensions are: Innovation, Self-Awareness, Intuition, Emotions, Motivation, Empathy and Social Skills. Definitions of these dimensions are given in Table 3.1. In this research, self-report emotional intelligence in the work setting should be measured. Therefore, work profile model on emotional intelligence developed by Allan Cameron (2004) is used to measure the level of emotional intelligence of the bankers.

Table 3.1

Definitions of the dimensions of Emotional Intelligence

Dimension	Definition	Competencies
Innovation	Understanding your creative style coupled with the ability to generate creative responses to business problems yourself and through others.	• Generating ideas yourself and with others • Solving problems • Taking considered risks
Self-awareness	Understanding your strengths and weaknesses coupled with drive to improve your capability.	• Understanding your strengths and weaknesses • Actively seeking feedback on performance • Taking action to improve capability
Intuition	Using instinct, hunches and feelings along with facts and information to guide decisions.	• Using instinct and feelings along with information and facts in decision making • Learning to develop a sixth sense
Emotions	Recognising and understanding your feelings and emotions and managing their impact on other people.	• Recognising and understanding your feelings and emotions and • Managing the impact of emotions on others
Motivation	Achievement striving, energy, initiative and persistence.	• Getting things done and setting personal challenges. • Striving for quality, service and excellence
Empathy	Taking an interest in people and listening to their views, problems and concerns.	• Making time for people & listening to their views and concerns • Being sensitive to people's backgrounds, values and cultures and helping people to overcome problems and obstacles
Social skills	Building relationships with people and communicating effectively with them	• Building relationships and networks • Oral communication • Working as part of a team. • Handling social situations

Perceived Service Quality of bankers

Main focus of this study is on the service quality of the banking employees. In this study the banking employees who gets to directly deal with the customers are selected to measure the service quality. Therefore, the service quality dimensions should be identified to measure the quality of the service provided to the customers. To measure service quality of bankers the conceptual model of service quality proposed by Parasuraman et al. (1988) which is referred as SERVQUAL model is used. Operational definitions of the SERVQUAL construct to measure perceived service quality of bankers is presented in Table below.

Dimension	Definition
Reliability	ability to perform the promised service dependably and accurately
Responsiveness	willingness to help and provide prompt service
Assurance	knowledge and courtesy of employees and their ability to inspire confidence
Empathy	caring, individualised attention the firm provides its customers
Tangibles	Tangible aspects of service delivery

Control variables

An extraneous variable or a control variable refers to any variables that you are not intentionally studying (Saunders et al., 2008). According to Saunders et al. (2008), rather than there being just a few of these extraneous variables, there are likely to be hundreds or even thousands. In other words, it is impossible to avoid extraneous variables. Therefore, to improve the internal validity of the study, several control variables are identified and included. It is necessary to control extraneous variables so that results are not undermined by their effect. Age is identified as a variable which affects emotional

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intelligence (Berrocal, et al., 2007; Fariselli, Gihini, & Freedman, 2006). Therefore, age can also be introduced as a control variable of the study. Talebpour, Khurasghani, and Ghasemi, (2013) and Johnson (2007) identify job tenure as a controlling variable of emotional labour in their study. Therefore, job tenure is also introduced as a control variable.

Conceptual Framework

By considering the operationalisation of variables and the relationships identified, the conceptual framework of the study is graphically represented in Figure below.

Emotional Intelligence		Perceived service quality of the Bankers
1. Innovation 2. Self-Awareness 3. Intuition 4. Emotions 5. Motivation 6. Empathy 7. Social Skills	**H1** → **H2**	1. Reliability 2. Responsiveness 3. Assurance 4. Empathy 5. Tangibles
	Gender	
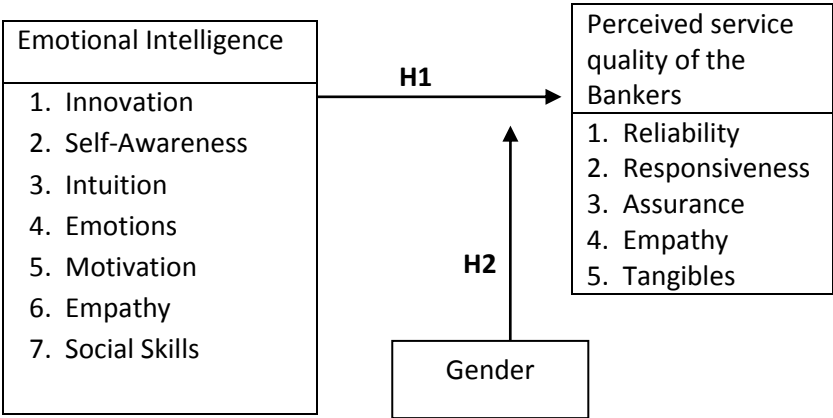
APPLICATION OF DATA ANALYSIS
FOR DECISION MAKING

Introduction

This chapter presents the results of the data analysis done using SPSS software package. Initial section of the chapter describes the data collection and the profile of the sample selected. Next section of the chapter presents the descriptive statistics and the preliminary analyses of the data. Final section of the chapter consists of the results of hypotheses testing done on the screened data which provide answers to the research questions.

Data collection and Response Rate

For the current study, sample consisted of the banking employees and their customers. A main criterion was the feasibility of collecting data from the bank. Feasibility of data collection was determined through several criteria such as obtaining permission, practicability of the data collector to visit the bank, and whether the English medium questionnaire can be used for data collection. Obtaining permission for data collection was through personal contacts of the data collector. Bank managers were contacted through personal contacts and permission to collect data was obtained. A letter of permission request was presented at the request of some bank managers. Questionnaire was distributed in bundles which consisted of one questionnaire for the banker and fifteen questionnaires for his/her customers. Questionnaire given to the banker was used to measure the level of emotional intelligence and the customer questionnaire was used to measure the perceived service quality of the banker. Out of 269 questionnaires distributed, 223 questionnaires (response rate of 82%) were collected. For analysis 204 questionnaires (final response rate of 75%) can be used for analysis. Rest of the questionnaires were rejected due to following reasons:

- Unavailability response from one party
- Incomplete responses with a major part of the questionnaire blank
- Unavailability of at least four responses from customers of a particular banker

Ultimately the usable 204 questionnaires were entered in to the data sheet for analysis. .

Data Entering

Data Editor. Two data sheets were used to record questionnaire A and B separately. Questionnaire A was used to gather data from the banker and for each questionnaire A, Questionnaire Bs (maximum of fifteen) were collected from customer of the banker. Data sheet A was prepared for the Questionnaire A and data sheet B was prepared for the Questionnaire B. At the time of distribution, all the questionnaires were given an identification number. Identification number of Questionnaire B was designed as a combined identification number which includes the identification number of Questionnaire A to enable to identify the customer' responses of each banker easily. Same identification numbers were used when the cases were entered in to the two data sheets.

Coding. Data collected in both questionnaire A and B are entered to the data matrix using a numerical code. Questionnaire A has a five point Likert scale and an eight point Likert scale. Questionnaire B has a five point Likert scale. Scale points of the Likert scales are used when coding the responses and personal/demographic information section of the questionnaires were coded separately.

Data Accuracy. It is very important to make sure that the data is entered accurately before conducting the analysis. Each scale in the questionnaire and the data item in the data sheet was double checked to see whether there are unusual codes are entered in the data sheet.

Range of each column was calculated and checked to see whether it exceeds the maximum range possible. In comparing the range, researcher was careful to refer to the maximum range of the respective Likert scale of each column. A random double check with the original responses was done for a sample of cases in the data sheet to see whether the data is accurate. Sample check was successful and no mistakes were observed. Therefore, the accuracy of the data sheet was confirmed.

Missing Data. At the point of data entering "999" was used to indicate the missing data item. After the data entry data sheet was double checked to see whether there are missing values due to mistakes of data entry. Then, the data sheet was carefully observed to see if there is a pattern in missing data or whether data is missing for a specific item or items. It was observed that the missing data was due to random carelessness of the respondent. Therefore, it was decided that it is not necessary to exclude a certain item or delete the case entirely. Some missing values were identified as mistakenly kept blank at the data entry and those were reentered. Further, another 10 missing values were identified in the data sheet and recommended imputation techniques of handling missing values were adopted (Hair, Black, Babin, & Anderson, 2010). Those missing values were replaced with the mean of the responses of the case under consideration. Replacement value was computed manually.

Descriptive Statistics

Table 3.1 represents the descriptive statistics of the key constructs of the study.

Table 3.1

Descriptive statistics of the main constructs of the study

	EI	TQ
Range	3.36	3.36
Minimum	1.37	1.60
Maximum	4.73	4.96
Mean	3.25	3.48
Std. Deviation	1.19	1.19
Variance	1.42	1.42
Skewness	-0.34	-0.34
Std. Error of Skewness	0.17	0.17
Kurtosis	-1.52	-1.52
Std. Error of Kurtosis	0.34	0.34

Note. EI – Emotional Intelligence, TQ - Perceived Service Quality

Preliminary Analysis

Preliminary analysis is conducted to ensure the assumptions of multivariate analysis are satisfied. According to Hair et al. (2010), departure from normality, homoscedasticity, linearity and multicollinearity can diminish the correlation between variables. Therefore, in this study, prior to conduct the factor analysis and hypothesis testing, normality, homoscedasticity, linearity and multicollinearity are tested.

Normality. One of the basic assumptions of the multivariate analysis is the normality of the data (Field, 2009; Hair et al., 2010). According to Mordkoff (2011), assumption of normality asserts that the sampling distribution of the mean follows a normal distribution. Further, if the assumption of normality is not met then the parametric tests cannot be conducted on the data. Thus, to ensure the normality of data, univariate normality is tested for all the data items and thereafter for all the variables (Hair et al., 2010).

To test the normality, skewness index and kurtosis index are used (Kline, 2011). According to Kline (2011), if the skewness index is less than 3 and kurtosis index is less than 10, then the data is sufficiently univariate normally distributed. Therefore, even though the histograms shows a deviation from normality, by looking at the skewness index and kurtosis index values of the main constructs of this study (Table 3.1), it can be concluded that all the main constructs follow a univariate normal distribution.

Linearity. The other most important assumption of multivariate analysis is the linearity of the data set (Hair et al., 2011). This assumption asserts that there is a straight line relationship between each two variables. Therefore, all the data items in the data set were examined for linearity using the scatter and residual plots. It was observed that all the scatter plots are scatter around zero and have an oval shape (Appendix C- Figure 3.3 and 3.4). Therefore, the linearity of the data is assured.

Homoscedasticity. In this assumption data is examined to find out whether the variances of their error terms are constant over the predictor variables (Hair et al., 2010). In this study the graphical approach is used to measure the homoscedasticity. According to Field (2009), the residual plots are examined to see whether the graphs funnel out, which indicates the presence of heteroscedasticity. The residual plots drawn to observe linearity were used for this purpose

too. In the graphs drawn for the current study no such funneling was observed. Therefore, it can be concluded that the data is homoscedastic.

Multicollinearity. According to Hair et al. (2010), if multicollinearity exists with the variables in the study, then the results will be misleading due to the inflation of standard errors. That can adversely affect the statistical significance of the parametric tests. Therefore, for the current study correlations among the constructs, Variance Inflation Factor (VIF) and Tolerance statistics are used to test multicollinearity. Generally accepted threshold level of VIF is 10 (O'Brien, 2007) and the tolerance value should be closer to 1 (Field, 2009). By looking at the VIF and Tolerance values in Table 3.2, it can be concluded that the current study is free of multicollinearity. Therefore, no remedial actions are required.

Table 3.2
Multicollinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
EI	.201	4.980

Note. EI – Emotional Intelligence

Validity. Validity is the extent to which the measures used in the study represent the constructs (Hair et al., 2010). Validity is assured as internal validity and external validity (Saunders et al., 2011). Internal validity of the study is discussed in this chapter and the external validity is explained in the next chapter. In assuring the internal validity the content validity, criteria validity and the construct validity is tested for the current study.

Content validity is the assurance that the content used in questionnaires are the valid content to measure what is supposed to measure. Measures used in the study are developed by experts in the relative fields and those measures are considered to be standard measures of each of the constructs used in this study. Further, credibility of the developers and their usage in previous studies are mentioned in chapters two and three. This assurance is obtained by the experts in the human resources management, marketing management and banking. A series of discussion was conducted with three senior lecturers that have expertise in research in marketing management and human resources management. They confirmed the suitability of the items in the two questionnaires to measure the independent and the dependent variables. Therefore, it can be stated that the measures used in the current study are with the satisfactory level of content validity.

Criterion related validity is the next type of validity that should be assured in the study. According to Saunders et al. (2010), criterion validity is the ability of a measure to make accurate predictions. As standard measures are used in the study for all the constructs used it can be considered that the criterion validity is met. Therefore, criterion validity is not tested using statistical tests.

Construct validity is the third type of validity that should be assured in the study. Construct validity is the degree to which the empirical data collected by an instrument actually relate to its theoretical operationalisation (Hair et al., 2010). This is the most commonly and widely used measure of validity in research. Construct validity is tested in two sub categories; convergent validity and discriminant validity (Hair et al., 2010). According to Hair et al. (2010), convergent validity is that the items of a construct which are theoretically related are actually related and discriminant validity is the items of a construct that are not theatrically related are actually not theoretically related. Factor analysis is used to test the construct

validity (Field, 2009). There are two types of factor analysis; exploratory and confirmatory factor analysis. Confirmatory factor analysis is used to confirm that the factor structure of the data collected is same as the factor structure suggested in theory (Byrne, 2001 as cited in Wang & Ahmed, 2004). In the current study since standard measurements are used to measure the construct, confirmatory factor analysis should be used to confirm the theoretical factors with the actual factor loadings.

In accordance with the above, a confirmatory factor analysis was conducted for each measure. AMOS 16.0 was used for this purpose. Confirmatory factor analysis is the most commonly used method to check the construct validity (Wang & Ahmed, 2004). Purpose of conducting the confirmatory factor analysis is to check the construct validity of each construct. Therefore, a separate path diagram was drawn for each construct to observe the validity individually.

Factor analysis for the construct – emotional intelligence. The work profile model on emotional intelligence developed by Allan Cameron (2004) will be used to measure the level of emotional intelligence in the current study. In this measure, seven dimensions are identified where each dimension is measured using twelve items. Exploratory factor analysis was conducted for the collected data set for the construct emotional intelligence and the factor loadings are given in the Appendix D – Table 3.6. According to Table insert number here not say above or below, eight factors are extracted where only six factors are with factor loadings greater than 0.5 and all the factors have higher loadings on to the first six factors. In the operationalisation of the emotional intelligence construct, seven dimensions are identified. But in the exploratory factor analysis the items for innovation and intuition load to one factor. By the definition of innovation and intuition it was noticed that no clear distinguish is not there between the two dimensions. Therefore, it can be concluded

that the respondents have treated the two dimensions as one. Hence, a new dimension was created for the study by combining the items of innovation and intuition. It was observed that all the factor loadings are higher than 0.5 for emotional intelligence construct. Therefore, it can be concluded that the emotional intelligence measure is of high construct validity.

Factor analysis for the constructs –perceived service quality of bankers. For perceived quality of bankers constructs, confirmatory factor analysis was conducted after conducting the exploratory factor analysis. Operationalisation of perceived quality of bankers identified six dimensions and the exploratory factor analysis extracted six factors in accordance with the theoretical operationalisation. Thereafter in the confirmatory factor analysis it was found that all the estimated factor loadings were higher than 0.5. That ensures a high construct validity for the construct perceived service quality of bankers (Appendix D- Figure 3.5).

Reliability. Reliability is the consistency of results/findings generated by a measure in varying conditions in repeated usage (Nunnally, 1967 as cited in Cortina, 1993). Reliability ensures the dependability, consistency and the accuracy of a measure and thereby it increases the generalizability of the findings (Cronbach, 1951). To ensure the reliability of the study Cronbach's alpha is used. According to Nunnally (1978), Cronbach's alpha should be greater than 0.7 to ensure reliability of the measures. Cronbach's alpha coefficients calculated for the measures in the current study are presented in Table 3.3. According to Table 3.3, it can be concluded that all the measures used in the study are with a high reliability.

Table 3.3
Reliability Statistics of the Measures

Measure	Cronbach's alpha	Number of items
EI	0.993	84
TQ	0.949	22

Note. EI – Emotional Intelligence, TQ - Perceived Service Quality

Hypotheses Testing

This section of the chapter presents the findings of the hypotheses tests conducted. Eleven hypotheses are tested by using the data collected in the study. Regression analysis is used to test the claims stated in the hypotheses. All the hypotheses used in the current study try to test a relationship or an impact between two or more variables. Therefore, regression analysis is the most appropriate way of testing the hypotheses.

All the assumptions needed to be tested before using parametric tests are conducted and justified in the preliminary analysis section of this chapter. Therefore, it is confirmed that the data collected in this study are suitable for hypothesis testing using regression analysis. Other than the main constructs of the study, one moderating variable – Gender of the banker and three controlling variable; Age of the banker, Tenure of the banker and whether the bank is offered is a state bank or not are used in the analysis. Out of the control variables other than the tenure of the banker, all the other variables were in the nominal or the ordinal scale. Therefore, those were converted to dummy variables to use in the analyses.

Testing the direct effect of independent and dependent variables

First set of hypotheses in the study are raised to test the direct relationship between the independent and dependent variables. Stepwise multiple regression or the hierarchical multiple regression is used to test the direct relationship. In step 1, all control variables were entered, and in step 2 the independent variable is entered. In this section, results of the testing of Hypotheses are presented.

Testing the Hypothesis 1. Findings of the regression analysis for hypothesis 1 is given in Table 3.4. Hypothesis 1 is:

H1: Emotional intelligence is positively related to the perceived service quality of the banker

To test this hypothesis the same procedure used above is used with the independent variable emotional intelligence. Model 1 comprises of the dummy variables of age categories of the respondents, gender, whether the bank is state or non-state and the years of experience of the bankers. Consequently, the independent variable- emotional intelligence was added to Model 2 with the dependent variable – perceived service quality of a banker in addition to the control variables mentioned above.

By referring to the values of the Model 2 in Table 3.4, it can be concluded that there is a positive relationship between the emotional intelligence of a banker and the perceived service quality of a banker. It is stated by referring to the positive β coefficient of emotional intelligence of a bankers in the Model 2. It can be further stated that if the standard deviation of emotional intelligence of a bankers is increased by one unit, then there will be a 0.24 increase in the standard deviations of perceived service quality of a banker. In addition to that it is noticed that the *t* value (4.02) of the standardised β coefficient of the construct emotional intelligence of a banker is significant ($p = 0.000$).

Additionally, according to the model summary outputs, it can be stated that the contribution of control variables alone to the variance of the perceived service quality of a banker is 59% (Model 1 $R^2 = 0.59$). Once the independent variable emotional intelligence of a banker is added to the model there is an additional contribution of 5% to the variance of perceived service quality of a banker ($\Delta R^2 = 0.05$). Further, it is noticed that the ΔF statistic is significant for both Model 1 and 2 at 0.05 level of significance. Therefore, it can be concluded that the addition of the independent variable - emotional intelligence of a

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banker increased the predictability of the model significantly. By considering all the above, it can be concluded that the H1 is supported by the data.

Table 3.4
Model summary of hypothesis testing – H1

Variables	Model 1			Model 2		
	$β$	t	Sig.	$β$	t	Sig.
Control Variables						
Tenure	-0.38	-0.33	0.74	-0.09	-0.84	0.40
Gender	0.59	10.16	0.00	0.54	9.42	0.00
State/Non-state	0.02	0.39	0.69	0.01	0.09	0.92
Age						
35-36	0.62	0.72	0.48	0.10	1.19	0.24
36-45	0.69	0.71	0.48	0.07	0.69	0.49
46-55	0.60	0.46	0.64	0.12	0.92	0.36
Independent Variable						
EI				0.24	4.02	0.000
Model Summary Statistics						
R		0.59			0.63	
R^2		0.35			0.40	
Adjusted R^2		0.33			0.38	
$Δ R^2$		0.35			0.05	
$ΔF$		17.58			16.19	
Sig. $ΔF$		0.000			0.000	

Testing the moderating effect of Gender

Second set of hypotheses of the study are raised to test the moderating effect of gender. To test the moderating effect, stepwise moderated multiple regression was used. For that purpose interaction terms for each hypothesis were manually calculated using SPSS. In testing for the moderation effect, in the first step the controlling variables were entered, in the second step the moderating variable and the independent variable were added and in the third step the interaction variable was added. Hypotheses 2 is tested and the findings are presented below.

Testing the hypothesis 2. Model summaries of the moderation effect test for hypothesis 2 is given in the Table 3.5. Hypothesis 2 is:

H2: Gender moderates the relationship between the emotional intelligence and perceived service quality of bankers such that for women perceived quality of service is more than for men

In testing the hypothesis, three models were used. Model 1 comprises of the dummy variables of age categories of the respondents, whether the bank is state or non-state and the years of experience of the banker. In the Model 2 the predictor variable emotional intelligence and moderator- gender was added. Product of gender and emotional intelligence was added as the interaction variable in Model 3.

By referring to Table 3.5, it can be stated that the ΔR^2 in the Model 3 is not significant (0.445 > 0.05). Therefore, it is concluded that there is no moderating effect of gender between emotional intelligence and the perceived service quality of bankers. Hence, the Hypothesis 2 is not supported.

Table 3.5
Model summary of hypothesis test – H2

Variables	Model 1			Model 2			Model 3		
	β	t	Sig.	β	t	Sig.	β	t	Sig.
Control Variables									
Tenure	-0.02	-0.14	0.89	-0.09	-0.84	0.40	-0.09	-0.84	0.40
State/No state Age	0.06	0.84	0.40	0.01	0.09	0.92	0.01	0.01	0.24
35-45	0.06	0.59	0.56	0.10	1.19	0.24	0.09	1.11	0.27
45-55	-0.01	-0.07	0.95	0.07	0.69	0.49	0.07	0.69	0.49
>55	0.03	0.18	0.86	0.12	0.92	0.36	0.12	0.94	0.35
Independent Variables									
EI				0.24	4.02	0.000	0.27	3.24	0.001
Gender				0.54	9.42	0.000	0.66	3.98	0.00
Interaction Term									
Gender * EI							-0.15	-0.77	0.445

Model Summary Statistics			
R	0.09	0.63	0.64
R²	0.01	0.40	0.40
Adjusted R²	-0.02	0.38	0.38
Δ R²	0.01	0.39	0.002
ΔF	0.29	63.75	0.59
Sig. ΔF	0.913	0.000	0.445

TEACHING NOTE

Main objective of the study was to find out whether the level of emotional intelligence of bankers in banks of Sri Lanka impact the customers' perceived quality of bankers. It is found that, emotional intelligence is positively related to the perceived service quality of the banker (Hypothesis 1). Therefore, it is confirmed that if the level of emotional intelligence is high in a banker then their perceived quality of service is high in the Sri Lankan banks. Grandey (2000) states that people with high levels of emotional intelligence are skilled in handling social encounters effectively. As a result of that both parties involved in the social encounter get a positive feeling about the situation (Grandey, 2000). This leads to a quality service encounter. In line with the findings of the current study, previous studies confirm that emotional intelligence is positively related to perceived service quality (Basharat & Raja, 2013; Radha & Prasad, 2013).

Next objective of the study was to find out whether the gender moderate the relationship between emotional intelligence and customers' perceived quality of bankers. It was tested using Hypothesis 2 and it was not supported by data. Therefore, it is found that in the study context there is no moderating impact of gender on the relationship between emotional intelligence of the bankers and their perceived quality. In other words, gender of the banker does not affect the relationship between their level of emotional intelligence and perceived service quality. As stated in previous chapters, even though past research imply that gender is a possible moderator between emotional intelligence and perceived service quality data in this context fail to confirm a moderating effect of gender between the two constructs.

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APPENDIX A
QUESTIONNAIRES

Dear Participant,

I am conducting a research on the impact of emotions management of bankers on the perceived quality of service for a study purpose,

I am inviting you to participate in this research study by completing the **Questionnaire A** which will approximately take twenty minutes to complete. Further, your permission is requested to get **Questionnaire B** (10 questionnaires – by customers) filled by your customers.

Please return the completed Questionnaire A on or before ------------------- to me or to the person who handed over the questionnaire to you.

The information provided will be treated confidential and will only be used for study purposes. If you require additional information or have questions, please do not hesitate to contact me at the number listed below.

Thank you for taking the time to assist me in my educational endeavors.

Sincerely,

Ms. Shanika Wijenayake
Lecturer – Department of Marketing Management
University of Kelaniya

Questionnaire A

- Consider each of following statements and place a check mark (√) in the appropriate column to indicate how far each statement applies to you.

- Try to answer the questions in terms of how you behave at work or approach work situation as it is your behavior at work that I am are interested in.

- Be honest when answering the questions.

- There is no time limit, but do not spend too long on each question, your first reaction will usually be the best response.

- Try to avoid using the middle answer, unless you think that is your best answer.

- If you need to change an answer, cross out your answer clearly and place a check mark (√) in the correct box.

Questionnaire A

Part A- Personal Information

1. Gender

Male			Female	

2. What is your highest level of education?

Masters		Doctoral Degree	
MPhil		Post Graduate Diploma	
Bachelors Degree		Professional Qualification	

3. Age

25-35 years		36-45 years	
46-55 years		56-65	

4. Tenure:

5. State or Non State Bank:

Questionnaire A

Answer the questions in terms of how you behave at work or approach work situations		Always or Almost Always	Very often	Fairly often	From Time to Time	Never or Almost never
1	I have been willing to take a gamble					
2	I have looked for evidence to support my hunches					
3	I have had a sense of humor about myself					
4	I have confronted bias and intolerance					
5	I have made personal sacrifices					
6	I have understood people's needs and concerns					
7	I have been extrovert and outgoing					
8	I have done things by the book					
9	I have been afraid of trusting my instincts					
10	I have hesitated to ask for feedback					
11	I have gone ballistic when people have let me down					
12	I have done just enough work to get by					
13	I have been unable to find time to listen					
14	I have preferred to do things by myself					
15	I have generated novel ideas about how to do things differently					
16	I have sensed when something was wrong					
17	I have taken time to reflect and introspect					
18	I have taken setbacks in my stride					
19	I have been an example to others					
20	I have let people know that I was available to help out					
21	I have encouraged debate and open discussion					

Questionnaire A

Answer the questions in terms of how you behave at work or approach work situations		Always or Almost Always	Very often	Fairly often	From Time to Time	Never or Almost never
22	I have left others to argue for change					
23	I have tended to ignore my gut feeling					
24	I have been blind to my problem areas					
25	I have got irritated easily					
26	I have felt my life was a rat race					
27	I have neglected other people's feelings					
28	I have avoided drawing attention to my self					
29	I have adapted quickly to change					
30	I have relied on whether a decision felt right					
31	I have worked with someone else whose strength I lacked					
32	I have recovered quickly from stress					
33	I have tried to make work fun					
34	I have shared the credit for my successes					
35	I have been prepared to speak up and point out problems					
36	I have shied away from taking risks					
37	I have been unaware of what was going on around me					
38	I have found it hard to admit personal failings					
39	I have experienced lot of highs and lows					
40	I have felt that I was not making a difference					
41	I have wanted be left alone					
42	I have revealed little about myself					
43	I have shown a flair for working on innovative projects					

Questionnaire A

Answer the questions in terms of how you behave at work or approach work situations	Always or Almost Always	Very often	Fairly often	From Time to Time	Never or Almost never
44	I have made quick decisions intuitively					
45	I have tried to be receptive to honest, direct messages					
46	I have worked things out by talking					
47	I have set challenging goals for myself					
48	I have sensed people's feelings and perspectives					
49	I have developed close friendships among work associates					
50	I have preferred stability and continuity to frequent change					
51	I have been afraid of letting my emotions guide me					
52	I have been reluctant to ask for advice					
53	I have been obvious to how my emotions were affecting me					
54	I have needed to be pushed to get started					
55	I have felt embarrassed when people expressed their feelings					
56	I have avoided public speaking					
57	I have looked for fresh ideas from a wide variety of sources					
58	I have sensed how other people felt					
59	I have examined my strengths and weaknesses					
60	I have dealt with difficult situations calmly					
61	I have demanded a very high standard					
62	I have gone out of my way to help people					

Questionnaire A

Answer the questions in terms of how you behave at work or approach work situations	Always or Almost Always	Very often	Fairly often	From Time to Time	Never or Almost never
63	I have spent a good deal of time building relationships					
64	I have been reluctant to challenge the status quo					
65	I have failed to spot potential trouble					
66	I have been afraid of seeming inept					
67	I have been reluctant to acknowledge my feelings and emotions					
68	I have found it difficult to get down to work					
69	I have been insensitive to other people's problems					
70	I have tended to wait for others to lead the way					
71	I have invented new ways of doing things					
72	I have trusted my sixth sense					
73	I have known what I needed to improve to increase my performance					
74	I have been prepared to stand out in disagreement to defend my views					
75	I have got things done					
76	I have shown a genuine interest in people					
77	I have tried to arouse enthusiasm in people					
78	I have avoided challenging rules and procedures					
79	I have made decisions ignoring what my heart was telling me					
80	I have lacked confidence in my abilities					
81	I have taken out my frustrations on other people					
82	I have felt little control over what was happening to me					
83	I have been reluctant to get involved in other people's problems					
84	I have found it a struggle to talk to people I do not know					

Questionnaire A

Dear Participant,

I am inviting you to participate in this research study by completing the **Questionnaire B** which will approximately take fifteen minutes to complete. You are kindly requested to return the completed questionnaire in a sealed envelope to me or to the person who handed over the questionnaire to you. (Envelop is attached with the questionnaire)

The information provided will be treated confidential and will only be used for study purposes. If you require additional information or have questions, please do not hesitate to contact me at the number listed below.

Thank you for taking the time to assist me in my educational endeavors.

Sincerely,

Ms. Shanika Wijenayake
Lecturer – Department of Marketing Management
University of Kelaniya

Questionnaire B

Instructions to the respondents

- The accuracy of the results depends on how honest you can be.

- There is no right or wrong answer.

- Following statements should be answered with respect to your feelings about the teaching and the lecturer.

- Please circle the number corresponding to your level of agreement with each of the statements below.

Questionnaire B

Perceptions   The following statements relate to your feelings about the particular bank you have chosen. Please show the extent to which you believe this bank has the feature described in the statement. Here, we are interested in a number from 1 to 7 that shows your perceptions about the bank.

You should rank each statement as follows:

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Statement	Score
1. The bank has modern looking equipment.	
2. The bank's physical features are visually appealing.	
3. The bank's reception desk employees are neat appearing.	
4. Materials associated with the service (such as pamphlets or statements) are visually appealing at the bank.	
5. When the bank promises to do something by a certain time, it does so.	
6. When you have a problem, the bank shows a sincere interest in solving it.	
7. The bank performs the service right the first time.	
8. The bank provides its service at the time it promises to do so.	
9. The bank insists on error free records.	
10. Employees in the bank tell you exactly when the services will be performed.	
11. Employees in the bank give you prompt service.	
12. Employees in the bank are always willing to help you.	

13. Employees in the bank are never too busy to respond to your request.	
14. The behaviour of employees in the bank instils confidence in you.	
15. You feel safe in your transactions with the bank.	
16. Employees in the bank are consistently courteous with you.	
17. Employees in the bank have the knowledge to answer your questions.	
18. The bank gives you individual attention.	
19. The bank has operating hours convenient to all its customers.	
20. The bank has employees who give you personal attention.	
21. The bank has your best interests at heart.	
22. The employees of the bank understand your specific needs.	

Thank you very much for your kind cooperation

APPENDIX B
NORMALITY TEST

Appendix B contains the tables and graphs of the normality analysis.

Normality test. Following histograms are used to test the normality using the graphical method.
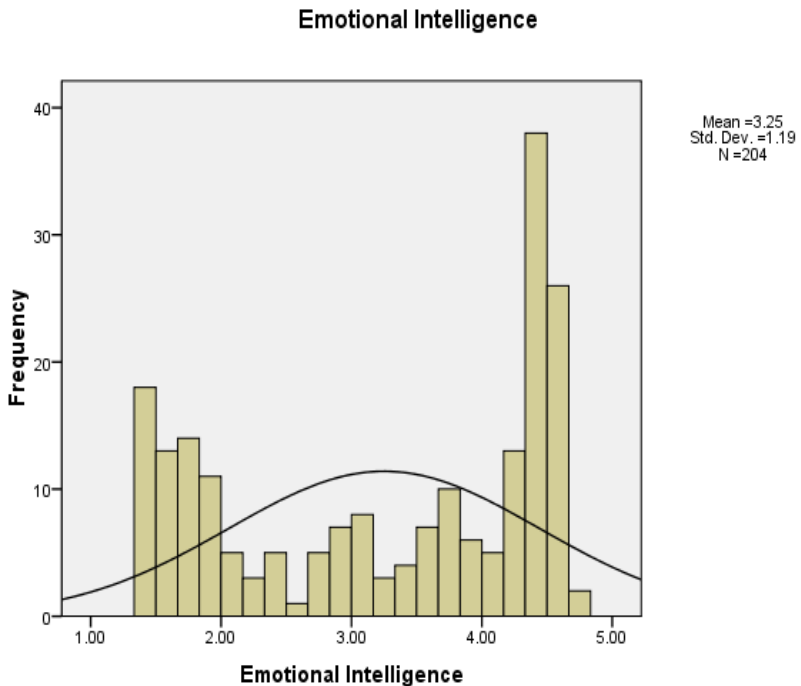

Figure 3.1- Histogram with the normal curve for the Emotional Intelligence of the bankers
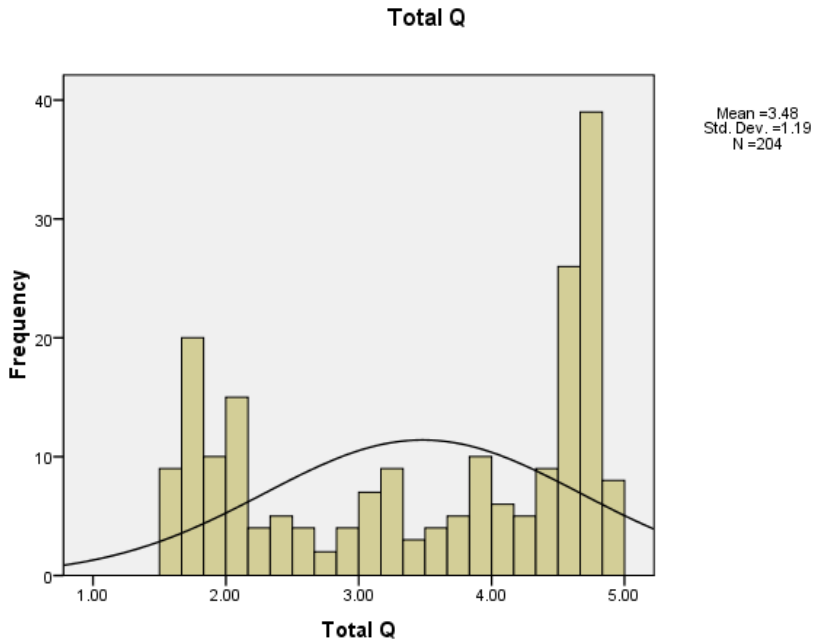
Total Q

Figure 3.2- Histogram with the normal curve for the Perceived Service Quality of bankers

APPENDIX C
LINEARITY TEST

Appendix C contains the tables and graphs of the normality analysis.

Linearity test. Bivariate scatter plots drawn to monitor linearity of the main constructs of the study are presented below.
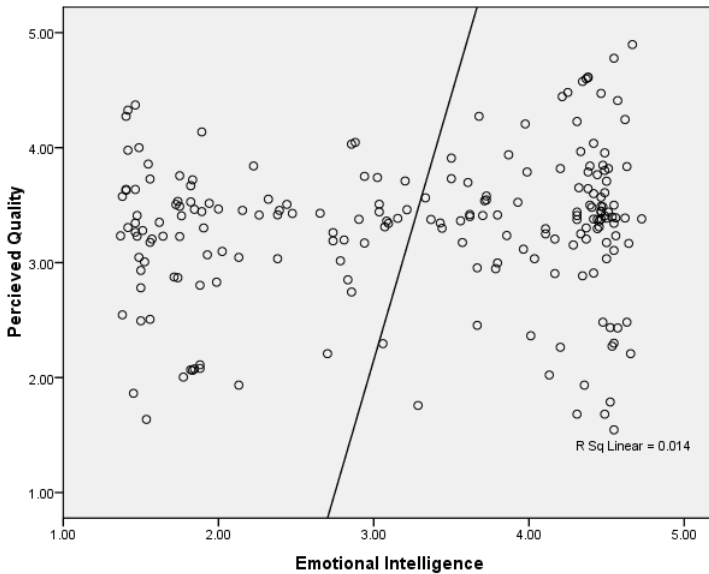

Figure 3.3- Scatter plot with the best fitting line for Emotional Intelligence and Perceived Service Quality of lecturers

Followings are the residual plots drawn for the main construct pairs of the study.
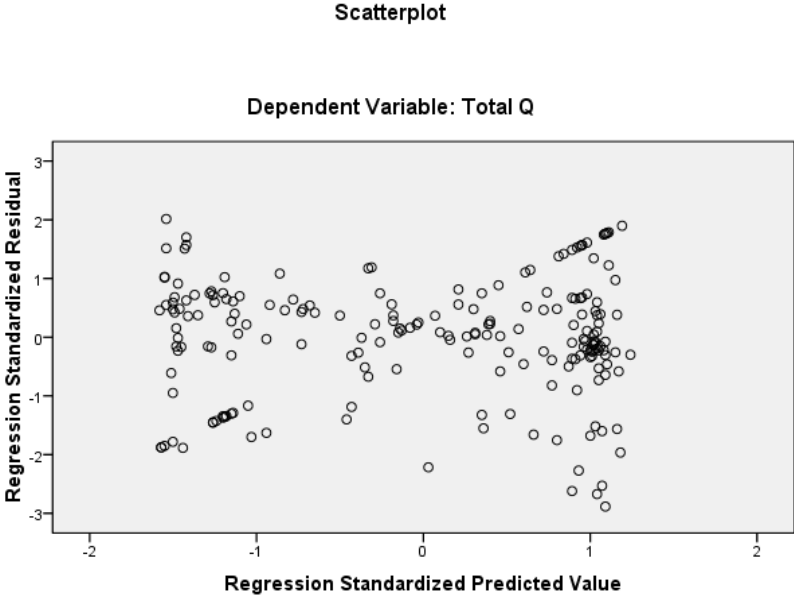
Scatterplot

Dependent Variable: Total Q

Figure 3.4- Residual plot of Emotional Intelligence and Perceived Service Quality of bankers

APPENDIX D
VALIDITY TESTS

Validity tests. Factor loadings of the confirmatory factor analysis conducted for the main constructs of the study are presented here.

Table 3.6
Factor loadings of the dimensions of the construct - emotional Intelligence

Innovation		Emotions		Empathy		Motivation		Self-Awareness		Social Skills	
Variable	Loading	Variable	Loading	Variable	Loading	Variable	Loading	Variable	Loading	Variable	Loading
Inn10	.824	Em9	.809	Emp3	.799	Mot9	.787	SA10	.826	SS6	.736
Int1	.801	Em5	.809	Emp2	.796	Mot11	.773	SA6	.826	SS3	.692
Int2	.786	Em1	.803	Emp6	.754	Mot12	.767	SA7	.713	SS4	.690
Inn1	.772	Em6	.789	Emp7	.747	Mot3	.757	SA8	.676	SS2	.685
Inn12	.772	Em3	.758	Emp5	.719	Mot10	.754	SA1	.664	SS12	.652
Inn4	.757	Em4	.755	Emp8	.711	Mot4	.720	SA3	.655	SS5	.606
Inn2	.757	Em7	.734	Emp1	.676	Mot2	.718	SA2	.625	SS8	.606
Inn9	.735	Em10	.702	Emp12	.626	Mot5	.710	SA11	.591	SS11	.604
Inn5	.720	Em2	.537	Emp10	.615	Mot8	.709	SA12	.590	SS10	.572
Inn3	.717	Em8	.517	Emp11	.564	Mot1	.683	SA4	.534	SS1	.548
Inn6	.715	Em12	.509	Emp4	.549	Mot6	.651	SA9	.527	SS9	.542
Int9	.695	Em11	0.505	Emp9	.536	Mot7	.647	SA5	.514	SS7	.516
Int7	.674										
Int4	.674										
Int3	.664										
Int8	.653										
Inn11	.623										
Inn8	.621										
Inn7	.616										
Int6	.616										
Int10	.583										
Int5	.505										
Int12	0.502										
Int11	0.502										

Path diagram of the construct perceived service quality

Figure 5.5 – Path diagram with the factor loadings for the construct perceived service quality