

# Demographic differences in Jordanian bank service quality perceptions

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Jordanian BSQ

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## Abstract

**Purpose** – The purpose of this paper is to assess differences in banking service quality (BSQ) perceptions across demographic subgroups of Islamic and conventional Jordanian banking consumers.

**Design/methodology/approach** – Data are collected using surveys. The survey contains items for three different measures of overall BSQ perceptions. The researchers mailed surveys to a random sample of 2,000 banking customers in Jordan. Responses to questionnaire items measuring respondents' BSQ perceptions were analysed using one-way analysis of variance with Tukey's honest significant difference *post hoc* tests to assess subgroup differences in six demographic variables: gender, age, occupation, income, education, and religion.

**Findings** – BSQ perceptions are significantly different in four of the six demographic variables. Age and education do not impact on BSQ perceptions.

**Research limitations/implications** – The findings indicate demographic effects on Jordanian banking consumers' perceived BSQ. Study limitations include demographic subgroup underrepresentation and survey structure. Future research should obtain a more representative sample for better generalisability.

**Practical implications** – The findings suggest that Jordanian banks should structure their services to best accommodate their customers' demographics. In addition, banks can use the findings to guide the development of demographic-driven marketing to target and attract customers efficiently.

**Originality/value** – This study is the first to investigate demographic differences in the perceived service quality of Jordan's Islamic and conventional banking customers. The findings can contribute to future research on BSQ, and guide Jordan's banking management towards more effective marketing and service provision.

**Keywords** Perceptions, Service quality, Jordan, Customers, Banks, Demographics

**Paper type** Research paper

## Introduction

Quality of service within the banking sector has increased over the last decade (Chaker and Jabnoun, 2010; Titko *et al.*, 2013). There is no generally agreed-upon definition of service, as it varies from one person to another; however, quality of service can be understood as an overall assessment of a particular service by a customer, and it determines the extent to which the customers' expectations are met and their subsequent degree of satisfaction (El Saghier and Nathan, 2013).

Bank service quality (BSQ) in conventional and Islamic banks in Jordan is the primary focus of the present study. Jordan's banking sector is growing, creating intensified competition, and making it vital for individual banks to understand the different perceptions of service quality in order to effectively procure and retain customers in a competitive market. Managers in the banking sector must understand the different perceptions and expectations of customers so that service standards and delivery tactics can be developed accordingly (El Saghier and Nathan, 2013; Titko *et al.*, 2013). Banks need to identify the different parameters influencing service quality in order to develop strategies that effectively help grow their customer base in the competitive environment (Mualla, 2011). One such parameter identified in previous research is banking consumers' demographic characteristics.

Demographic factors, such as gender, marital status, income, age, occupation, and education, have an impact on BSQ (Gupta and Bansal, 2011; Meng and Elliott, 2009;



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Naser *et al.*, 1999; Tam, 2004). However, these factors have not yet been evaluated in such a manner for customers of both Islamic and conventional banks in Jordan. Demographic factors affect the general mindset of individuals, with each unique combination of demographic characteristics differentially shaping an individual's perspectives. Such perspectives influence expectations, perceptions, and behaviour. In a study on factors influencing bank selection of Islamic banking products in South Africa, Saini *et al.* (2011) find that many aspects of BSQ determine consumers' selection of banking institution, and that these determinants vary between people with different demographic characteristics (Naser *et al.*, 1999).

The present study concentrates on evaluating differences in Jordanian consumers' perceptions of BSQ across subgroups of six demographic variables. To evaluate how service perception differs and may be influenced by demographic characteristics, this research uses a survey consisting of three similar models of BSQ that were developed previously and validated in the context of customers of both Islamic and conventional banks in Jordan (Al-jazzazi, 2016). Specifically, this study considers six factors – age, gender, religion, income, education, and occupation – to identify each factor's potential impact on the Jordanian banking sector.

### Literature review

Within the banking sector in Jordan, there are both Islamic and conventional banks. Jordan's entire banking sector is expanding with the growth of Islamic and conventional domestic banks and the influx of new foreign banks, thereby increasing the amount of competition between banking institutions (Hanif, 2010; Miani and Daradkah, 2008). With increased competition, banks must focus on effectively retaining existing customers and attracting new customers in order to remain profitable and to survive. Customer satisfaction predicts customer retention. Satisfied customers are likely to stay with their banks, while dissatisfied customers are more likely to switch banks (Bizri, 2014; Dispensa, 1997; Eklof *et al.*, 1999; Gustafsson *et al.*, 2005; Kassim and Souiden, 2007; Naser *et al.*, 1999; Wirtz, 2003). It reasonably follows that, in order to remain competitive, banks, or any other business for that matter, must find a way to systematically attain, monitor, and maintain optimal customer satisfaction. Therefore, Islamic and conventional banks in Jordan need a means of understanding the aspects of their customers relevant to their specific banking needs and values so that they can devise the best approach to target new customers and satisfy existing customers. Service quality is a key predictor of customer satisfaction and provides a comprehensive profile of customers, which is directly relevant to their banking behaviour and values (Cronin and Taylor, 1992). In addition, service quality is related to a service's likelihood of becoming and remaining successful (Buttle, 1996; Lewis, 1989; Moore, 1987). Therefore, an instrument to assess BSQ is imperative.

Service quality, generally defined, is the degree to which a non-tangible product fulfils a customer's needs, desires, and expectations of the service. It is an aspect of consumer service evaluation influenced by each customer's unique perceptions, and it determines customer satisfaction. Precise definitions of service quality differ across the multiple models of service quality that currently exist and the corresponding measurement tools developed based upon these models. Service quality is an aspect of consumable services that determines customer satisfaction. Parasuraman *et al.* (1985) define service quality as the gap between the expectations of the customers and the service standard, which has been delivered. Authors discuss service quality differently; however, throughout the previous literature, measuring customer satisfaction and expectations has been based on perception, which differs from person to person (Hoffman and Bateson, 2001; Naser *et al.*, 1999). Banks often aim to achieve service standards by focussing on specific service features and attributes that address varied customer needs and preferences so that greater satisfaction can be achieved (Galloway and Ho, 1996).

Since service quality seems to be unique for different types of people, and remaining efficient reasonably facilitates less resource expenditure and greater profitability, banks should segment the market in order to take the most beneficial approach to assessing and accommodating BSQ perceptions. Gaining greater understanding of existing and potential customers could help with marketing in order to attract new customers and structure service delivery in a way that produces optimal satisfaction for customers and facilitates customer retention. In marketing, customer demographics are commonly used to segment consumer markets for comparison and business strategy development (Belch and Belch, 2003; Wiertz *et al.*, 2004). Demographics are an objective customer characteristic that banks can use to strategically categorise existing and target customers, facilitating more specified investigation of their preferences and interests in addition to implementation of specialized business tactics (Belch and Belch, 2003; Diamantopoulos *et al.*, 2003; Myers, 1996). Executing such specialized business strategies is proposed to yield greater consumer satisfaction, loyalty, and profitability (Caruana, 2002; Ladhari *et al.*, 2011). Expectations of service quality are different across demographic segments, and are purported to influence such perceptions and corresponding attitudes (Gupta and Bansal, 2011; Meng and Elliott, 2009; Tam, 2004). Different aspects of bank services are valued to varying degrees across demographic segments.

Considering the benefits of market segmentation to business practice, customer satisfaction, and success, in conjunction with the relationship between service quality and customer satisfaction, the present study investigates demographic differences in service quality perceptions in Jordan's banking sector. Therefore, it seems beneficial to provide some background information on the evolution of some foundational service quality models and measures. The primary models of service quality are the technical and functional model (Grönroos, 1984) as well as the gap model (Parasuraman *et al.*, 1985). The technical and functional model proposes that three underlying factors – technical quality of a service, functional quality of a service, and the image of the service provider – determine service quality. Alternatively, the gap model proposes that service quality's underlying dimensions are tangibility, responsiveness, reliability, courtesy, access, credibility, communication, competence, understanding, and security; and the difference between a customer's expectations and perceptions of these components determine service quality.

Previous studies use various measures of service quality. The various measures are structured according to these two fundamental models of service quality. The quality management framework SERVQUAL (Parasuraman *et al.*, 1991, 1988), modelled after the gap model (Parasuraman *et al.*, 1985), is the most commonly used measure of service quality. SERVQUAL consists of the following five dimensions: reliability, assurance, tangibles, empathy, and responsiveness. SERVPERF, the performance component of SERVQUAL (Cronin and Taylor, 1992) is a perception-only measure of service quality modelled after SERVQUAL (Parasuraman *et al.*, 1988, 1991). It contains only the SERVQUAL items measuring perception of a service and the same five dimensions. Many adaptations of these measures exist due to the culturally variant nature of the construct of service quality, and the suggestions of researchers in prior studies to adapt service quality instruments to the specific context of the setting in which they are intended for use (Sureshchandar *et al.*, 2001; Zhou, 2004). Service quality perceptions vary across different cultures, and are an underlying aspect of many different characteristics, including business sectors settings, and a wide array of demographic variables. Therefore, researchers revise measures of service quality by rewording and adding or removing contextually necessary items for the specific culture of the sample being measured.

Numerous industry-specific measures of service quality have emerged from the aforementioned foundational models and measures of service quality in response to suggestions to develop or adapt previous measures to the specific context of the sample and

setting in which they are employed. Two notable models measuring BSQ are the Carter model (Othman and Owen, 2001) and the BSQ index (Abdullah *et al.*, 2011). The Carter model is a 34-item measure of BSQ with six underlying dimensions. Othman and Owen (2001) develop Carter to measure attitudes of Islamic banking customers of the Kuwait Finance House. Carter is an acronym formed by the first letters of each of the model's six dimensions: compliance, assurance, reliability, tangibles, empathy, and responsiveness. The Carter model's dimensions somewhat overlap with the underlying structure of the SERVQUAL (Parasuraman *et al.*, 1991, 1988) and SERVPERF (Cronin and Taylor, 1992) models, but the Carter model is unique in that it includes two dimensions, compliance and assurance, which directly measure opinions on core features of Islamic banking. Similarly, the BSQ measure (Abdullah *et al.*, 2011) assesses service quality of Islamic banking and was adapted from the SERVQUAL measure. However, BSQ is also valid in the context of conventional banks, is valid in the context of Malaysia, and contains 29 items with three underlying dimensions: systemisation of service delivery, reliable communication, and responsiveness. These two measures are highly relevant to the present study since they both are valid in the context of Islamic banks and this study's focus is on Islamic and conventional Jordanian banks.

Many other industry-specific measures of service quality are variations of these models. BANKSERV (Avkiran, 1994) is modelled after SERVQUAL and measures BSQ in the context of Australian banking. BANKSERV has four underlying dimensions: staff conduct, credibility, communication, and customer accessibility to bank teller service. Using a similar approach to Cronin and Taylor (1992) by adapting only the perception items from SERVQUAL (Parasuraman *et al.*, 1991, 1988), Zhou (2004) finds that this perception-only measure of service quality is valid in the context of Chinese banking. In addition, Zhou (2004) reasons that this perception-only measure is superior to SERVQUAL because it is more reliable and valid. In the context of Chinese banking, the perception-only measure of service quality includes 22 items with the underlying dimensions: empathy/responsiveness, reliability/assurance, and tangibility.

In the context of Northern Cyprus's banking industry, Karatepe *et al.* (2005) develop a custom 20-item measure of service quality and find that service environment, empathy, interaction quality, and reliability are the underlying service quality factors. The Chinese Banking Service Quality (CBSQ) (Guo *et al.*, 2008) measures BSQ in the context of the Chinese banking sector. Modelled after SERVQUAL (Parasuraman *et al.*, 1988, 1991), the CBSQ has 31 items with the following underlying dimensions: communication, technology, reliability, and human capital. In the context of Greece's retail banking sector, Tsoukatos and Mastrogianni (2010) develop BANQUAL-R, modelled after both SERVQUAL (Parasuraman *et al.*, 1988) and the BSQ (Bahia and Nantel, 2000). Adapted to Greek banking, BANQUAL-R is a 27-item measure with five dimensions of service quality: empathy, assurance, effectiveness, reliability, and confidence.

The present study uses a single measure of service quality that contains items for three separate models that have been adapted, tested, and validated in the context of Jordan. These models (Al-jazzazi, 2016) are all derived from modified versions of BSQ (Abdullah *et al.*, 2011) and Carter (Othman and Owen, 2001). The third model derived from this instrument is the B-C model, which incorporates items and dimensions from the BSQ and Carter models. The adapted BSQ model contains 15 items and three underlying factors: customer care, serviceability, and responsiveness. The adapted Carter model contains 12 items and three underlying factors: core service, soft service, and compliance. The B-C model contains 24 items and five underlying factors: customer care, soft service, serviceability, core service, and compliance.

A review of the culturally adapted service quality measures provides insight into the multi-dimensional nature of BSQ across different sectors and regions. Although most of the service quality measures are adaptations of other pre-established measures, unique combinations of items and factors emerge after analysing models in the context of a unique culture.

This supports the need to adapt BSQ measures to the specific setting and sample in which they are used, which provides further evidence of the need to investigate demographic differences and their potential impact on BSQ perceptions. Many previous studies on BSQ suggest comparison of service quality and its consequences across demographic groups (Havinal and Sirigeri, 2013; Lal *et al.*, 2014; Munusamy *et al.*, 2010). It is important to assess demographic differences in service quality perceptions because it provides banks with better understanding of their customers in order to tailor services to the specific needs of their customers, which helps achieve greater service quality and a competitive edge (Stafford, 1996).

As shown in previous studies, perceptions of BSQ differ across demographic groups (Gupta and Bansal, 2011; Meng and Elliott, 2009; Raven and Welsh, 2004; Saini *et al.*, 2011; Seiler *et al.*, 2013; Stafford, 1994, 1996; Tam, 2004). In the USA, demographic subgroups of gender and age have significantly different expectations for many unique dimensions of BSQ, indicating that demographic characteristics shape service standards (Stafford, 1996). Although the authors find differences in gender and age, they state that income groups are not significantly different in any aspect of service quality. In retail banking in Malta, demographic differences in perceptions of BSQ, satisfaction, and customer loyalty are evident across age groups and education levels (Caruana, 2002). Although these authors find significant demographic differences, they determine that perceptions of BSQ are not different across gender or marital status.

According to findings from a study on service quality and demographics of customers of private sector banks in Chennai, India by Balaji and Babbu (2011), customers differ in dimensions of service quality perceptions across income, occupation, education level, age, gender, and marital status. In the internet banking sector in India, customers' overall perceived service quality is significantly different across occupation and income level (Gupta and Bansal, 2011). Alternatively, these internet banking customers' perceived level of service quality is the same across age groups and education levels. Private banking customers in Germany differ across employment status and size of liquid assets in terms of service quality-related construct, service value, satisfaction, and loyalty (Seiler *et al.*, 2013). In addition, these authors find that German private banking customers' service quality perceptions are not different across gender or age.

Using SERVPERF, Havinal *et al.* (2013) find that customers of the commercial banking sector in India have significantly different service quality perceptions based on education level, income, and whether the customers are from rural or urban areas. Furthermore, the authors state that no significant differences in these perceptions arise across age or gender. In a study of Indian and non-Indian BSQ in Delhi, Lal *et al.* (2014) find that Indian banking customers' overall service quality perceptions are the same across all demographic subgroups for age, gender, marital status, income, education, and occupation. However, when investigating the individual dimensions of functional service quality, demographic differences are present for age, marital status, income, and education.

Many other studies find demographic differences in other variables related to BSQ. Demographic differences are present in bank employees' perceptions of barriers to BSQ in Qatar (Chaker and Jabnoun, 2010). Employees from Qatari banks differ across nationality in the extent to which they believe that a lack of empowerment is a barrier preventing the provision of optimal service quality. However, Chaker and Jabnoun (2010) state that gender produces no significant differences in opinions regarding barriers to BSQ. Bizri (2014) investigates the factors impacting the likelihood of patronising an Islamic bank in Lebanon, as opposed to a conventional bank, and investigate demographic differences in the likelihood of patronising Islamic banks. The author finds that the likelihood of patronising an Islamic bank is significantly different across religion, age, and employment status. Specifically, Muslims, employed customers, and older customers are more likely to patronise Islamic banks.

There are no demographic differences in the likelihood of patronising Islamic banks across levels of education, income, or gender. While some demographic differences are present, Bizri (2014) finds that only religion is a significant predictor of the likelihood of patronising Islamic banks. Notably, Bizri (2014) finds that BSQ predicts the likelihood of patronising an Islamic bank, but does not investigate this specific construct for demographic differences.

In a similar study, Metawa and Almossawi (1998) find that customers' banking behaviour and selection criteria at Islamic banks in Bahrain differ across demographic qualities of age, income, and education. Across age groups, the extent to which banking customers use their current accounts at their Islamic banks and the extent to which these customers use automated teller machines (ATMs) are significantly different. Customer use their current cheque accounts, the extent to which they use money orders, and the extent to which they use investment accounts are significantly different across income levels. Customers with different levels of education use their current cheque accounts, ATMs, and money orders to significantly different extents. In addition, Metawa and Almossawi (1998) find that demographic qualities influence the degree to which certain criteria are important in a customer's decision to bank with their Islamic banking institution. Age influences the degree of importance that customers place on the bank's adherence to Islamic principles, and recommendations received from family and friends. Similarly, education influences the importance that customers place on Islamic principles, and recommendations from family and friends. Furthermore, income influences customers' importance ratings for Islamic principles. Religion is the predominant factor influencing the choice of a bank.

In addition, there are demographic differences in banking customers' satisfaction with various aspects of Jordanian Islamic banks across age group, gender, and occupation, but no differences exist in satisfaction across nationality or religion (Naser *et al.*, 1999). However, the authors state that these demographic differences are only marginally significant and very small. These authors do not consider overall satisfaction, however, and instead, evaluate differences in individual items representative of satisfaction with different bank services. Respondents from different age groups have different levels of satisfaction with their Islamic banks' efficiency in handling problems on the phone. There are gender differences in the degree of satisfaction with bank employees and level of proficiency in providing services. For occupation, there are group differences in levels of satisfaction with banks' furniture, parking facilities, and service charges on cheques. Interestingly, the items measuring satisfaction with different types of bank services are similar to items for BSQ measures, indicating that the measure of satisfaction may, in fact, represent BSQ.

Outside of the banking sector, there appear to be demographic differences in perceptions of service quality. For example, in the retail apparel sector, service quality is different across race, marital status, and income level (Gagliano and Hathcote, 1994). In the insurance sector in the USA, insurance claim customers have significantly different service quality perceptions across age and education (Stafford and Wells, 1996). In addition, the researchers find that insurance claim customers do not differ significantly in their service quality perceptions across gender. In a variety of retail services in Kuwait and Lebanon, including banking, Raven and Welsh (2004) find that service quality expectations and perceptions for each individual dimension of SERVQUAL are significantly different across levels of nationality and gender, and between employees and customers. Another non-banking sector study on passenger transport services in Australia finds that customers in different age groups have significantly different perceptions of service quality (Ganesan-Lim *et al.*, 2008); however, neither gender nor income produce significant differences.

#### *Need for the study*

The growing banking industry in Jordan is becoming increasingly competitive, especially with the addition of strong competition from local and international firms.

Increasing competition requires Jordanian banks to find a way to gain a competitive edge to ensure profitability and survival. Focussing on customer satisfaction is an approach to this dilemma, as it directly affects consumer behaviour (Dispensa, 1997; Eklof *et al.*, 1999; Gustafsson *et al.*, 2005; Kassim and Souiden, 2007; Wirtz, 2003). For example, a satisfied customer is likely to stay with a bank, spread positive word of mouth about the bank to other potential customers, and invest more money in services (Bizri, 2014; Dispensa, 1997; Eklof *et al.*, 1999; Gustafsson *et al.*, 2005; Kassim and Souiden, 2007; Naser *et al.*, 1999; Wirtz, 2003), which would be fruitful for any firm. On the other hand, a dissatisfied customer is likely to exhibit the opposite behaviour to a satisfied customer, which could prove fatal for a bank in a competitive climate such as that faced by Jordan. Therefore, banks need to find means of efficiently establishing, monitoring, and maintaining high levels of customer satisfaction.

Service quality positively impacts customer satisfaction, and can provide insight into customers' service opinions and values that can be used to selectively focus efforts and resources on the most important and relevant service features (Cronin and Taylor, 1992, p. 65; Iglesias and Guillén, 2004). Customer satisfaction increases when customers perceive high levels of service quality, while it decreases with low service quality. In addition, a business's provision of an optimal level of service quality to produce customer satisfaction dictates firm prosperity (Buttle, 1996; Lewis, 1989; Moore, 1987; Parasuraman *et al.*, 1985, 1988, 1991; Zeithaml *et al.*, 1993, 2013).

Mualla (2011) deems it necessary to identify variables that impact on service quality in the banking sector in order to facilitate firm growth via the acquisition of new customers, while it is also necessary to consider which demographic differences in service quality perceptions of Jordanian banking consumers in order to shed light on potentially influential factors. Many researchers explicitly recommend the investigation of service quality across different customer demographics (Havinal and Sirigeri, 2013; Lal *et al.*, 2014; Munusamy *et al.*, 2010). Stafford (1996) states that, to maintain competitiveness by improving service quality, it is imperative that banks determine demographic differences in service quality perceptions so they can learn about their customers and establish tactics to appeal to their specific banking expectations and needs. Although various researchers find that demographic factors impact on BSQ perceptions (Gupta and Bansal, 2011; Naser *et al.*, 1999; Tam, 2004), this is not evident in the context of Islamic and conventional Jordanian banks because it has never been researched before.

Findings from the current study can fill the gap in the existing research on BSQ in Jordan, a country with a competitive and expanding banking market that could definitely benefit by learning more about banking customers. The findings of this study could guide banks in the provision of their services, targeting of marketing efforts, and identification of aspects of service quality that are highly relevant to their customers.

Thus, this study's objectives are as follows:

- (1) to determine the demographic profile of banking consumers of Islamic and conventional banks in Jordan; and
- (2) to identify the demographic characteristics of Jordanian banking customers that produce significantly different service quality perceptions.

## Method

### *Instruments and materials*

The present study uses a paper-based survey to measure BSQ perceptions of Jordanian banking consumers (Al-jazzazi, 2016). The survey is valid in the context of Islamic and conventional banking customers in Jordan, and includes items adapted to Jordanian banking consumers from both the BSQ (Abdullah *et al.*, 2011) and Carter (Othman and

Owen, 2001) BSQ measures. This study uses a measure that contains all necessary items for the only models that are valid in the context of both Islamic and conventional Jordanian banking consumers, which is the current study's sample. The survey, designed by Al-jazzazi (2016), contains three main sections. Section 1 contains the informed consent paperwork. Section 2 contains 15 multiple-choice items asking about demographic information and banking behaviour, followed by a set of seven-point Likert items (1 = not at all to 7 = to a very great extent) asking about the degree to which a respondent's banking behaviour is influenced by 15 items (e.g. myself, my husband, and religion). Last, Section 3 contains 39 different seven-point Likert items (1 = strongly disagree to 7 = strongly agree). This final set of items asks respondents to rate the degree to which they agree with each statement about BSQ. The items measuring service quality are all contained in at least one of the three adapted service quality models: BSQ, Carter, or B-C. Surveys are printed on paper and mailed with a pre-addressed return envelope to survey recipients. An electronic database containing the names and addresses of banking consumers in Jordan is used to select the survey recipients, and IBM SPSS v.22 is used for all data cleaning and analyses.

#### *Target population and sample*

The target population in this study is banking consumers in Jordan who are 18 years of age or older. A systematic random sample of 2,000 survey recipients is obtained by selecting every fourth eligible individual from a database of residents in the six largest cities in Jordan: Amman, AzZarqa, Irbid, Al Karak, Ar-Ramtha, and Jerash, each of which has a population of more than 100,000.

#### *Data collection and input*

Surveys are distributed via mail to a random sample of 2,000 Jordanian bank consumers, and include a pre-addressed pre-paid return envelope. Instructions are included with each survey, instructing recipients regarding the process of completing and returning the survey in the included envelope. All data were collected over a three-month period. Surveys from 1,196 respondents were returned, giving a return rate of 59.8 per cent. Upon receipt, the survey envelopes were opened by the researchers and all surveys were assigned unique case numbers to ensure confidentiality and anonymity. The case numbers were written on all documents in separate envelopes. Next, the data were inputted into an electronic database, checked for input accuracy by a team of research assistants, and analysed using IBM SPSS v.22.

#### *Data screening*

After all data were inputted, the data were screened for the presence of missing data and outliers. Of the 1,196 returned surveys, initial items and case-wise frequency checks for missing values reveal that 222 surveys were missing data on at least 20 per cent of the items and 11 appeared to be missing data or to have erroneous data regarding respondents' ages. There are many approaches proposed in the extant literature for addressing missing data and outliers, and of these approaches, none is considered more accurate than another, since it is impossible truly to know what any missing value and its effect should be, or what caused a missing or extremely aberrant value to occur (Hair *et al.*, 2010).

One option is to delete the entire case or item with missing data, but this may cause too great a drop in the sample size and does not address other underlying causes of the missing data that may be revealed by assessing the patterns of missing data across all cases and variables (Fidell and Tabachnick, 2003; Field, 2013, p. 77; Tabachnick and Fidell, 2000; Wuensch, 2013). If, after checking for patterns of missing cases, they appear to be missing randomly, it is likely safe to exclude the cases with missing data from the analyses (Field, 2013, p. 654; Wuensch, 2013). Alternatively, missing data can be addressed

using pairwise deletion, list-wise deletion, mean imputation, and imputation of regression results (Hair *et al.*, 2010; Tabachnick and Fidell, 2000). Similar to dropping items and cases, mean imputation is criticised for reducing the standard deviation and adding bias to all analyses in which it is incorporated (Wuensch, 2015). It seems as though all options require close inspection of data in order to make the most informed decision about how to handle missing data and extreme outliers. Therefore, all questionable cases and items' missing data, first, are investigated closely.

Since the age requirement in this study is at least 18 years, the data for each of these 11 cases are first examined, revealing that nine are missing age data and two have responses outside of the provided range of answer options (e.g. 8,008 and 2). Then, raw data are inspected for each of these nine cases to determine if the missing data are due to input error or response error. Inspection of raw data reveals that the missing data of the nine cases do not answer this question, and the two erroneous responses are handwritten on the survey without any other response. Since it is not possible to determine whether these 11 respondents meet the age requirement, they are omitted from further analyses.

Regarding the cases of missing data on more than 20 per cent of the 69 total survey items, Wuensch (2015) recommends selecting a cut-off for the completeness of valid data of 80-90 per cent and dropping any cases failing to meet this percentage of completeness whose missing data cannot be explained by an extraneous variable or obtained after inspection of the raw data. The specific percentage should be selected depending on the context and nature of the data. To elaborate, many of these 222 cases appear to have skipped large strings of items that are on the same survey page, indicating that the missing data are due to either data entry error or the participant having skipped a page of the questionnaire. However, there are still many cases with randomly spread missing values across all variables. No specific patterns are evident upon further visual inspection of the individual variables and the specific cases missing at least 20 per cent of their data. Then, raw data are inspected by a team of researchers, revealing no data entry errors. Since mean imputation would bias the results, especially since the majority of the data are categorical and ordinal (Wuensch, 2015), and retaining these data would simply cause the missing cases to be excluded from many analyses anyway, these 222 cases are excluded from future analyses. A total of 963 valid surveys remained for use in analyses after the exclusion of 233 cases with incomplete or invalid survey data.

The remaining 963 cases are included in the analysis of the distributions of each variable to check for normality univariate outliers. The results of the Kolmogorov-Smirnov test along with the skewness and kurtosis values reveal that the data are approximately normal (Hair *et al.*, 2010; Pallant, 2007; Tabachnick and Fidell, 2000). In addition, the data are assessed for extreme outliers in this phase of the analysis, as their inclusion can skew the results of any subsequent inferential analyses (Tabachnick and Fidell, 2000). Stem-and-leaf plots and boxplots are produced and examined to visually inspect the data and identify potential outliers that are more than three interquartile ranges (Wuensch, 2014). A total of 27 extreme outliers are identified.

The researchers visually inspect the data to determine if the extreme outliers are erroneous or bogus cases that should be omitted from inferential analyses as a secondary check (Field, 2013, p. 153; Parke, 2012, p. 84; Velleman and Hoaglin, 1981, pp. 67-68; Wuensch, 2014, 2015). The researchers locate each outlier identified as extreme within the data set, and closely examine each case's individual responses to the survey items on each of the three separate service quality scales to identify any suspicious patterns. Visual inspection of the data for each outlier and raw data reveals that many detected outliers are disengaged because they provide conflicting answers by answering the same way for large segments of survey items. Cross-tabulations are then conducted across demographic variables to investigate cells formed by nonsensical or conflicting combinations of

categories (e.g. a respondent identifies as single for one item and also responds saying that their spouse influenced their choice of bank). Examination of data for each outlier indicates either disengagement (e.g. circling all the same numbers for each Likert item) or conflicting responses making the integrity of the responses from that case questionable. The 27 outliers all reveal concerns upon visual inspection of the data (e.g. disengaged or conflicting data) and are omitted from future analyses.

**Data analysis and results**

The data analyses and results are organised according to the research objectives of the present study. First, the descriptive statistical analyses and results for the six demographic variables provide the demographic profile of the customers of Islamic and conventional banks in Jordan. The following set of analyses and results identify the demographic variables that produce significantly different service quality perceptions in these customers. The findings summarised at the end of this section discuss the results and their implications pertaining to the impact of demographics on service quality perceptions.

*Demographic profile of Jordanian banking customers*

Descriptive analyses of all the demographic variables are conducted to gain an understanding of the sample's demographic makeup and create a profile of Jordanian banking consumers.

Respondents are between 18 and 69 years of age (see Table I). Respondents' overall average age is 29-33 years. The majority of the respondents are between 20 and 39 years of age. The largest age group is 30-34 years, followed closely by 25-29 years. Respondents aged 50 years and older comprise less than 2 per cent of the sample. The smallest age group is 60-64 years, followed by 55-59 and 65-69 years.

Respondents are distributed nearly equally across male and female genders (see Table II). Sample religions include Islam and Christianity. More than 90 per cent of respondents are Muslim.

Respondents' monthly household income ranges from below JD400 to 5,499, revealing that respondents in this study have a wide range of monetary income and wealth (see Table III). This indicates that they may have different bank service needs and expectations depending on their monthly spending and investment interests.

Jordan's average annual income per capita is JD3,805 (The World Bank, 2016), averaging about JD317 a month. Considering this, the sample's monthly income seems relatively high, even with the possibility that there are two earners per household. However, the respondents' overall average monthly household income ranges from JD1,186 to 1,664, which may provide a more realistic representation of the population. A substantial portion

**Table I.**  
Age group  
distribution of  
respondents

| Age   | <i>n</i> | %     |
|-------|----------|-------|
| 18-19 | 8        | 0.90  |
| 20-24 | 183      | 19.60 |
| 25-29 | 223      | 23.80 |
| 30-34 | 232      | 24.80 |
| 35-39 | 166      | 17.70 |
| 40-44 | 95       | 10.10 |
| 45-49 | 14       | 1.50  |
| 50-54 | 6        | 0.60  |
| 55-59 | 4        | 0.40  |
| 60-64 | 1        | 0.10  |
| 65-69 | 4        | 0.40  |

of the sample earns less than JD400 a month. The largest percentage of respondents earns JD500-999. Less than 1 per cent of respondents earn JD3,000-4,499, while a notable portion earn JD5,000-5,499.

Nearly all respondents are employed (94.67 per cent) or not in the workforce (i.e. student, homemaker, or retired) (5.23 per cent). See Table IV for the distribution of respondents across income groups.

The respondents' highest completed education levels are classified into six categories, ranging from no education to postgraduate qualifications (see Table V). The majority of the sample is well educated, with more than 76 per cent possessing trade qualifications or higher.

### *Banking behaviour and characteristics*

Several variables represent respondents' habits and characteristics regarding their use of banking services (see Table VI). This aids in understanding the type of banks used by Jordanian bank consumers, as well as their involvement in banking. Nearly half of the

**Table II.**  
Distribution of  
respondents across  
gender and religion

|                 | <i>n</i> | %     |
|-----------------|----------|-------|
| <i>Gender</i>   |          |       |
| Male            | 508      | 54.30 |
| Female          | 428      | 45.70 |
| <i>Religion</i> |          |       |
| Islam           | 867      | 92.60 |
| Christianity    | 69       | 7.40  |

**Table III.**  
Income distribution  
of respondents

|                | <i>n</i> | %     |
|----------------|----------|-------|
| Monthly income |          |       |
| Below JD400    | 203      | 21.70 |
| JD500-999      | 234      | 25.00 |
| JD1,000-1,499  | 162      | 17.30 |
| JD1,500-1,999  | 112      | 12.00 |
| JD2,000-2,499  | 140      | 15.00 |
| JD2,500-2,999  | 14       | 1.50  |
| JD3,000-3,499  | 2        | 0.20  |
| JD3,500-3,999  | 1        | 0.10  |
| JD4,000-4,499  | 1        | 0.10  |
| JD5,000-5,499  | 67       | 7.20  |

**Table IV.**  
Occupation  
distribution of  
respondents

|                          | <i>n</i> | %     |
|--------------------------|----------|-------|
| Occupation               |          |       |
| Professional             | 162      | 17.31 |
| Executive/administrative | 90       | 9.62  |
| Defence force            | 389      | 41.56 |
| Academic                 | 172      | 18.38 |
| House wife               | 3        | 0.32  |
| Business                 | 63       | 6.73  |
| Student                  | 37       | 3.95  |
| Unemployed               | 1        | 0.11  |
| Retired                  | 9        | 0.96  |
| Community work           | 10       | 1.07  |

sample respondents bank solely with conventional banks, while almost one-third of respondents bank with both Islamic and conventional banks. Most respondents regularly visit their banks; have been with their banks for more than three years each; conduct both business and personal transactions; choose their own mode of banking service access; and access banking services using all modes (i.e. in person, online, and at ATMs).

*BSQ comparisons across demographic groups*

Perceptions of BSQ are compared across subgroups for all six demographic variables using a series of *t*-tests and one-way analysis of variance (ANOVA) with Tukey's honest significant difference (HSD) *post hoc* tests. The overall service quality scores for the BSQ, Carter, and B-C models are each obtained in SPSS based on the versions of these models previously validated in the context of customers of Jordanian Islamic and conventional banks by Al-jazzazi (2016). Levene's test for homogeneity of variance is conducted for each separate *t*-test and ANOVA, and the consistently significant results reveal that all demographic variables possess equal variances across subgroups for each of the three service quality scores placed as dependent variables.

Gender and religion are each analysed using independent samples *t*-tests since they are dichotomous variables. See Table VII for the results of the *t*-tests for group differences across gender and religion. One-way ANOVA between subjects with Tukey's HSD *post hoc* tests investigate group differences in the remaining four demographic variables: age, income, occupation, and education. See Table VIII for the results of the one-way ANOVA tests for group differences across age, income, occupation, and education. These analyses help identify demographic groups that have significantly different service quality perceptions using three different models of service quality that are valid in the context of the present study. Each of these multi-dimensional models is composed of a unique set of underlying factors, providing slightly varied measures of service quality perceptions. The implications of group differences could vary based on the underlying structure of each model. Thus, it is worthwhile to identify which, if any, of the separate service quality models are significantly different across subgroups of each demographic variable. The results for each demographic variable are summarised as follows.

*Gender.* A separate independent sample *t*-test is conducted for each service quality model to compare each overall service quality score across genders. The results reveal that the means of the males (*n* = 508) and females (*n* = 428) are not statistically different for any of the models. Table VII displays the results of all *t*-tests for gender.

*Religion.* A separate independent sample *t*-test is conducted to compare the overall service quality scores from each model across religions. The results reveal that Muslims (*n* = 867) and Christians (*n* = 69) have statistically different mean overall scores for perceptions of service quality (see Table VII). The overall score from the BSQ model is significantly different at the 0.05 level of significance for Muslims (*M* = 2.41, *SD* = 0.63) and Christians (*M* = 2.55, *SD* = 0.53), with Christians having higher scores. This indicates that Christians perceive higher overall BSQ, as measured by the BSQ, than do Muslims. Although these service quality

**Table V.**  
Education distribution  
of respondents

| Education                   | <i>n</i> | %     |
|-----------------------------|----------|-------|
| No qualifications           | 2        | 0.21  |
| Below year 10               | 19       | 2.03  |
| Secondary school            | 200      | 21.37 |
| Trade qualifications        | 113      | 12.07 |
| University degree           | 443      | 47.33 |
| Postgraduate qualifications | 159      | 16.99 |

|                                                            |          |       | Demographic differences in Jordanian BSQ |
|------------------------------------------------------------|----------|-------|------------------------------------------|
|                                                            | <i>n</i> | %     |                                          |
| <i>Type of bank</i>                                        |          |       | <b>287</b>                               |
| Islamic banking                                            | 180      | 19.20 |                                          |
| Conventional banking                                       | 451      | 48.20 |                                          |
| Both                                                       | 305      | 32.60 |                                          |
| <i>Frequency of visits</i>                                 |          |       |                                          |
| Rarely: once a month                                       | 138      | 14.70 |                                          |
| Occasionally: 2 to 3 times a month                         | 217      | 23.20 |                                          |
| Regularly: at least 4 times a month                        | 474      | 50.60 |                                          |
| Frequently: more than 5 times a month                      | 107      | 11.40 |                                          |
| <i>Years with bank</i>                                     |          |       |                                          |
| Less than one year                                         | 146      | 15.60 |                                          |
| One year                                                   | 242      | 25.90 |                                          |
| Two years                                                  | 72       | 7.70  |                                          |
| Three years                                                | 170      | 18.20 |                                          |
| More than three years                                      | 305      | 32.60 |                                          |
| <i>Transaction types</i>                                   |          |       |                                          |
| Business transaction                                       | 133      | 14.20 |                                          |
| Personal transaction                                       | 152      | 16.20 |                                          |
| Both                                                       | 647      | 69.10 |                                          |
| <i>Mode of banking service</i>                             |          |       |                                          |
| Online banking                                             | 66       | 7.10  |                                          |
| ATMs                                                       | 139      | 14.90 |                                          |
| Personal visits                                            | 125      | 13.40 |                                          |
| All of the above                                           | 606      | 64.70 |                                          |
| <i>Influenced choice of mode of banking service access</i> |          |       |                                          |
| Self                                                       | 350      | 37.40 |                                          |
| Husband                                                    | 7        | 0.70  |                                          |
| Wife                                                       | 6        | 0.60  |                                          |
| Parent                                                     | 11       | 1.20  |                                          |
| Friend                                                     | 9        | 1.00  |                                          |
| Relatives                                                  | 17       | 1.80  |                                          |
| Siblings                                                   | 17       | 1.80  |                                          |
| Community                                                  | 137      | 14.60 |                                          |
| Religion                                                   | 112      | 12.00 |                                          |
| Varied banking services                                    | 109      | 11.60 |                                          |
| Benefits of banking services                               | 69       | 7.40  |                                          |
| Advertisements                                             | 10       | 1.10  |                                          |
| Word of mouth                                              | 5        | 0.50  |                                          |
| None                                                       | 77       | 8.20  |                                          |

Table VI.  
Distribution of use  
of banking services  
for respondents

**Table VI.**  
Distribution of use of banking services for respondents

|                      |          |             |          |                |          |             | <b>Table VII.</b><br>Results of <i>t</i> -tests of service quality scores from three measures across two demographic variables |
|----------------------|----------|-------------|----------|----------------|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------|
| Demographic variable | <i>t</i> | BSQ<br>Sig. | <i>t</i> | CARTER<br>Sig. | <i>t</i> | B-C<br>Sig. |                                                                                                                                |
| Gender               | 0.08     | 0.939       | -0.38    | 0.701          | -0.50    | 0.617       |                                                                                                                                |
| Religion             | -2.07    | 0.041       | -1.24    | 0.216          | -1.88    | 0.061       |                                                                                                                                |

scores from the BSQ are significantly different, the size of this difference ( $d = 0.24$ ) is small (Cohen, 1992). The overall score from the B-C model is significantly different at the 0.10 level of significance between Muslims ( $M = 2.11$ ,  $SD = 0.62$ ) and Christians ( $M = 2.26$ ,  $SD = 0.53$ ), again with higher scores for Christians. While the B-C model reveals a significant difference between the two groups, the difference is again small ( $d = 0.25$ ). Although small, there are significant differences between Muslims and Christians in their overall service quality perceptions as determined by the BSQ and B-C models of service quality. There are no significant differences in service quality scores for the Carter model.

*Age.* For age, a series of one-way ANOVA tests are conducted on the scores from the three different BSQ models. There are significant differences in the mean scores of overall service quality across age groups for all three service quality models (see Table VIII). The differences are significant at the 0.05 level of significance for the BSQ scores, at the 0.01 level of significance for the Carter model, and at the 0.10 level of significance for the B-C model. Although significant differences emerge in each model, the differences are small (Cohen, 1988) for the BSQ ( $\eta^2 = 0.02$ ), Carter ( $\eta^2 = 0.02$ ), and B-C ( $\eta^2 = 0.02$ ) overall service quality scores.

The Tukey HSD *post hoc* tests for the BSQ model reveal that the mean score for 20-24 year olds ( $n = 183$ ,  $M = 2.37$ ,  $SD = 0.64$ ) is significantly lower than the mean score of 45-49 year olds ( $n = 14$ ,  $M = 2.97$ ,  $SD = 0.60$ ), mean difference =  $-0.60$ ,  $p = 0.019$ ; the mean score for 25-29 year olds ( $n = 223$ ,  $M = 2.38$ ,  $SD = 0.63$ ) is significantly lower than the mean score of 45-49 year olds, mean difference =  $-0.59$ ,  $p = 0.021$ ; and the mean score for 35-39 year olds ( $n = 166$ ,  $M = 2.38$ ,  $SD = 0.64$ ) is significantly lower than the mean score of 45-49 year olds, mean difference =  $-0.59$ ,  $p = 0.022$ . There are no other significant differences in BSQ scores for overall service quality across age groups.

The Tukey HSD *post hoc* tests for the Carter model reveal that no group differences are significant at the 0.05 level of significance, but there are two group differences at the 0.10 significance level. The mean score for 20-24 year olds ( $M = 1.96$ ,  $SD = 0.56$ ) is significantly lower than the mean score of 45-49 year olds ( $M = 2.41$ ,  $SD = 0.46$ ), mean difference =  $-0.45$ ,  $p = 0.096$ ; and the mean score for 25-29 year olds ( $M = 1.97$ ,  $SD = 0.61$ ) is significantly lower than the mean score of 45-49 year olds, mean difference =  $-0.45$ ,  $p = 0.096$ . The Tukey HSD *post hoc* tests for the B-C model reveal that no group differences are significant even at the 0.10 level of significance. This lack of significant group differences is likely because there is a large number of comparisons made between the 11 age groups (45 total), and the corresponding adjustments to the significance values to decrease the chance of Type I error.

*Income.* The results of the one-way ANOVA tests for overall BSQ scores from the BSQ, Carter, and B-C measures across income brackets highlight significant group differences only at the 0.10 significance level for BSQ and Carter scores (see Table VIII). For both these models,  $\eta^2 = 0.01$ , indicating that the differences in mean group scores for each model are small. Tukey's *post hoc* tests for these two models reveal that no significant differences exist in mean group scores. The entirely non-significant *post hoc* test results are due to the presence of only small differences that are non-significant at the 0.05 significance level, as well as a relatively large number of comparisons across several groups of income and

**Table VIII.**  
Results of ANOVAs  
of overall service  
quality scores from  
three separate  
measures across four  
demographic variables

| Demographic variable | BSQ      |       | CARTER   |       | B-C      |       |
|----------------------|----------|-------|----------|-------|----------|-------|
|                      | <i>F</i> | Sig.  | <i>F</i> | Sig.  | <i>F</i> | Sig.  |
| Age                  | 2.34     | 0.013 | 2.53     | 0.007 | 1.66     | 0.095 |
| Income               | 1.80     | 0.084 | 1.76     | 0.092 | 1.72     | 0.101 |
| Occupation           | 1.61     | 0.117 | 1.72     | 0.089 | 1.43     | 0.180 |
| Education            | 1.102    | 0.357 | 1.071    | 0.375 | 0.865    | 0.504 |

subsequent significance-level adjustments made by the Tukey HSD test to protect against Type I error. These non-significant *post hoc* results could be due to the relatively small sample size in the upper income ranges as well.

*Occupation.* One-way ANOVA tests of the overall service quality scores for the demographic factor “occupation” reveal a difference in the service quality scores from Carter, which is significant only at the 0.10 significance level (see Table VIII). The difference is also small ( $\eta^2 = 0.01$ ). Tukey’s *post hoc* tests reveal that none of the mean Carter service quality scores is significantly different across occupations. The other items that reached significance in the ANOVA tests for occupation revealed significant subgroup differences in the *post hoc* analyses. Similar to the *post hoc* results for age and income, these non-significant *post hoc* group means are likely because there are several groups compared with each other, resulting in a relatively large number of analyses and adjustments to significance values to avoid committing a Type I error.

*Education.* Results of the one-way ANOVA tests for service quality scores of each of the three models across levels of education are all non-significant, indicating that there are no differences in the mean level of perceived service quality across different levels of education. This is true regardless of the model from which the scores are derived. The results for all three ANOVA tests conducted for education are displayed in Table VIII.

### Summary of findings

From the results of the *t*-tests and ANOVA tests, it is evident that the level of BSQ perceived by Jordanian banking consumers differs based on scores from at least one of the tested service quality models across religion, age group, income level, and occupation. The following are the key findings regarding these demographic differences in service quality perceptions:

- (1) There are no differences in any perceptions of service quality across gender or education, indicating that neither of these demographic variables impact on perceptions of BSQ in customers of Islamic and conventional banks in Jordan.
- (2) With respect to religion, Christians perceive higher overall BSQ than do Muslims, based on scores from the BSQ model and the B-C model. According to Cohen’s (1992) effect size guidelines, the differences are only small, but nonetheless provide evidence of a potential effect of religion on service perceptions and standards.
- (3) Age means are significantly different for both the Carter and BSQ models at  $p < 0.05$ , and the differences are significant at  $p < 0.10$  for the B-C model. The mean score differences are the most significant across age groups for the Carter model, but these differences are very small.
- (4) Respondents in the 45-49 year age group have significantly ( $p < 0.05$ ) higher scores for overall service quality, according to the BSQ model, compared to respondents in the 20-24, 25-29, and 35-39 year age groups. These results indicate that Jordanian banking customers between the ages of 45 and 49 years perceive greater service quality, as determined by the BSQ model, than Jordanian banking customers aged 20-24, 25-29, and 35-39 years.
- (5) Respondents in the 45-49 year age group have significantly higher scores ( $p < 0.10$ ) for overall service quality, determined by the Carter model, compared to respondents in the 20-24 and 25-29 year age groups. These results indicate that Jordanian banking customers between the ages of 45 and 49 years perceive better BSQ (Carter) compared with Jordanian banking customers aged 20-24 and 25-29 years.
- (6) Service quality perceptions across different income levels are significantly different at only the  $p < 0.10$  significance level for the BSQ and Carter models, and the

differences are small. *Post hoc* tests are all non-significant. While the significant results provide some indication that Jordanian banking consumers differ in their service quality perceptions across income levels, the significance level is not below the more conventionally accepted level of 0.05 and the *post hoc* tests provide no specific information about differences between each of the income groups. The same results emerge for occupation.

## Discussion

This study investigates demographic differences in BSQ perceptions of Jordanian banking consumers across six demographic variables. This research enables evaluation of the specific demographic factors that potentially impact the perceptions of BSQ, and facilitates the identification of the service quality model specifically influenced by each demographic factor. Previous research finds that demographic factors, including gender, age, income, occupation, and education, influence perceived BSQ (Gupta and Bansal, 2011; Meng and Elliott, 2009; Naser *et al.*, 1999; Tam, 2004). However, little research exists that empirically investigates demographic effects on service quality perceptions. Moreover, the existing research is cultural specific, and therefore, service quality researchers need to assess service quality across demographics so that banks can understand their customers better (Lal *et al.*, 2014). There is no previous research investigating such differences in the specific context of both Islamic and conventional Jordanian banking customers. Thus, this study fills the knowledge gap and the findings provide insight and guidance that Jordanian bank managers can use to understand, attract, and better serve their customers.

In addition, unlike other studies, the present study does not analyse gender differences in the perceptions of customers, but instead corroborates the occupational- and income-level differences and how perceptions differ among customers while choosing banking services.

This study specifically investigates differences in three individual overall service quality scores, derived from the adapted BSQ, Carter, and B-C models (Al-jazzazi, 2016), for six separate demographic variables: gender, age, occupation, income, education, and religion. The results of the demographic analyses indicate that gender and education do not have an impact on Jordanian banking customers' perceptions of BSQ. These gender findings are reflected in previous service quality studies (Caruana, 2002; Ganesan-Lim *et al.*, 2008; Havinal *et al.*, 2013; Lal *et al.*, 2014; Seiler *et al.*, 2013; Stafford and Wells, 1996). However, the lack of a gender effect for service quality perceptions contradicts service quality findings from other studies (Balaji and Babbu, 2011; Mokhlis, 2012; Stafford, 1996; Zalatar, 2012). For example, findings from previous marketing studies show that men rate service quality higher than do women (Juwaheer, 2011; Tam, 2004). Similarly, the findings of this study on education both support previous findings in service quality research (Balaji and Babbu, 2011; Caruana, 2002; Havinal *et al.*, 2013; Stafford and Wells, 1996) and contradict other studies (Gupta and Bansal, 2011; Lal *et al.*, 2014).

Religion and age reveal the greatest number of differences in perceived service quality, indicating that they are the most influential demographic factors on Jordanian banking customers' service quality perceptions. In conjunction with the age effect, other studies find age differences in banking (Caruana, 2002; Stafford, 1996), insurance (Stafford and Wells, 1996), and transport (Ganesan-Lim *et al.*, 2008). However, other studies report no age effect on service quality (Gupta and Bansal, 2011; Havinal *et al.*, 2013; Lal *et al.*, 2014; Seiler *et al.*, 2013).

Compared to the other demographic variables, age produces the most significant group differences. Customers between 45 and 49 years perceive higher service quality, as determined by the BSQ model, than do Jordanian banking customers aged 20-24, 25-29, and 35-39 years. Similarly, Jordanian bank customers aged 45-49 years perceive better BSQ (Carter) compared to 20-24 and 25-29 year age groups. However, these differences are all

very small, indicating only a slight age effect for perceived service quality. Christians perceive greater overall BSQ and B-C than do Muslims. In addition, religious differences are small, indicating only a slight impact on perceived service quality.

Perceived service quality significantly differs across customers' income level (BSQ and Carter) and occupation, but only at  $p < 0.10$ , indicating that generalisability to the population is questionable. In other words, although income and occupation produce service quality differences in the sample, this difference may not be truly present in all Jordanian banking customers. In addition, these differences are small and none of the income or occupation subgroups differ significantly. Some previous service quality studies find an income effect on service quality (Balaji and Babbu, 2011; Gagliano and Hathcote, 1994; Gupta and Bansal, 2011; Havinal *et al.*, 2013), while others contradict these findings (Ganesan-Lim *et al.*, 2008; Lal *et al.*, 2014; Stafford, 1996), making it difficult to state with certainty whether there is an income effect on perceived service quality among Jordanian banking customers.

The present study and previous studies supporting or opposing the findings herein regarding demographic differences are all from different countries and sectors. While some prior studies' findings support those of the present study, the varied findings across cultures and sectors illustrate the setting-specific nature of service quality (Sureshchandar *et al.*, 2001; Zhou, 2004). Overall, the demographic differences in perceived service quality indicate that Jordanian banking customers' religion and age impact on their BSQ perceptions. Income and occupation impact on BSQ perceptions, but the generalisability of these findings is questionable owing to their significance levels. Since significant demographic differences are present, this might indicate that banking expectations and needs vary across different segments of consumers in Jordan's banking sector. In addition, since service quality impacts on bank selection, satisfaction, and loyalty (Caruana, 2002; Ladhari *et al.*, 2011; Saini *et al.*, 2011), the findings provide evidence that demographic factors very likely impact on Jordanian banking customers' selection of banks and their decisions to switch banks.

### *Limitations of the study*

The research has certain limitations. There is an unequal distribution of respondents across subgroups for some of the demographic factors. Therefore, the results might be slightly skewed. Several demographic sections are under-represented in the study: old age, less-educated people, Christians, some groups of higher-income subjects, and unemployed subjects. In addition, the results are possibly biased due to a low survey response rate.

In addition, limitations are evident in some aspects of the methodology. The present study uses a mail survey, whereas researchers criticise mail surveys for collecting responses that are potentially not representative of the target population (Friedman and Rosenman, 1974; Holmes and Rahe, 1967). Specifically, researchers are not certain that the survey respondents are truly selected sample members or other household members. Furthermore, respondents who complete surveys are more likely to have strong opinions regarding the survey topic, which is often not an accurate representation of the general population.

Furthermore, the survey poses some study limitations. Although the researchers omit disengaged outliers with the same responses throughout a series of items, the data may be biased because closed-ended questions tend to elicit socially desirable or systematic answer selection (Siniscalco and Auriat, 2005, p. 24). The response set for each item is not collectively exhaustive (i.e. options are included to capture all possible answers accurately) and many of the items with missing responses do not include, "n/a" or "unsure" in their response set (Thayer-Hart *et al.*, 2010, p. 10). For example, gender should include a response option, such as "other", for transgender and asexual individuals. In addition, all 15-Likert items asking respondents to rate the degree to which each item influences their banking

needs should include a response option, such as “n/a”, because not all respondents have the items, and this may encourage respondents to skip the item. Finally, all items asking respondents to rate their BSQ should include an option such as “unsure”, because respondents may not be familiar with all of the bank services. Respondents may skip survey items or may answer inaccurately if none of the response options fit them. Data for gender, factors influencing banking needs, and service quality perceptions may be inaccurate, rendering the study findings potentially invalid.

#### *Future implications*

Overall, the findings contribute to the knowledge gap in demographic effects on service quality perceptions of customers from both Islamic and conventional Jordanian banks, as well as the Jordanian banking sector. The findings support the setting-specific nature of service quality, and demonstrate the importance of age and religion on Jordanian banking customers' needs and perceptions of service quality. Since many respondents aged 45-49 years perceive better service quality than younger respondents do, and Christians perceive better service quality than Muslims do, it seems that there are differences in the needs and expectations of Jordanian banking customers across age and religion. Such differences can guide banks to direct their focus to learn the specific needs and expectations of different age groups and religions in order to improve their service delivery for younger and Muslim customers. Improving service delivery facilitates higher satisfaction and loyalty in these demographic subgroups that appear to perceive somewhat lower service quality (Caruana, 2002; Ladhari *et al.*, 2011; Saini *et al.*, 2011). Since that aspect of BSQ impacts on bank selection (Saini *et al.*, 2011), Jordanian banks can use age- and religion-specific customer needs and expectations to target specific customer segments effectively by marketing specific services that satisfy the unique needs and requirements of these segments.

Similarly, these findings expand on the existing knowledge base and can guide the focus of future studies on the demographic effects of age, religion, income, and occupation on specific aspects of Jordanian BSQ. To address the limitations of the present study, future studies could aim to collect data from a larger sample to increase the likelihood of comprehensively and equally represented demographic subgroups. In addition, future researchers should modify the survey to ensure all items include exhaustive response options in order to ensure all respondents have the opportunity to answer accurately. Since respondents are from the five largest cities in Jordan only, the present sample represents only urban banking consumers; rural banking customers in Jordan may have a different demographic profile and may have unique service quality perceptions (Havinal *et al.*, 2013); therefore, future studies should obtain samples from both urban and rural areas (Lal *et al.*, 2014).

To expand on the findings of this study, and to develop efficient marketing consumer groups more precisely, future research should investigate more demographic factors or create new factors in which to categorise consumers, such as social class (Caruana, 2002). While it is feasible to target different age, occupation, and income groups, it would be more efficient to target consumers from a specific social status derived from a standardized score including all three variables. Thus, future research could develop and quantify the “social class” for demographic comparison. In addition, determining differences in service quality perceptions in different social classes would likely facilitate more comprehensive marketing and service strategy development. Finally, specific aspects of service quality should be compared across demographic groups in order to gain a clearer understanding of the potential demographic group-specific disparities in BSQ. Further investigation of such disparities across demographic subgroups could provide insight into differences in bank service expectations across demographics. Such findings in this area could reveal how specific services can improve perceived service quality and satisfaction for customers with lower perceived service quality of the Jordanian banking sector.

### Conclusion

This study determines the demographic factors that impacts on customers' perceived service quality in the Jordanian banking sector. The demographic differences in four of the six demographic factors indicate that demographic characteristics of respondent's impacts on their perceptions of BSQ. Specifically, the findings indicate that Jordanian banking customers' religion and age impact on their BSQ perceptions; income and occupation to some degree impact on perceived service quality; and gender and education have no effect on service quality perceptions.

Since service quality impacts on customer satisfaction, loyalty, and bank selection (Caruana, 2002; Ladhari *et al.*, 2011; Saini *et al.*, 2011), the findings indicate that banks could benefit by better understanding and catering to unique demographic-driven customer needs. Banks could structure marketing and services to target their selected customer base and provide adequate services. This would ensure banks meet the needs and demands of their existing and target consumer segments, facilitating banks' success in attracting and maintaining customers.

The present study contributes to the existing knowledge base and management of Jordanian BSQ. The findings could help banks develop their marketing and service strategies by effectively segmenting their customers. These findings and recommendations can be used in future studies on the demographics effects on service quality. Future studies should refine the measures used to include exhaustive answer options, collect more data from both rural and urban Jordanian banking customers, and assess demographic service quality differences in the individual aspects of service quality.

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