

ALTERNATIVE MEASURES OF BANK SERVICE QUALITY: AN EXTENDED REVIEW

LĂCRĂMIOARA RADOMIR¹, IOAN PLĂIAȘ², VOICU-COSMIN NISTOR³

ABSTRACT. The main purpose of this paper is to review the literature on bank service quality (hereafter SQ) measurement instruments and present a critical appraisal of the methodological process undertaken by researchers in their endeavour to develop new SQ scales for the banking context. This paper identifies and examines 36 SQ scales designed to measure either traditional or electronic banking (hereafter e-banking) SQ. The scales are thoroughly analysed with the objective to underline similarities and differences between them related both to conceptual issues and methodological approach. The review confirms that The North American School of Thought perspective on SQ provides a framework for new scale development in the banking industry, regardless of the nature of services (i.e. branch or e-banking services). The study further identifies bank SQ dimensions which are stable across different cultural settings but also outlines the methodological issues that might have posed dimensionality problems. This study deepens the research conducted by Ladhari (2008) in that it reviews SQ measures designed particularly for the banking context. Furthermore, the comprehensive review of traditional and e-banking SQ scales offer helpful guidance in the measurement of bank SQ both for academics and for practitioners.

Keywords: perceived service quality, bank service quality scales; bank service quality dimensions; SERVQUAL

JEL Classification: M31, L89

1. Introduction

The understanding of SQ has gained researchers' interest in the early 1980's, when Grönroos, C., Parasuraman, A., Zeithaml, Valarie A. and Berry,

¹ Lecturer, Dr., Faculty of Economics and Business Administration, Babes-Bolyai University, lacramioara.radomir@econ.ubbcluj.ro (corresponding author)

² Professor, Dr., Faculty of Economics and Business Administration, Babes-Bolyai University, ioan.plaias@econ.ubbcluj.ro

³ Lecturer, Dr., Faculty of Economics and Business Administration, Babes-Bolyai University, voicu.nistor@econ.ubbcluj.ro

Leonard L. called for the clarification of the SQ concept. These days there is an agreement among researchers with regard to the differences between services and physical products, as well as with respect to the importance of measuring customers' judgements regarding the quality of companies' offer. Nevertheless, SQ measurement is still an issue of debate among researchers (Moiescu and Gica, 2014a). Consequently, SQ has been investigated and measured in a variety of service industries and countries, either with the purpose to develop new measurement instruments or with the purpose to identify its antecedents and/or consequences.

SQ in general and bank SQ in particular has gained researchers' interest mainly due to the positive outcomes that it may generate for service companies. Given the similarities between banking services, customers may find it difficult to distinguish between banks' offer. This, in turn, raises difficulties in assessing the real value of banking services before and even after their use. In such circumstances, SQ should be seen as a mean towards possessing an advantage over competitors, and differentiating from them (Moiescu and Gica, 2014b). It is therefore important that bank management urge to identify those service attributes which are relevant for customers in making quality judgements, as well as to understand the manner in which customers' assessment of banking services influence their decisions. Furthermore, bank managers need to anticipate and determine those factors which can influence the quality level of their offer as a consequence of the ever-changing context in which they operate (Tsoukatos and Mastroianni, 2010). As new technologies evolve, banks need to adopt a mixed distribution channel strategy in order to better answer customers' needs and maintain the competitive advantage. Alternative distribution channels (e.g. automated teller machines, hereafter ATMs, Internet Banking, hereafter IB) along with territorial units are now used by banks to enhance the access to their offer. Hence, researchers have shown interest in understanding the bank SQ concept and in uncovering the quality attributes both for traditional and for e-banking services. Consequently, different conceptualizations and measures of SQ have been proposed depending on the two types of channels (i.e. traditional and electronic).

The paper further proceeds with a description of The Nordic and The North American schools of thought. The next section briefly emphasizes the method employed in this paper. Next, 36 bank SQ scales are compared and discussed from different perspectives, with an emphasis on the conceptual and empirical issues associated with the scale development process. Following this, suggestions for future research are made. The paper concludes with theoretical contributions and managerial implications.

2. The Nordic School versus The North American School of Thought

Researchers (e.g. Karatepe et al., 2005; Loonam and O'Loughlin, 2008) appreciate that the SQ literature is dominated by two schools of thought: The Nordic School of Thought and The North American School of Thought. Both perspectives have their roots in the disconfirmation paradigm (Santos, 2003; Tsoukatos and Mastrojianni, 2010) and hold that customers make SQ judgements by comparing their expectations with perceptions of service performance. Furthermore, both perspectives emphasise the importance of the process dimensions of SQ.

The Nordic School of Thought is based on the research conducted by Christian Grönroos (see Grönroos, 1990; 1991) and addresses the perceived quality of services in terms of outcome and process performance. The Nordic School of Thought assumes that customers' experiences during the delivery process influence their perceptions about the outcome. Hence, Grönroos (1990) considers two SQ dimensions: the functional and the technical one. The functional dimension reflects the manner in which the services are perceived to be performed ('How') and is expected to be of high importance in service judgements. In contrast, the technical dimension responds to customers' needs and desires and reflects 'What' customers perceive to have been delivered (i.e. the outcome), thus being more objectively evaluated (Grönroos, 1990). Moreover, Grönroos (1991) highlights the importance of corporate image and considers it as another important component of the proposed SQ model.

The North American School of Thought is based on Parasuraman, Berry and Zeithaml's (hereafter PZB) perspective (see Parasuraman et al., 1985; 1988; 1991); PZB advanced five quality dimensions: reliability, tangibles, responsiveness, assurance and empathy. The North American School of Thought and hence the SERVQUAL model proposed by Parasuraman et al. (1988) highlights the importance of customers' experiences and of the human factor during the service delivery process. The avoidance of SQ problems depends on the human factor (Berry et al., 1988) which further has a major role in developing positive experiences for customers. Despite the criticism addressing The North American School of Thought perspective, the SERVQUAL model has "formed the basis for a considerable amount of research" (Johnston, 1997, p. 112) and it is probably the most well-known instrument used to measure customers' perceptions of SQ across different service industries (Bahia and Nantel, 2000; Furrer et al., 2000), including the banking sector (e.g. Ladhari, 2009; Wong et al., 2008). For instance, Furrer et al. (2000) applied the SERVQUAL instrument among students with distinct cultural values in order to identify the differences in terms of their bank SQ perceptions. Results showed that SQ dimensions differed in importance from one culture to another. In their study

conducted among Australian bank customers, Wong et al. (2008) argue that the importance of SQ dimensions differs from that reported in other studies. Zhou et al. (2002) used the SERVQUAL scale to measure SQ perceptions among Chinese bank customers. While the expectation scores led to six SQ dimensions, the performance and the gap scores resulted only in three dimensions. The authors concluded that the five-dimensional structure of SERVQUAL is not supported by their results. Micudă and Cruceru (2012) also doubted the five-dimensional structure of SERVQUAL. Results of their study conducted among Romanian bank customers indicated that SQ can be defined by three dimensions, namely 'customer orientation', 'tangibles' and 'responsive reliability'. Ladhari (2009) applied the SERVQUAL instrument using performance-only scales among Canadian bank customers. Unlike Zhou et al. (2002), the authors contend that the five-dimensional factor structure is stable.

3. Method

This paper deepens the research conducted by Ladhari (2008) in that it envisages the quality models developed for the banking sector. Although several researchers have already reviewed bank SQ models (e.g. Sangeetha and Mahalingam, 2011), none has attempted to make an extended analysis similar to that of Ladhari (2008). For this reason, the present study endeavours to grasp the literature on bank SQ and highlight the conceptual and empirical issues associated with the scale development process, following the structure proposed by Ladhari (2008). To accomplish this, the present paper reviews and discusses 36 SQ scales developed for the banking context. The criterion used in the paper selection process was the statement that a new bank SQ scale is proposed. In addition to the 34 scales initially selected, the papers published by Yang et al. (2004) and Lin and Hsieh (2011) were further retained for the following reasons. Yang et al. (2004) developed a new SQ scale for online services. However, in the qualitative stage of their research, the authors engaged in content analysis of reviews coming from online banking users. Lin and Hsieh (2011) aimed to develop a new scale which can be used to measure the quality self-service technologies (hereafter SSTs). Their study was deemed relevant given that either financial or banking services users were considered in each stage of their research. Departing from the above stated, it is appreciated that regardless the fact that both scales can be used to measure SQ across a broader spectrum of services, they are worth considering in this review.

4. Bank service quality scales

The mixed results with respect to SERVQUAL dimensionality, the differences in the relative importance of SQ dimensions across different contexts

and cultures or the controversy about SQ operationalization, as well as the distinct nature of banking services (traditional, i.e. high contact services and electronic, i.e. 'customer-machine' contact) have led many academics to the decision to develop new culture- and service-type specific measures of bank SQ.

The Appendix summarizes chronologically 36 bank SQ measures developed during a 19-year period, between 1994 and 2013. ProQuest, Emerald, ScienceDirect, Wiley-Blackwell, and InformaWorld are among the databases used to select the academic papers for review.

4.1. Channel type, continents and countries

Depending on the distribution channel three types of bank SQ scales were identified. As data in the Appendix show, most scales (22 out of 36 scales) were developed to measure e-banking SQ. Out of these, only three are designed in such a way that they allow the evaluation of e-banking SQ regardless of the technological device which intermediates the contact between customers and banks (Ibrahim et al., 2006; Ganguli and Roy, 2011; Lin and Hsieh, 2011). Among the SSTs, IB is the channel that has been most investigated, with a total of 12 scales developed particularly for this alternative distribution channel (e.g. Jayawardhena, 2004; Sohail and Shaikh, 2008). Khan (2010), Katono (2011) and Narteh (2013) were particularly interested in ATMs as SSTs that offer access to banking services, while Joseph et al. (1999) and Al-Hawari et al. (2005), on the other hand, include in their scales items designed to measure either the quality of ATMs, IB or Call Centre. Out of the 22 e-banking SQ scales only one was developed for Mobile Banking (hereafter MB). It is also worth mentioning that the role of the human-factor has been considered in several scales proposed for e-banking SQ (e.g. Jayawardhena, 2004; Ganguli and Roy, 2011). In these studies, bank employees are appreciated to have an important role given the assistance and support offered to customers who encounter problems during banking transactions. As such, when problems arise, the 'customer-machine' contact is replaced with 'customer-bank operator' contact and the customer is no-longer a producer, but a co-producer of the service. Another important note is that all scales, except for one, developed later than 2010 are designed to measure e-banking SQ. This finding furnishes evidence of the increasing role of technology in customer-bank relationships.

Although less investigated during the past years, the quality of services offered in bank branches has been the focus in 12 studies which aimed to develop a new bank SQ scale (e.g. Babakus et al., 2004; Abdullah et al., 2011). It is important to emphasize that several scales developed for traditional services also consider quality variables specific to ATMs. For instance, Bahia and Nantel (2000) include in their scale the item 'sufficient number of ATMs

per branch'. Similarly, the 'machine SQ' dimension proposed by Aldlaigan and Buttle (2002) comprises two items related to ATMs. In the same vein, Choudhury (2007) measures the perceived convenience in terms of ATMs' location and Paswan et al. (2004) asks respondents to evaluate the access to banking services offered over ATMs and telephone. This suggests that ATMs may be associated with traditional services, in that bank branches should provide access to services over such technologies.

The difference between traditional and e-banking services has been recognized by most researchers. Accordingly, different bank SQ scales have been developed for branch services and SSTs in 34 out of the 36 studies summarized in this paper. Greenland et al. (2006) and Miguel-Dávila et al. (2010), on the other hand, developed scales that are intended to measure the perceived quality of both traditional and e-banking services. Consequently, the scale proposed by Greenland et al. (2006) includes two dimensions which comprise items designed to measure the perceived quality of ATMs. Similarly, the scale developed by Miguel-Dávila et al. (2010) includes in the 'operative dimensions' two items related to ATMs' quality along with other eight SQ variables. Moreover, their scale comprises the 'technological dimension' which measures customers' perceptions of bank remote services such as telephone banking and IB. This finding suggests that while transactions over ATMs may be associated with standard services, telephone and online services are perceived as a distinct category, less similar to branch services.

Although the scales summarized in the Appendix were developed in various countries, most of them (14 scales) can be attributed to researchers in Asia. Among these, 5 scales were developed in India (e.g. Sureshchandar et al., 2001; Gupta and Bansal, 2012) followed by Taiwan with four scales (e.g. Ho and Lin, 2010; Wu et al., 2012). Though equally investigated in Europe and in The Americans (8 scales in each continent), bank SQ has been of more interest for researchers in UK (e.g. Johnston, 1995; Ibrahim et al., 2006) and USA (e.g. Jun and Cai, 2001; Sohn and Tadisina, 2008) than for researchers in other countries of the two continents. Of the 36 scales summarized in the Appendix, three were developed in Australia, Oceania (e.g. Avkiran, 1994) and three in Africa (e.g. Katono, 2011). Unlike researchers in other continents, those in The Americans were almost equally concerned about the quality of services offered by banks in branches (three scales) and over SSTs (four scales). In contrast, researchers in Africa were not interested in developing new measures solely for branch services. The three studies conducted in Africa aimed to develop either ATM SQ scales (Katono, 2011; Narteh, 2013) or mixed channel type SQ scales (Greenland et al., 2006).

Researchers justified their decision to bring in new scales either by stressing the need to develop an instrument particularly designed for the

banking context (e.g. Bahia and Nantel, 2000; Narteh, 2013) or by highlighting that cultural differences may influence customers' bank SQ perceptions (e.g. Choudhury, 2007; Wu et al., 2012). Indeed, several researchers have argued for context- and cultural-specific SQ scales. Hayes (2008) for example, appreciates that some quality dimensions can be generalized across different service contexts, while others are only valid for some services and new ones should be considered. Carman (1990), Malhotra et al. (1994) and Martinez and Martinez (2010) suggest that culture may influence customers' perceptions of SQ and even the meaning associated to the SQ concept. Malhotra et al. (1994) further hypothesized that there may be differences in the perceived importance of SQ dimensions between developed and developing countries. For instance, the customer-machine contact and service added benefits may be appreciated of higher importance in developed countries. The subsequent cross-national study (USA, India and Philippine) of Malhotra et al. (2005) aimed to test in the banking context the hypotheses previously formulated by Malhotra et al. (1994). Results confirmed most of their assumptions thus offering support for differences in customers' bank SQ perceptions depending on the country development level.

4.2. Service quality scale generation process

The literature concerning the field of service marketing, SQ or SSTs became a basis for item generation in most of the studies. However, the source of the proposed quality variables was not reported by all researchers. Nor do they mention a specific study that most contributed to the SQ scale development. In this regard, Joseph et al.'s (1999) and Sharma and Malviya's (2011) studies may be said to have failed a theoretical foundation. Similarly, Khan et al. (2009) do not point to the influence that previous research in the field has had in the item generation process. In the same vein, Khan (2010) does not explicitly mention the steps undertaken in order to develop the measurement instrument. Karatepe et al. (2005), on the other hand, review the literature in the field and together with bank managers in Northern Cyprus come to the decision to develop a tailor-made SQ measure for the particular cultural context of interest. Other researchers emphasize the influence of a specific area of study. In this respect, Jun and Cai (2001) acknowledge that the SQ categories which they propose for IB are based on the literature in the field of services, e-commerce and banking. Yang et al. (2004) recognize the importance which the theory in customer SQ, product portfolio management and information systems quality had in the development of the framework which they propose for IB SQ measurement. For the same e-banking service, Loonam and O'Loughlin (2008) grasp the literature in the web usability and electronic SQ while the scale proposed by Sohn and Tadisina (2008) to assess the quality of

services offered by internet-based financial institutions has its roots in the traditional SQ measurement.

Several researchers also discussed the initial list of items extracted from the literature with experts in the field or engaged in qualitative research in order to refine it. Experts' opinion was considered by Bahia and Nantel (2000), Sureshchandar et al. (2001), Sureshchandar et al. (2002), Al-Hawari et al. (2005), Sharma and Malviya (2011). Focus groups was the method employed in nine studies (e.g. Joseph et al., 1999; Tsoukatos and Mastrojianni, 2010; Lin and Hsieh, 2011). While several researchers decided to conduct the discussions with banking services users only (e.g. Greenland et al., 2006; Lin and Hsieh, 2011; Narteh, 2013), others found it more valuable to make use of the opinions gathered both from bank customers and bank employees (e.g. Jayawardhena, 2004; Tsoukatos and Mastrojianni, 2010). Jabnoun and Khalifa (2005), on the other hand, restricted their sample to 15 bank managers who were involved in a brainstorming exercise. Paswan et al. (2004), Loonam and O'Loughlin (2008) and Wu et al. (2012) are among the researchers who decided for in-depth interviews in order to refine their measurement instruments. While Paswan et al. (2004) and Bauer et al. (2005) considered in their research the opinions of both staff and banking services users, Karatepe et al. (2005) and Ho and Lin (2010) decided for an insight into users' viewpoint, the former study being regarded to comprise the most extended qualitative research. The IB SQ attributes identified in the literature were further refined by Loonam and O'Loughlin (2008) with the help of 20 both online banking users and non-users. On the other hand, Wu et al. (2012) neglected customers' opinions about IB SQ attributes and interviewed only 23 administrators of internet banks. Aldlaigan and Buttle (2002), as well as Yu (2008) and Khan et al. (2009) decided for both focus groups and in-depth interviews. While Aldlaigan and Buttle (2002) conducted seven focus groups and 39 interviews with bank customers, Khan et al. (2009) carried out just one focus group with ten IB customers and engaged in detailed discussions with four bank managers. Similar to Wu et al. (2012), Yu (2008) restricted their focus group and in-depth interview samples to online banking executives. This approach may be deemed a limitation in that the authors do not consider 'customers' lenses' in the development of the research instrument. Katono (2011), unlike the researchers above indicated, asked 102 students and 10 senior lecturers to list the attributes which are taken into consideration when evaluating the quality of banking services offered over ATMs. In addition, the author held discussions both with business people and bank personnel and further examined a local newspaper for information with reference to compliments and recommendations with respect to ATM services. Three other studies (Jun and Cai, 2001; Broderick and Vachirapornpuk, 2002; Yang et al.,

2004) employ netnography as a methodological approach. The researchers previously indicated tracked the discussions between different internet community groups with reference to their IB experiences and analysed the stories (critical incidents) by employing the content analysis method. Johnston (1995), on the other hand, mailed bank customers questionnaires with two-opened questions asking for the description of a favourable and for an unfavourable experience with the bank.

The above findings are briefly summarized in Table 1 which distinguishes between channel type SQ scales and the qualitative methodology employed. Data in Table 1 show that the qualitative approach was adopted only in 50% of the studies which aimed to develop new instruments to measure either branch SQ or the quality of bank services offered both over SSTs and in branches. In contrast, a qualitative methodology was preferred to a greater extent in the e-banking SQ scale generation process, with a percentage of 77.27% of the 22 studies. This finding may be explained by a greater confidence in the results of previous studies of researchers concerned with developing a quality model for traditional banking services. A more in-depth analysis of the remaining 50% studies concerned with branch banking SQ confirms the widely acceptance of the SQ models proposed by PZB.

Table 1.
Qualitative research methodology employed to generate the initial list of scale items

	Traditional distribution channel	Electronic distribution channel	Mixed channel type SQ scales
Focus groups	Tsoukatos and Mastrojianni (2010)	Joseph et al. (1999); Jayawardhena (2004); Ibrahim et al. (2006); Sohail and Shaikh (2008); Lin and Hsieh (2011); Gupta and Bansal (2012); Narteh (2013)	Greenland et al. (2006)
Interviews	Paswan et al. (2004); Karatepe et al. (2005)	Bauer et al. (2005); Loonam and O'Loughlin (2008); Ho and Lin (2010); Wu et al. (2012)	-
Both focus groups and interviews	Aldlaigan and Buttle (2002)	Yu (2008); Khan et al. (2009)	-
Netnography	-	Jun and Cai (2001); Broderick and Vachirapornpuk (2002); Yang et al. (2004)*;	-

Note: This table does not include three studies (Johnston, 1995; Jabnoun and Khalifa, 2005; Katono, 2011) which employed different qualitative methodologies; *Yang et al. (2004) mention that they engaged in personal interviews; however, no further details are provided

Despite the criticism over time, either The SERVQUAL, or its precursor, The GAP instrument is explicitly indicated as the framework for several SQ developed in the banking context (e.g. Choudhury, 2007; Shon and Tadisina,

2008), regardless of the distribution channel under consideration. In view of this finding, a thorough analysis of items and dimensions comprised in the SQ scales summarized in the Appendix was further conducted. For instance, Choudhury (2007) mentions four studies (Parasuraman et al., 1988; Parasuraman et al., 1991; Levesque & McDougall, 1996; Yavas et al., 1997) on which the proposed measurement items are based. It is useful to emphasize that the items in the four studies are more or less the same, since Levesque and McDougall (1996), as well as Yavas et al. (1997) point out that the quality items comprised in their scales were adopted from PZB. Other researchers, among which Bahia and Nantel (2000) and Sureshchandar et al. (2001), point to the SERVQUAL model limits. As such, Bahia and Nantel (2000) extend the list of quality items by relying on the GAP model proposed by Parasuraman et al. (1985). Further, they add new items previously indicated by Carman (1990) to be of high importance in the service context, and also supplement the variables by comparing the list of items comprised in the initial dimensions with the marketing mix framework proposed by Booms and Bitner (1981). To overcome the SERVQUAL drawbacks, Sureshchandar et al. (2001) extend the initial list with items neglected by Parasuraman et al. (1988) and group the SQ variables in three distinct dimensions: 'core service', 'systematization/standardization of service delivery' and 'social responsibility of the service organization'. Nevertheless, the 'human element of service delivery' and 'tangibles of service (servicescapes)' dimensions proposed by Sureshchandar et al. (2001) comprise items from the SERVQUAL instrument. The analysis carried out further revealed that the 'assurance/empathy' dimension proposed by Tsoukatos and Mastrojianni (2010) comprises items included in the SERVQUAL instrument while the 'reliability' dimension is a combination of items included either in the SERVQUAL or in the BSQ scale developed by Bahia and Nantel (2000). Abdullah et al. (2011), on the other hand, do not make reference to the influence of a particular previously developed SQ scale. However, a content analysis of their instrument shows that out of the 22 final quality items 40.91% correspond to the variables comprised in the scale proposed by Parasuraman et al. (1988) and 72.73% to those included in the instrument developed by Sureshchandar et al. (2001). Similarly, Jabnoun and Khalifa (2005) do not emphasize the influence of the SERVQUAL model in their item generation stage. However, as the authors themselves note, five of the dimensions identified in a brainstorming exercise with 15 managers correspond to the five SQ dimensions proposed by Parasuraman et al. (1988). Consequently, 55.17% of the 29 final items are similar to SQ variables comprised in the SERVQUAL instrument.

The prevalence of the PZB's perspective is also noticeable among researchers aiming to develop new e-banking SQ scales. Jun and Cai (2001) review the relevant literature for the item generation process. One of the three SQ factors

which they propose ('customer service quality'), comprises, among others, dimensions and items adapted from the SERVQUAL and GAP instruments in order to reflect the interpersonal contact that may be necessary even when banking transactions are carried out over the internet. Four out of the six quality sub-dimensions proposed by Yu (2008) for the IB service comprise items which resemble the variables found to be relevant by PZB in their instruments. For instance, the 'competence' sub-dimension is similar to the same dimension found in Parasuraman et al.'s (1985) study. Among the e-banking scales reviewed herein, the SERVQUAL instrument was probably most influential in the research conducted by Shon and Tadisina (2008). Three items in the 'customized communication' dimension have similarities with three items included in the 'empathy' dimension of SERVQUAL. The two items in the 'speed of delivery' dimension proposed by Sohn and Tadisina (2008) resemble two items of the 'responsiveness' dimension in the SERVQUAL instrument. Likewise, two items included in the 'reliability' and another one in the 'trust' dimension exhibit similarities with variables considered by PZB in the 'reliability' and 'assurance' dimensions of SERVQUAL.

4.3. Number of items

The number of quality items in the studies summarized in the Appendix ranged from as low as 12 (Katono, 2011) to as high as 67 (Loonam and O'Loughlin, 2008). Both the maximum and the minimum number of quality items were identified for SSTs, i.e. for the ATM and for the IB service, respectively. Findings further show that the average number of items is higher for the e-banking (27.52 items) than for the traditional banking SQ scales (23.36 items). This may suggest that when customers interact with a technological device they make quality judgements about more service attributes. For traditional banking, the lowest number of items (15 items) was reported by Choudhury (2007) among Indian bank customers, while the highest number (41 items) was reported in the same cultural context by Sureshchandar et al. (2001) and Sureshchandar et al. (2002). This result may be explained by the different methodological approaches undertaken by the above mentioned researchers in order to generate the quality items. More specifically, unlike Choudhury (2007) who generates the items solely based on the literature, Sureshchandar et al. (2001) and Sureshchandar et al. (2002) extend their quality item list with SQ attributes suggested by experts such as academicians and researchers, as well as practitioners in the field of banking services.

4.4. Service quality operationalization

The main controversy in the SQ literature is probably about the role of expectations in SQ measurement. While PZB emphasize the relevance of both customers' expectations and perceptions of service performance, Cronin and

Taylor (1992) argue that SQ should be operationalized by perceptions of service performance only. Each of these perspectives has advocates among SQ researchers. Consequently, bank SQ was measured either with performance-only or with both expectations and performance scales. The review undertaken in this paper shows that most researchers adopted Cronin and Taylor's (1992) view and measured bank's SQ with performance-only scales. Out of the 36 studies, in 21 researchers clearly state their intention to identify customers' perceptions regarding service performance (e.g. Jayawardhena, 2004; Miguel-Dávila et al., 2010). In 6 of the 12 traditional banking studies researchers favoured Cronin and Taylor's (1992) perspective and measured bank SQ with performance-only scales. Cronin and Taylor's (1992) perspective is also adopted in 81.81% of the studies aimed at developing e-banking SQ instruments. The later percentage confirms what Yang and Jun (2002) and Santos (2003) argued more than a decade ago. On the one hand, it is appreciated that customers may not understand their e-service expectations or may not know what they should expect (Yang and Jun, 2002). Moreover, customers may find it difficult to state what they expect because they do not know the standards they could relate to (Santouridis et al., 2009). On the other hand, when bank customers use SSTs they are no longer 'co-producers', but 'producers' of their own services. As such, the experience they have during remote transaction processes may be even more important than the experience in bank branches. Consequently, the role of e-expectations diminishes compared to that of expectations in traditional channels, while the role of experiences increases (Santos, 2003). The gap scores measurement method was identified in five studies (e.g. Bahia and Nantel, 2000; Yu, 2008). It is also important to note that only in one out of these studies, performance perceptions and expectations were measured with the same scale (Avkiran, 1994), thus following the suggestion made by Carman (1990) and Babakus and Boller (1992), i.e. to measure the gap between perceptions and expectations directly, with a single scale.

Other researchers do not explicitly mention the measurement method but it is assumed that the performance-only view was adopted (e.g. Joseph et al., 1999; Sohn and Tadisina, 2008). Johnston (1995), Jun and Cai (2001), Broderick and Vachirapornpuk (2002) and Loonam and O'Loughlin (2008) did not engage in collecting quantitative data but only conducted qualitative research. Still, Broderick and Vachirapornpuk (2002) and Loonam and O'Loughlin (2008) point out that they favour the disconfirmation method in measuring the quality of IB services. Most researchers used either five-point (10 studies) or seven-point (13 studies) Likert scales to measure the perceived SQ. Others, however, do not offer any information regarding the type of scales used in their study (e.g. Jabnoun and Khalifa, 2005; Sohn and Tadisina, 2008). Several authors, on the other hand, used Likert type scales anchored between

'extremely poor' and 'extremely good' (e.g. Greenland et al., 2006), 'very poor' and 'very good'/'excellent' (e.g. Sureshchandar et al., 2001; Ibrahim et al., 2006) or between 'not important'/'very unimportant' and 'very important' (e.g. Paswan et al., 2004).

4.5. Dimensional structure of service quality

Customers make quality judgements based on their evaluation of distinct service attributes which can be grouped in several quality dimensions specific to bank services. This further suggests that bank SQ is a multidimensional construct. All of the 36 bank SQ scales summarized in the Appendix prove that there is a consensus among researchers with regard to the multidimensional nature of the SQ construct. Nevertheless, the number of dimensions varies from one scale to another, regardless of the distribution channel or country. In traditional banking, the number of SQ dimensions varies from three (Babakus et al., 2004; Abdullah et al., 2011) to eighteen (Johnston, 1995). In USA, Babakus et al. (2004) came to the conclusion that a three-factor structure of SQ is most suitable, while Paswan et al. (2004), in the same cultural context, proposed a four-factor structure of traditional SQ.

With regard to e-banking SQ, the minimum number of dimensions is three (Sohail and Shaikh, 2008), while the maximum number reaches ten (Loonam and O'Loughlin, 2008). Four studies, however, suggest that e-banking SQ has a hierarchical structure. For instance, Narteh (2013) identifies five SQ sub-dimensions for ATMs, which are further grouped in three dimensions. Yu (2008) concludes that there are two IB SQ dimensions, each comprising three sub-dimensions. Similarly, Bauer et al. (2005) identify 18 quality sub-dimensions for e-banking portals which correspond to six dimensions and Jun and Cai (2001) classify 17 IB dimensions in three categories. Babakus et al. (2004), on the other hand, test the hierarchical model which they propose for traditional banking services. The authors demonstrate that SQ attributes can be grouped in three dimensions, namely 'search attributes', 'credence attributes' and 'experience attributes'. These, in turn, are found to be manifestations of a consumer's decision related to bank choice.

Notwithstanding that SQ dimensions vary in number from one study to another, most of them are common service features in several scales. For instance, the 'tangible' dimension was identified in five out of the 12 quality scales developed for traditional banking services (e.g. Bahia and Nantel, 2000; Choudhury, 2007). 'Reliability' was found among the dimensions identified by Johnston (1995) in UK, Bahia and Nantel (2000) in Canada, Karatepe et al. (2005) in Cyprus, Jabnoun and Khalifa (2005) in United Arab Emirates and by Tsoukatos and Mastroianni (2010) in Greece. This suggests that regardless of

the country or continent, bank customers value error-free services and appreciate it when bank personnel keep their promises. Other researchers argue that equipment reliability should be considered among the quality dimensions specific to traditional banking. For example, Aldlaigan and Buttle (2002) name 'machine SQ' the dimension which evaluates customers' judgements regarding the reliability, performance and output of the delivery equipment used by bank personnel. Abdullah et al. (2011) and Sureshchandar et al. (2001), name 'systematization of service delivery' a similar dimension. Although intended as a non-human element of the service delivery process, this dimension includes a human-related item in both scales. 'Reliability' was also found to be an important SQ dimension in 11 studies investigating e-banking SQ (e.g. Yu, 2008; Gupta and Bansal, 2012), followed by 'responsiveness' (e.g. Jun and Cai, 2001; Narteh, 2013) and security and privacy issues (e.g. Ho and Lin, 2010; Wu et al., 2012). The resemblance between traditional and e-banking dimensions stands as proof of the influence which findings in a traditional context have upon the perspective of researchers investigating e-banking SQ. Several researchers, however, merge two distinct dimensions in a single one. For instance, Sharma and Malviya (2011) obtain a SQ dimension that comprises both 'reliability' and 'responsiveness'. Ibrahim et al. (2006) merge 'accessibility' and 'reliability' in the dimension 'accessibility and reliability of service provision'. The same authors propose a dimension which they name 'the provision of friendly and responsive customer service'. Similarly, the 'web interface' dimension identified by Jun and Cai (2001) was referred to slightly different from study to study: 'userfriendliness' (Khan et al., 2009), 'aesthetics' (Gupta and Bansal, 2012), 'web design' or simply 'design' (Ho and Lin, 2010; Lin and Hsieh, 2011).

During the review process undertaken by the authors of the present paper, several articles were found to have replicated some of the scales analysed in this study (e.g. Glaveli et al., 2006; Renganathan et al., 2012). The BANKSERV scale proposed by Avkiran (1994) was tested several years later in the same cultural setting by Pont and McQuilken (2002). Unlike Avkiran (1994) who adopts a disconfirmation perspective, Pont and McQuilken (2002) measure SQ with performance-only scales. Their results could not confirm the SQ structure reported by Avkiran (1994) and the authors suggested that future studies should test the alternative BANKPERF scale. More recently, Renganathan et al. (2012) adopt a similar approach to that of Pont and McQuilken (2002) and test the BANKSERV scale with performance-only measures among Indian bank customers. The initial 17 quality item list is reduced to ten in the EFA and finally three instead of four dimensions are obtained. Spathis et al. (2004), Glaveli et al. (2006) and Petridou et al. (2007) use the BSQ scale previously developed by Bahia and Nantel (2000) in Canada. Spathis et al. (2004) conducted a study among 1,260 Greek bank customers. Among other objectives, the authors

aimed to identify differences between males and females with regard to the importance attached to bank SQ dimensions. Spathis et al. (2004) report six SQ dimensions for the male sample and seven for the female sample. Results also indicated that certain SQ dimensions are more important for women than for men (e.g. price, access). Glaveli et al. (2006) used the BSQ scale to measure the perceived quality among 340 bank customers in five countries: Greece, Bulgaria, Albania, Former Yugoslav Republic of Macedonia (FYROM) and Serbia. Similarly to Spathis et al. (2004), Glaveli et al. (2006) also aimed to identify any difference between the five countries with regard to the importance attached to bank SQ dimensions. Their results also differed from those initially reported by Bahia and Nantel (2000). While for Greece and FYROM six bank's SQ dimensions were obtained, a five-dimensional structure resulted for Bulgaria, Serbia and Albania. Glaveli et al. (2006) further emphasized the differences between the five countries regarding the importance rank of the SQ dimensions. While Greek bank customers were found to be least sensitive to price, those in Albania, followed by those in FYROM were most sensitive to bank charges. 'Tangibles' was the dimension least important for customers in Greece, but of greatest importance in quality judgements for those in Bulgaria. In their endeavour to explain such differences, Glaveli et al. (2006) referred to the results obtained by Malhotra et al. (2005) for developed and developing countries. The differences between the items comprised in the dimensions reported by Spathis et al. (2004) and Glaveli et al. (2006) and those included in the dimensions proposed by Bahia and Nantel (2000) are later addressed by Petridou et al. (2007). Different results from the original study conducted by Lin and Hsieh (2011) were also reported by Radomir and Nistor (2012). The later authors apply the SSTQUAL scale to measure Romanian customers' perceptions of IB SQ. The initial list of 20 items is reduced by Radomir and Nistor (2012) to 18, comprised in five SQ dimensions instead of seven, as reported by Lin and Hsieh (2011).

4.6. Technical versus functional dimensions of service quality

Unlike The Nordic School of Thought which considers both functional (process) and technical (outcome) quality, The North American School of Thought highlights the importance which the delivery process (i.e. functional quality) has in SQ judgements. The present review finds the studies conducted by Aldlaigan and Buttle (2002) and Narteh (2013) to be the most explicit in emphasizing the perspective which is adopted. Aldlaigan and Buttle (2002) follow the Nordic School of Thought perspective and refer to SQ in terms of technical and functional service characteristics. Their results indicate the existence of four dimensions out of which two are related to outcome variables, one to functional variables and another dimension which is a combination of

functional and outcome SQ characteristics. Narteh (2013) notes that the adopted approach extends the technical and functional dimensions of SQ by taking into account the recovery phase which is appreciated to be important in case any problem might occur during the delivery process. Similar to The Nordic School of Thought, Sureshchandar et al. (2001), Broderick and Vachirapornpuk (2002) and Sureshchandar et al. (2002) value the perceived image of a service company. Hence, the previously indicated researchers appreciate that when service companies are perceived to be socially responsible (e.g. ethical conduct, equal treatment of customers, a sense of responsibility among bank employees) then their services are deemed of high quality.

Despite these evidences of the influence that the Nordic School of Thought has had in the development of bank SQ scales, it is beyond doubt that the functional dimension of SQ was the focus in the studies indicated in the Appendix. Findings from this investigation provide evidence that the human-component is prevalent in branch banking SQ scales, thus confirming the superiority of the functional quality over the technical one. Bank personnel behaviour, attitude and knowledge have been found to be extremely important during the delivery process. This conclusion is clearly outlined by Tsoukatos and Mastroianni (2010) who argue that special treatment and caring attention are valued by customers during their interactions with bank employees. This is not surprising, however. Bank employees need to make an effort in order to identify and meet customers' needs and their behaviour should reflect that customers' interests are important. When a 'pleasant contact' with bank personnel is experienced, customers' perceptions of SQ are expected to be high.

4.7. Final sample sizes

Among the studies which employed a quantitative approach, the minimum final sample size (51 respondents) was reported by Sharma and Malviya (2011), while the maximum of 2,400 respondents was reported by Greenland et al. (2006). Ten studies had final sample sizes lower than 250 (e.g. Ibrahim et al., 2006; Ho and Lin, 2010; Katono, 2011), out of which only two had fewer than 100 respondents. It is important to highlight that 11 studies had sample sizes greater than 500, out of which five exceeded a total of 1000 respondents (e.g. Karatepe et al., 2005; Abdullah et al., 2011; Gupta and Bansal, 2012).

4.8. Analysis method(s)

As a data analysis procedure, the exploratory factor analysis (EFA) alone was preferred in 15 out of the 32 studies which employed a quantitative

research design. Just a couple of researchers (Sureshchandar et al., 2002; Yang et al., 2004) applied only confirmatory factor analysis (CFA), while the rest used a combination of EFA and CFA. Furthermore, it was observed that EFA with Varimax rotation was preferred in most studies (e.g. Jabnoun and Khalifa, 2005; Narteh, 2013), while Promax rotation was used only by Katono (2011) and Oblimin rotation method was employed by Aldlaigan and Buttle (2002) and Babakus et al. (2004). Other researchers do not indicate the rotation method used in order to reach the structure of their data (e.g. Paswan et al., 2004; Yu, 2008). Researchers' decision to rely on EFA results solely may be explained through the purpose of their research. The selected studies were conducted with the purpose to develop bank SQ scales. As such, it was intended to identify the bank SQ dimensions, i.e. a structure of the data (Hair et al., 2009) which may explain the correlations between quality attributes. Such a research objective justifies the use of EFA (Malhotra and Birks, 2007). Furthermore, one may infer that researchers aimed to reduce the original set of variables to a new set, which further explains the preference for EFA (Hair et al., 2009; Malhotra and Birks, 2007; Wilson, 2006). Although EFA is appreciated to be an inductive approach, this analysis procedure may also lead to meaningful theoretical conclusions (Wilson, 2006), which explains its use in scale development (Pallant, 2007). On the other hand, researchers who decided to use the confirmatory data analysis procedure, either in combination with EFA or as a stand-alone analysis method, urged to confirm the structure of the data obtained either through EFA, qualitative research or through the review of the literature. In this case, the quality variables initially regarded as important are further inspected by employing multivariate analyses or are used to collect a new set of data.

Factor loadings was used as a criterion for item deletion in 21 of the quantitative studies. In 11 of these studies factor loadings was the only criterion used in order to decide whether an item should be retained or discarded (e.g. Bahia and Nantel, 2000; Gupta and Bansal, 2012). The cut-off value for factor loadings differed from study to study. Although most researches decided for 0.50 as a threshold value (e.g. Avkiran, 1994; Ho and Lin, 2010), others retained items with factor loadings higher than 0.45 (Babakus et al., 2004), 0.40 (e.g. Jabnoun and Khalifa, 2005; Lin and Hsieh, 2010) and even above 0.30 (e.g. Greenland et al., 2006). Tsoukatos and Mastrojianni (2010) were more stringent and decided for a cut-off value of 0.55 for the item correlations with their corresponding factors. Apart from loading scores, several researchers used other indices as well in order to establish the items which are to be retained in the final scale. For instance, Ho and Lin (2010) and Lin and Hsieh (2011) investigated the cross-loadings and discarded those items that exhibited cross-loadings higher than 0.30 on more factors. Other researchers

only state that items with high loadings on several factors were deleted (e.g. Karatepe et al., 2005; Wu et al., 2012). In addition to factor loadings and cross-loadings, measures such as communalities (e.g. Aldlaigan and Buttle, 2002; Sharma and Malviya, 2011), item-to-total correlation (e.g. Ho and Lin, 2010; Narteh, 2013) and Cronbach's alpha increase if item deleted (e.g. Tsoukatos and Mastroianni, 2010) were also considered in researchers' decision with regard to the final list of items. Unlike Lin and Hsieh (2011) who do not mention the threshold value for item-to-total correlation coefficients, Al-Hawari et al. (2005), Abdullah et al. (2011) as well as Narteh (2013) specify that lower values than 0.30 led to item exclusion. Similarly, Ho and Lin (2010) discarded all items with item-to-total correlation values below 0.40. Furthermore, Jabnoun and Khalifa (2005) excluded factors with less than three items. In the same vein, Wu et al. (2012) discarded a factor which comprised only one item. Other researchers limited either to cross-loadings (e.g. Ibrahim et al., 2006; Sohn and Tadisina, 2008) or to item-to-total correlation coefficients (Al-Hawari et al., 2005) in their decision regarding the items to be retained or discarded. Miguel-Dávila et al. (2010), on the other hand, only specified that items with low correlations with other items in the scale were removed. Similarly, Sharma and Malviya (2011) retained only items exhibiting correlation coefficients above 0.30. Other researchers did not offer any information regarding the criteria they used in order to decide whether an item should be retained or removed from the scales (e.g. Khan, 2010).

4.9. Reliability and validity

Researchers' engagement in the literature review process as well as the comparison of the results obtained in the qualitative stage of their research with previous studies, pilot studies or the call for experts' opinion in the scale refinement stage are proof of their efforts to demonstrate the content validity of the proposed scales. As clearly pointed out in the market research literature, it is imperative that researchers test whether the measurement scales they develop lead to the same results when the study is repeated, i.e. scale reliability (Hair et al., 2003; Malhotra and Birks, 2007). Although three different techniques (test-retest, equivalent forms and internal consistency) may be employed to test a scale's reliability (Hair et al., 2003; Malhotra and Birks, 2007), internal consistency was the only method used with the purpose to assess reliability in the studies herein reviewed. Except for one study which employed both the coefficient alpha and the split-half technique to measure internal consistency (Abdullah et al., 2011), and three other studies in which researchers do not determine the reliability of the scales they propose (Joseph et al., 1999; Greenland et al., 2006; Khan et al.,

2009), in all studies employing a quantitative approach Cronbach's alpha was used to assess scale reliability. The lowest alpha coefficient reported in the summarized studies is .33 (Ibrahim et al., 2006), while the highest (.987) was found in the study conducted by Wu et al. (2012). An alpha coefficient of 0.60 may be considered appropriate (Hair et al., 2003; Hair et al., 2009; Malhotra and Birks, 2007) in exploratory studies (Hair et al., 2009) although the most used threshold value is 0.70 (Hair et al., 2009). Most scales in the studies summarized in the Appendix exhibited good internal consistency reliability, Cronbach's alpha values exceeding the cut-off point of 0.70 (e.g. Avkiran, 1994; Tsoukatos and Mastroianni, 2010). Aside from Miguel-Dávila et al. (2010) who report the Cronbach's alpha coefficient for the entire quality scale (.943), researchers followed the suggestions made by Cronbach (1951) and Malhotra and Birks (2007) and calculated alpha coefficients for each SQ dimension.

Scale validity analyses are considered a must when multidimensional constructs are investigated (Hair et al., 2003). Construct validity concerns were evident in most studies. Nevertheless, there are studies in which researchers did not consider construct validity issues (e.g. Joseph et al., 1999; Choudhury, 2007). Others do not refer to construct validity issues although several specific analyses were employed. Among them are Greenland et al. (2006) who examined the relationships between SQ dimensions and bank customer satisfaction (nomological validity). Similarly, Khan (2010) inspected the relationship between each SQ dimension and the overall score for SQ. Convergent validity was measured by inspecting the relationship between SQ dimensions, the relationship between the sum of scores across all items and an overall quality score (e.g. Avkiran, 1994; Gupta and Bansal, 2012) or by comparing the AVE values with .50 (e.g. Yang et al., 2004; Wu et al., 2012), the loading estimates with .50, or by inspecting the loadings' corresponding t-test values (e.g. Al-Hawari et al., 2005; Lin and Hsieh, 2011). Several analyses were employed in order to test discriminant validity. For example, Bahia and Nantel (2000) compare the BSQ scale which they develop with the SERVQUAL scale. Their results indicated that the relationship between the two scales is too strong to consider the two measures independent. Sureshchandar et al. (2002), employing a CFA approach, inspected ten chi-square differences to decide whether the proposed constructs distinguish one from each other. On the other hand, Al-Hawari et al. (2005), Miguel-Dávila et al. (2010) and Ganguli and Roy (2011) among others, applied the Fornell and Larcker criterion. Ibrahim et al. (2006) investigated the cross-loadings and concluded that discriminant validity is supported. For the same purpose, Lin and Hsieh (2011) and Wu et al. (2012) assured that the confidence intervals for each pair-wise correlation did not include the unit. Nomological validity was most often tested by correlating the bank SQ dimensions or the proposed scale's score with related, yet

different constructs such as satisfaction (e.g. Tsoukatos and Mastrojianni, 2010; Abdullah et al., 2011), word-of-mouth (e.g. Bahia and Nantel, 2000; Tsoukatos and Mastrojianni, 2010), loyalty (e.g. Sureshchandar et al., 2002; Al-Hawari et al., 2005), problems encountered with banking services (Bahia and Nantel, 2000) or behavioural intention (Lin and Hsieh, 2011). The relationship between bank SQ dimensions and overall bank quality was also investigated in several studies (e.g. Karatepe et al., 2005; Narteh, 2013). It is also worth emphasizing that in a relatively high number of studies researchers engaged in analyses that allowed them to test each of the three types of construct validity, i.e. convergent, discriminant and nomological validity (e.g. Bahia and Nantel, 2000; Yang et al., 2004; Sohn and Tadisina, 2008; Abdullah et al., 2011; Narteh, 2013).

5. Suggestions for future research

Findings from the review of the 36 bank SQ scales provide avenues which could help researchers in carrying out further research in the banking context, especially when the purpose is to develop new SQ measurements.

Departing from the findings outlined in the previous section, there is no doubt that several dimensionality problems may arise when bank SQ measures are replicated in different cultural settings. In line with the conclusion formulated by Ladhari (2008), one may infer that certain SQ items and dimensions in the SERVQUAL scale are relevant for the banking context. However, the findings herein discussed also support the contention that the dimensional structure of SERVQUAL, as well as the importance of each dimension may vary from a cultural setting to another. Besides, failure to replicate the structure of previously developed bank SQ scales in different cultural settings (e.g. studies conducted by Glaveli et al., 2007; Radomir and Nistor, 2012) suggests that future studies should attempt to develop culture-specific measures of bank SQ. Furthermore, in line with the assertions and suggestions made by Hayes (2008), Carman (1990), Malhotra et al. (1994) and Martinez and Martinez (2010) we call for bank SQ scales which could be generalized to countries which exhibit similar cultural values. Moreover, it may be useful that future studies also consider the human development index (very high, high, medium and low human development countries) as well as country classification (major advanced, advanced and emerging market and developing economies) along with cultural values. In line with this thinking we would suggest that certain SQ dimensions may be of high importance in developed countries but not relevant for customers in developing countries. Likewise, several dimensions may prove to be relevant among similar cultural settings and fail to be found important in different cultural contexts. Researchers' endeavour to develop a bank SQ scale generalizable to countries which are in the same

group based on the human development index and country classification and which share similar cultural values, would result in valuable findings from a managerial standpoint.

The in-depth analysis of the 36 studies has also emphasized the methodological approach undertaken in the item generation process. While several researchers have only relied on literature, others engaged in qualitative research in order to refine the initial list of items. In this respect, the qualitative approach is regarded to be feasible and researchers are encouraged to engage in a qualitative study whenever the development of a new bank SQ scale is the focus of research. Furthermore, it was revealed that previous literature in traditional SQ or bank SQ has served as a point of reference in the attempt to develop e-banking SQ scales. Alternative distribution channels change the nature of contact between customers and their banks. Consequently, service attributes and SQ dimensions which may be perceived important during the customer-bank personnel interaction may not be regarded of similar importance during the contact between customers and SSTs. For this reason, it is argued that distinct quality scales should be developed for traditional and for e-banking services. Branch services and services available over SSTs have distinct characteristics and accordingly, they differ in terms of the SQ judgements made by customers. For instance, a bank may be expected to have convenient operating hours for customers who visit bank branches. Likewise, a bank may be expected to offer access to its e-banking services 24 hour a day. Although the two service attributes reflect the accessibility of a bank's offer, customers assess this SQ characteristic differently for traditional and e-banking services. Moreover, this paper advocates for the review of e-service literature whenever the purpose is to develop an e-banking quality instrument. Besides, this paper further distinguished between studies which did and did not considered the 'consumer voice' during the qualitative phase of the research. This paper calls for new scales that mirror the 'lenses' of bank customers. Whenever a bank aims to improve the quality level of its services, resources must be allocated towards those areas which customers appreciate to 'suffer'. Scales which solely rely on suggestions made by experts in the field of SQ or on bank representatives' opinions may fail to uncover the true facets of bank SQ. Accordingly, the voice of bank customers should always be taken into account in the item generation or refinement phases of research.

Most of the scales developed for e-banking services aim to uncover the SQ dimensions of IB, thus neglecting other SSTs used by banks to provide services to their customers. This finding indicates a gap that further needs investigation. Researchers are therefore advised to consider the latest technological advancements and the additional functions of mobile phones. Smart mobile phones are gadgets with high popularity among consumers and

are gaining popularity among the alternative distribution channels used by banks. Such gadgets are no longer just a communication device. Mobile phones allow customers both to perform and to keep tracking of their banking transactions regardless of place (i.e. 'round the world') or time ('round the clock'). It is therefore expected that MB service turns out to be the most intensively used distribution channel as the future of banking shall move from PC to mobile phones. Accordingly, this paper claims that future studies should aim to uncover the relevant SQ dimensions of MB.

This study further emphasized that service attributes related to customer support have been reported as important facets of e-banking services in several studies. It is herein posited that e-services attributes are mainly associated with 'customer-machine' contact. As such, while several customers may interact with bank employees for further support during transactions carried out over SSTs, others may never experience a problem or may never have queries that need further contact with bank personnel in order to be solved/ answered. Consequently, it is appreciated that future studies should follow the suggestion made by Parasuraman et al. (2005) and comprise SQ attributes related to customer support in a distinct dimension which is to be judged only by those customers who can offer relevant answers.

The in-depth investigation carried out has also revealed that bank SQ is suggested to be a second-order construct in several studies. However, it is only in the study conducted by Babakus et al. (2004) that the hierarchical structure of SQ is statistically tested. Hence, future attempts in this respect should urge to empirically validate the proposed higher-order construct of bank SQ.

The data analysis methodology followed in the studies summarized in the Appendix corresponds to realism. Accordingly, the constructs proposed by researchers are reflective in that it is assumed that the direction of the relationship is from latent variables to the corresponding observed measures. MacKenzie et al. (2011) account that a construct should not be considered "inherently formative or reflective in nature" (p. 302) as most constructs "can be modelled as having either formative or reflective indicators" (p. 302), in accordance with the researchers' ontological view (Coltman et al., 2008; MacKenzie et al., 2011). Future research may follow Jarvis' et al. (2003) perspective and consider constructs such as quality to be latent variables with formative indicators. An even more vehement opinion is expressed by Rossiter (2011). This author's viewpoint is that most of the "abstract attributes in marketing are formed" which further implies the conviction that constructs such as SQ "are invariably measured wrongly as «reflective»" (Rossiter, 2011, p. 1570) although formative in nature. Up to this moment, the authors of the present paper only have knowledge of such an approach in the study conducted

by Radomir (2013). This author aimed to identify the relevant bank SQ dimensions for Romanian customers and treated the latent quality variables as formative constructs. In line with Martinez and Martinez (2010), Radomir (2013) holds that SQ dimensions are the result of a subjective evaluation process which customers engage in. However, this researcher's findings haven't made the subject of a journal paper up to now; consequently, her work was not considered in our review. Given the above mentioned, it is of paramount importance that researchers further investigate the SQ concept in order to establish the nature of this construct and decide whether analyses procedures such as EFA are appropriate or not.

With regard to the criteria used in order to decide which variables to retain or discard from the initial item list, several suggestions previously stressed in the market research literature may be considered. As such, instead of taking into account a single criterion (e.g. loadings), researchers may simultaneously consider several indices. In addition to factor loadings, researchers' decision to discard or retain a particular item may be also derived from indices such as cross-loadings, item-to-total correlations, communalities, correlations between items and even the increase in Cronbach's alpha coefficient if item deleted. Furthermore, depending on the purpose of the study, researchers may be more or less stringent about the results. In this respect, a factor loading may be as low as .30 for interpretation purposes. However, the lower limit should reach a value of .50 for practical relevance and a value of 0.70 for the resulted structure to be considered well defined (Hair et al., 2009). Researchers may also take into account the sample size when deciding the appropriateness of their results. For instance, Field (2005) suggests that a factor loading as low as 0.162 may be appreciated adequate for sample sizes greater than 1000 and 0.30 is considered appropriate for samples of at least 350 cases by Hair et al. (2009). Field (2005) further suggests that for samples which are larger than 500 cases, communalities much lower than 0.50 are acceptable. In contrast, Hair et al. (2009) contend that the minimum acceptable value should be 0.50. The investigation carried out in this paper also revealed that it was in one study only that researchers discarded from the scale those items that correlated poorly with other items in the scale. In this regard, researchers may follow Hair et al.'s (2009) guidelines and retain only those items which exhibit correlation coefficients with other items in the scale of at least 0.30. In the same vein, market research literature suggests an item-to-total correlation coefficient of at least 0.30 (Field, 2005) or of 0.50 according to Hair et al. (2009).

Most scales reviewed in this paper are found to be reliable. However, as noted in the previous section, Ibrahim et al. (2006) report an alpha coefficient of 0.33 for the two-item 'targeted customer service' quality dimension. According

to Hälsig (2008) an alpha value as low as 0.40 is deemed tolerable for a (sub)scale with three or fewer items. Nevertheless, the value reported by Ibrahim et al. (2006) does not reach this lowest acceptable limit. Hence, it is suggested that when new SQ scales are developed more rigorous constraints should be considered. On the other hand, several authors among which Hair et al. (2009) and Malhotra and Birks (2007) argue that Cronbach's alpha coefficient is sensitive to the number of items in the scale. Consequently, high alpha values may result owing to a high number of items in SQ dimensions. Following the suggestion made by Spiliotopoulou (2009) researchers may calculate the correction factor proposed by Cronbach (1951) which is judged to lead to more accurate results (Spiliotopoulou, 2009). Furthermore, the authors of the present paper are in agreement with the view outlined by Cronbach (1951) and Malhotra and Birks (2007) who appreciate that the internal consistency of a multidimensional construct is inappropriately computed for the whole set of items since the dimensions defining the construct are, at least to some extent, independent. It is therefore advocated for the assessment of reliability for each dimension of SQ, rather than for the entire scale only. More recently, several researchers, among which Sijtsma (2009), argue that the Cronbach's alpha coefficient is not a measure of scale reliability. Consequently, researchers are encouraged to provide other measures of scale reliability as well and not restrict to the computation of the alpha coefficient. Unlike the conclusion drawn by Ladhari (2008), this review has revealed that researchers paid equal attention to scale reliability and validity issues. Indeed, only a few number of studies failed to prove that the developed scales are both reliable and valid. Nevertheless, it is desirable that future research tries to consider reliability and both content and construct validity of the newly proposed bank SQ scales. Furthermore, researchers are encouraged to engage in a more extended process of scale validation. In this respect, are appreciated the efforts made by several researchers, among which Aldaigan and Buttle (2002) and Lin and Hsieh (2011). Besides, the small sample sizes reported in several studies may question the results related to final measurement instruments. In this respect, future research should be conducted on larger samples. Despite the challenges posed by such an attempt, it would lead to a more rigorous assessment of the new developed scales.

6. Theoretical contributions and managerial implications

This paper was intended to select and review those studies which were conducted with the purpose to develop new banking SQ scales. Further attempt was made to present a critical appraisal of the 36 SQ measures developed over years (between 1994 and 2013) for the banking industry. The

issues outlined based on the review are valuable both from a theoretical and from a managerial point of view.

This paper contributes to the SQ literature in general and to banking SQ literature in particular in that the scales summarized herein may provide a useful framework for future research at least for the following three reasons. First, the review considers both traditional and e-banking SQ scales. Thus, researchers may easily identify the relevant studies conducted with the aim to develop new SQ scales in the banking context, both for branch units and SSTs. Second, we emphasized the countries where new bank SQ scales were proposed. Hence, researchers could choose a scale developed for one country and replicate the study in another country which is similar in terms of cultural values, environmental and socio-economic factor or human development index. Moreover, researchers may be interested to investigate the SQ concept and develop a scale in countries that did not make the subject of the papers reviewed herein. Thirdly, departing from the findings and suggestions made in this paper, attempts can be made by academics in the field in order to extend the knowledge and improve the SQ measures in the banking context. In this respect, researchers could, for instance engage in a more extended study in order to validate and refine their findings. PZB have been criticized for having focused on the functional dimension of SQ. Nevertheless, the quality scales developed for the banking context also support the contention that attributes related to the service-delivery process are of high importance. Accordingly, future research should make an attempt to investigate more thoroughly the role which image related factors and the technical features of services may have in quality judgments. Such an attempt may result in a deeper understanding of the SQ construct.

This review is of high importance from a managerial perspective as well. The findings indicate that when making quality judgments customers are more concerned about the service-delivery process. This suggests that bank managers should not only be concerned about the technical quality. For example, the reason a customer goes to an ATM is the need for a certain amount of money and he/she may be satisfied with the outcome. However, the customer may feel frustrated given the complexity or number of operations that must be completed for this purpose. Similarly, a bank employee may offer up to date information about a particular service, but not show real interest in customer's need. In such situation the functional quality may have a greater influence upon quality evaluations given that customers are taking part in the service-delivery process. This review is also expected to offer practical help to international bank managers in their decisions with respect to SQ improvement. As already highlighted, there are common themes that have emerged as

important in bank customers' SQ judgments in several studies conducted in different cultural settings. This further suggests that while certain quality issues are worth investigating, others are not and new relevant SQ attributes should be identified to supplement the list of quality items/dimensions. Departing from the above mentioned, bank managers are encouraged to define and operationalize SQ in accordance with customers' understanding of the concept.

Acknowledgements:

This work was supported from the European Social Fund through Sectorial Operational Programme Human Resources Development 2007 – 2013, project number POSDRU/159/1.5/S/142115, project title "Performance and Excellence in Postdoctoral Research in Romanian Economics Science Domain"

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APPENDIX:

Bank service quality measures

	Study (scale name)	Channel type (service type)	Country	Research approach: qualitative (QUAL.) / quantitative (QUAN.)	Sample	Final item battery and scale	Dimensions (no. of items)
Channel type (service type): traditional banking							
1	Avkiran (1994) (BANKS ERV)	Traditional (BS)	Australia	QUAN.	791 bank customers	17 items; performance and expectations scores; five-point Likert type scales: (1) "much worse than I expected" to (5) "much better than I expected"	4 dimensions: staff conduct (7), credibility (3), communication (5), access to teller services (2)
2	Johnston (1995)	Traditional (BS)	UK	QUAL.: netnography	431 bank customers (323 satisfaction anecdotes; 256 dissatisfaction anecdotes)	no information regarding the number of items	18 dimensions: access, aesthetics, attentiveness/helpfulness, availability, care, cleanliness/tidiness, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, integrity, reliability, responsiveness, security
3	Bahia and Nantel (2000) (BSQ)	Traditional (BS)	Canada	QUAN.	115 bank customers	31 items; performance and expectations scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"	6 dimensions: effectiveness and assurance (13), access (5), price (5), tangibles (4), services portfolio (2), reliability (2)
4	Sureshchandar et al. (2001); Sureshchandar et al. (2002)	Traditional (BS)	India	QUAN.	Conceptual model in Sureshchandar et al. (2001); 277 bank customers in Sureshchandar et al. (2002)	41 items; performance-only scores; seven-point Likert type scales: (1) "very poor" to (7) "very good"	5 dimensions: core service or service product (5), human element of service delivery (17), systematization of service delivery: non-human element (6); tangibles of service (servicescapes) (6), social responsibility (7)

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5	Aldlaigan and Buttle (2002) (SYSTRA-SQ)	Traditional (BS)	UK	QUAL.: 7 focus groups; 39 interviews; QUAN.	QUAL.: 7 focus groups and 39 interviews with bank customers – no further information; QUAN.: Scale purification phase (I): 294 bank customers; Scale purification phase (II): 468 bank customers; Scale validation phase (III): 487 bank customers; Scale validation phase (IV): 975 bank customers (cases in stages II and III)	21 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"; (0) "no experience"	4 dimensions: service system quality - SSQ (11), behavioural SQ (5), machine SQ (2), service transactional accuracy (3)
6	Babakus et al. (2004)	Traditional (BS)	USA	QUAN.	262 bank customers	17 items; performance-only scores; six-point Likert type scales: (1) "very poor" to (6) "excellent"	3 dimensions: search dimension (5), credence dimension (5), experience dimension (7)
7	Paswan et al. (2004)	Traditional (BS)	USA	QUAL.: interviews; QUAN.	QUAL.: interviews and discussions with bank officials and customers – no further information; QUAN.: 731 bank customers	17 items; four-point Likert type scales: (1) "very unimportant" to (4) "very important"	4 dimensions: intangibles - empathy/assurance (5), tangibility (5), routine transaction cost (5), loan transaction cost (2)
8	Jabnoun and Khalifa (2005)	Traditional (BS)	UAE	QUAL.: brainstorming exercise; QUAN.	QUAL.: brainstorming exercise with 15 managers enrolled in an MBA program; QUAN.: 230 bank customers (115 of Islamic banks and 115 of conventional banks)	29 items; performance-only scores (not explicitly mentioned; no information regarding the scales)	4 dimensions: personal skills (12), reliability (5), image (6), values (6)
9	Karatepe et al. (2005)	Traditional (BS)	Cyprus	QUAL.: 86 interviews; QUAN.	QUAL.: one-to-one interviews with 86 bank customers; QUAN.: Scale purification phase (I): 115 bank customers; Scale validation phase (II): 1220 bank customers	20 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"	4 dimensions: service environment (4), interaction quality (7), empathy (5), reliability (4)

10	Choudhury (2007) (modified SERVQUAL)	Traditional (BS)	India	QUAN.	Scale purification phase (I): 200 bank customers; Scale validation phase (II): 450 bank customers	15 items; performance and expectations scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"	4 dimensions: attitude (6), competence (5), tangibles (2), convenience (2)
11	Tsoukatos and Mastroianni (2010) (BANQUAL-R)	Traditional (BS)	Greece	QUAL.: 2 focus groups; QUAN.	QUAL.: 2 focus groups with bank customers and employees - no further details; QUAN.: 91 bank customers of both traditional and e-banking services	27 items; performance and expectations scores; seven-point Likert scales: (no further details)	4 dimensions: assurance and empathy (8), effectiveness (8), reliability (6), confidence (5)
12	Abdullah et al. (2011) (BSQ)	Traditional (BS)	Malaysia	QUAN.	1519 bank customers	22 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"	3 dimensions: systemization (9), reliable communication (6), responsiveness (7)
Channel type (service type): self-service technologies (SSTs)							
1	Joseph et al. (1999)	SST (ATM, IB, TB)	Australia	QUAL.: 2 focus groups; QUAN.	QUAL.: 2 focus groups with approximately 40 e-banking customers; QUAN.: 300 e-banking customers	25 items; performance-only scores (not explicitly mentioned; no information regarding the scales)	6 dimensions: convenience/accuracy (5), feedback/complaint management (5), efficiency (6), queue management (3), accessibility (4), customisation (2)
2	Jun and Cai (2001)	SST (IB)	USA	QUAL.: netnography	532 incidents	45 items (qualitative study)	17 dimensions classified in three categories: customer service quality (10 dimensions: reliability (4), responsiveness (3), competence (2), courtesy (2), credibility (2), access (5), communication (3), understanding the customer (1), collaboration (2), and continuous improvement (3)), banking service product quality (1 dimension: product variety/diverse features (2), and online systems quality (6 dimensions: content (2), accuracy (3), ease of use (7), timeliness (1), aesthetics (1), and security (2)).

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3	Broderick and Vachirapornpuk (2002)	SST (IB)	UK	QUAL.: netnography	160 incidents	no information regarding the number of items; they favour the disconfirmation approach (qualitative study)	5 dimensions: customer expectations of the service (centred on ease of use, good navigation, strong interactivity and early response to service actions), the image and reputation of the service organization (were rarely mentioned and seemed to play a lesser role in online services than anticipated), aspects of the service setting (speed to download, navigation, interactivity, innovation and variety of features), the actual service encounter (reliability, responsiveness, assurance and empathy), customer participation (lack of confidence, risk involved, customer support)
4	Jayawardhena (2004)	SST (IB)	UK	QUAL.: 2 focus groups; QUAN.	QUAL.: 2 focus groups (10 MBA students with e-banking experience and 6 e-banking employees); QUAN.: Scale purification phase (I): 249 e-banking customers; Scale validation phase (II): 426 e-banking customers	21 items; performance-only scores; five-point Likert type scales: (1) "not important" to (5) "very important"	5 dimensions: access (6), website interface (4), trust (3), attention (4), credibility (4)
5	Yang et al. (2004)	SST (IB)	USA	QUAL.: netnography; personal interviews; QUAN.	QUAL.: 848 IB customer reviews; personal interviews – no further information; QUAN.: 235 customers with experience in e-commerce in the quantitative stage	20 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"	6 dimensions: reliability (3), responsiveness (3), competence (3), ease of use (3), security (4), product portfolio (4)
6	Al-Hawari et al. (2005)	SST (ATM, IB, TB)	Australia	QUAN.	Scale purification phase (I): 35 respondents; Scale validation phase (II): 442 e-banking users	22 items; performance-only scores; seven-point Likert type scales: (1) "very poor" to (7) "very good"	5 dimensions: ATM service quality (4), internet banking service quality (7), telephone banking service quality (5), core service quality (3), customer perception of price quality (3)

7	Bauer et al. (2005)	SST (e-banking portals)	Germany	QUAL.: interviews and in-depth discussions; QUAN.	QUAL.: interviews with experts at banks and e-business consultancies; in-depth discussions with portal users; QUAN.: Scale purification phase (I): 20 online users; Scale validation phase (II): 280 online banking users	61 items; performance-only scores; seven-point Likert scales: (1) "completely disagree" to (7) "completely agree"	18 sub-dimensions in 6 dimensions: security and trust (2 security (2) and trustworthiness (3)), basic services (choice (2), conditions of basic services (4), payment transactions (2)), cross-buying services (online loans (4), all-in finance products (4)), added value (enjoyment and entertainment (4), non-bank services (4)), transaction support (convenience of transaction processing (4), interactivity (3), information provision (4), decision support (4), customer care (5)), responsiveness (availability and accessibility (4), personalization (5), community (2), complaint management (1))
8	Ibrahim et al. (2006)	SST (e-banking services)	UK	QUAL.: 2 focus groups; QUAN.	QUAL.: 2 focus groups with bank customers – no further information; QUAN.: 135 bank customers	25 items; performance-only scores; five-point Likert type scales: (1) "very poor" to (5) "excellent"	6 dimension: the convenience and accuracy of electronic banking operations (8); the accessibility and reliability of service provision (4); good queue management (3); service personalisation (4); the provision of friendly and responsive customer service (4); the provision of targeted customer service (2).
9	Loonam and O'Loughlin (2008)	SST (IB)	UK	QUAL.: 20 semi-structured in-depth interviews	20 online banking users and non-users	67 items; they favour the disconfirmation approach (qualitative study)	10 dimensions: reliability (3), responsiveness (7), web usability (13), security (8), trust (5), information quality (13), access (6), service recovery (4), flexibility (5), customisation/personalisation (3)

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10	Sohail and Shaikh (2008)	SST (IB)	Saudi Arabia	QUAL.: 1 focus group; QUAN.	QUAL.: 12 students with online banking experience QUAN.: 620 internet banking users	23 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"	3 dimensions: efficiency and security (11), fulfilment (8), responsiveness (4)
11	Sohn and Tadisina (2008)	SST (Internet stockbrokers and IB)	USA	QUAN.	204 customers with experience of internet stockbrokers and IB	25 items; performance-only scores (not explicitly mentioned; no information regarding the scales)	6 dimensions: trust (5), customised communications (4), ease of use (3), website content and functionality (6), reliability (5), speed of delivery (2)
12	Yu (2008)	SST (IB)	Taiwan	QUAL.: 1 focus group; 3 in-depth interviews; QUAN.	QUAL.: focus group (5 online banking executives and 3 academic researchers); 3 in-depth interviews with banking executives; QUAN.: 807 IB users	20 items; performance and expectations scores; (no information regarding the scales)	6 sub-dimensions in 2 dimensions: banking service quality (competence (3), ease-of-use (3), service variety (4)) and system service quality (reliability (3), responsiveness (3), security (4))
13	Khan et al. (2009)	SST (IB)	India	QUAL.: 1 focus group; 4 in-depth discussions with bank managers; QUAN.	QUAL.: focus group (10 IB users); in-depth discussions with 4 bank managers; QUAN.: 1143 IB users	26 items; performance-only scores; (no information regarding the scales)	7 dimensions: reliability (4), accessibility (4), user-friendliness (4), privacy/security (4), efficiency (4), responsiveness (4), fulfilment (2)
14	Ho and Lin (2010)	SST (IB)	Taiwan	QUAL.: interviews; QUAN.	QUAL.: IB users - no further details; QUAN.: 130 IB users	17 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"	5 dimensions: customer service (6), web design (4), assurance (3), preferential treatment (2), information provision (2)
15	Khan (2010)	SST (ATM)	Pakistan	QUAN.	Scale purification phase (I): 50 ATM users; Scale validation phase (I): 411 ATM users	33 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"	5 dimensions: convenience (9), efficient operation (11), security and privacy (5), reliability (4), responsiveness (4)
16	Ganguli and Roy (2011)	SST (e-banking services)	USA	QUAN.	325 students, users of bank SSTs	24 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"	4 dimensions: customer service (9), technology security and information quality (6), technology convenience (5), technology usage easiness and reliability (4)

17	Katono (2011)	SST (ATM)	Uganda	<p>QUAL.: suggestions; discussions; examination of local newspapers; QUAN.</p>	<p>QUAL.: suggestions (102 students and 10 senior lecturers); discussions with bankers and business people; examination of local newspapers for complaints or commendations – no further details; QUAN.: Scale purification phase (I): 117 students and university staff, users of ATM services; Scale validation phase (II): 317 ATM users; Scale validation phase (III): 197 of students</p>	<p>12 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"</p>	<p>4 dimensions: tangibles (3), card issues (4), reliability (3), location (2)</p>
18	Lin and Hsieh (2011) (BANQUAL-R)	SST (generic e-service scale)	Taiwan	<p>QUAL.: 6 focus groups; QUAN</p>	<p>QUAL.: 6 focus groups (57 SST users); QUAN.: Scale purification phase (I): 862 students, e-services users; Scale validation phase (II): 376 e-services users; Scale replication phase (III): 600 SST consumers (320 banking and 280 transportation services)</p>	<p>20 items; performance-only scores; seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"</p>	<p>7 dimensions: functionality (5), enjoyment (4), security/privacy (2), assurance (2), design (2), convenience (2), customization (3)</p>
19	Sharma and Malviya (2011)	SST (MB)	India	<p>QUAN.</p>	<p>51 undergraduate and graduate college students</p>	<p>28 items; performance-only scores (not explicitly mentioned); seven-point Likert scales: (1) "strongly disagree" to (7) "strongly agree"</p>	<p>5 dimensions: mobile banking reliability & responsiveness (8), assurance and security (5), convenience in banking (7), mobile banking efficiency (4), easy to operate (4)</p>
20	Gupta and Bansal (2012)	SST (IB)	India	<p>QUAL.: focus group; QUAN.</p>	<p>QUAL.: focus groups discussions – no further information; QUAN.: 1350 IB users</p>	<p>22 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"</p>	<p>5 dimensions: security/privacy (7), reliability (5), efficiency (4), responsiveness (3), site aesthetics (3)</p>
21	Wu et al. (2012)	SST (IB)	Taiwan	<p>QUAL.: interviews; QUAN.</p>	<p>QUAL.: interviews with 23 administrators of Internet Banks; QUAN.: 312 IB users</p>	<p>21 items; performance-only scores; five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"</p>	<p>5 dimensions: efficiency (5), privacy/security (4), reliability (4), responsiveness (4), contact (4)</p>

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22	Narteh (2013) (ATMqual)	SST (ATM)	Ghana	QUAL.: 3 focus groups; QUAN.	QUAL.: 3 focus groups (30 undergraduate and graduate students and university staff, ATM users); Scale purification phase (I): 530 ATM users; Scale validation phase (II): 230 ATM users	19 items; performance-only scores (not explicitly mentioned); five-point Likert scales: (1) "strongly disagree" to (5) "strongly agree"	5 sub-dimensions in 3 dimensions: process dimension: reliability (3), convenience (3), ease of use (5), outcome dimension: fulfilment (4); recovery dimension: responsiveness (4)
Channel type (service type): both traditional and self-service technologies (SSTs)							
1	Greenland et al. (2006)	Both traditional and SST (BS, ATM)	Eastern Africa	QUAL.: focus groups; QUAN.	QUAL.: a series of focus groups with customers of 4 major banks - no further information; QUAN.: 2400 bank customers	53 items; performance-only scales; 11-point Likert type scales: (1) "extremely poor" to (11) "extremely good"	13 dimensions: ATM technology and efficiency (8), personable, professional staff (5), value of other products (excluding loan) (4), branch service facilitators (3), attractive, effective accounts/loans (5), effective queue management (4), physical aspects of the ATM (4), account communication (4), effective queue management (3), simple account/card acquisition (4), network accessibility (3), physical environment features (4), clear and full service mix (2)
2	Miguel-Dávila et al. (2010)	Both traditional and SST (BS, ATM, IB, TB)	Columbia	QUAN.	400 bank customers	26 items; performance-only scores; seven-point Likert scales: (no further details)	4 dimensions: operative (10), physical (5), human (5), technological aspects (6)

Note: ATM=automated teller machine; BS=branch services; TB=Telephone Banking; IB= Internet Banking; MB=Mobile Banking; SST=self-service technology