Banking service quality perceived by students: implications to green services

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Abstract

Background: The paper examines banking service quality perceived by students as a basis for determining implications for green services. The focus was on this market segment bearing in mind its potential effects on banks’ long-term profitability and students’ acquaintance with environmental issues. The attention was dedicated to the green banking concept taking into account the role which banks have in creating an eco-friendly society.

Purpose: The aim of the research refers to identifying banking service quality aspects that are important for students. Later, those can be used as a starting point in determining actions regarding green services in the case of the student population.

Study design/methodology/approach: The quality of a bank service was modeled as a hierarchical reflective-formative construct, because of which the SmartPLS software was applied. Five SERVQUAL dimensions (assurance, empathy, reliability, responsiveness, and tangibles) were specified as lower-order reflective constructs which form the higher-order formative construct (banking service quality). After testing the model, separately for reflective and formative constructs, path coefficients were presented.

Finding/conclusions: The results have shown that responsiveness and assurance represent dimensions that have the largest contribution to banking service quality, i.e. the highest path coefficients to higher-order construct. In accordance with those findings, certain implications concerning green services were given.

Limitations/future research: The omission of certain variables that may be related to banking services represents the limitation of this study; hereby, in future researches, some socio-demographic characteristics (such as gender, household income, etc.) could be included in the analysis.

Keywords: service quality, green banking, environment, reflective-formative construct

Introduction

The banking sector is the area in which service quality has been drawing the attention of many researchers. Following Miguel-Dávila, Cabeza-Garcia, Valduciel and Flórez (2010, p. 2164), banking service can be defined as “the activity carried out by banking institutions considered as service companies; that is, everything that banking institutions do to serve their customers”. Studies related to this field of interest were performed in various countries, including, among others, Spain (Marimon, Yaya & Fa, 2012), Germany (Yavas, Benkenstein & Stuhldreier, 2004), Sweden
Starting from the above, this paper analyses banking service quality (BSQ) perceived by university students, as a basis for determining implications for green services. Before setting the model, several different approaches related to BSQ were presented in the literature review section; in addition, the concept of green banking (GB) was explained. The banking service quality model was specified as a formative higher-order construct that consisted of five reflective lower-order constructs (dimensions). After presenting the results, a section related to discussion and conclusions follows. Within it, certain implications regarding green services were presented.

1. Literature review

1.1. Banking service quality perceived by students

Banking service quality perceived by students has been investigated in a number of studies. In some of them, it was assessed on the basis of a SERVQUAL approach (Bond & Hsu, 2011; Ozretić-Dosen & Zizak, 2015; Bhengu & Naidoo, 2016; Mokhlis, Hasan & Yaakop, 2014).

Bhengu and Naidoo (2016) tested banking service quality (assurance, empathy, reliability, responsiveness, and tangibles) perceived by MBA students in South Africa. Their results pointed to the existence of students’ dissatisfaction regarding the quality of retail banks’ service offerings, whereby gap scores were analyzed in the context of a year of study and students’ bank choices.

Students’ perceptions and expectations in regard to banking service quality were examined in Croatia, in the study performed by Ozretić-Došen & Žižak (2015). The research revealed gaps in all five SERVQUAL dimensions, whereby the largest ones were observed in reliability, assurance, and responsiveness, while the smallest one was recorded in tangibles. Hereby, it should be mentioned that obtained gaps were weighted in relation to the significance of service quality dimensions evaluated by students; the most significant dimension was reliability, followed by assurance, responsiveness, empathy and tangibles as the least significant.

Mokhlis et al. (2014) examined students’ assessment of bank service quality the in Malaysian banking industry. The importance-performance analysis (IPA) was used for evaluating five bank service dimensions. According to their findings, reliability and responsiveness represented the most problematic
dimensions, bearing in mind that they were both, underperforming and important for students. On the other hand, there were no problems with assurance which was associated with high performance and high importance, while empathy and tangibles (although on different levels of performance) were unimportant for students, and thus didn’t pose large threats to a bank.

In the research conducted by Bond and Hsu (2011), the focus was on international students and their perceptions of the service quality of UK banks. With the use of GAP analysis, they identified areas of service quality with which international students were satisfied, as well as areas with which they were not. The former referred to tangibles, such as appearance and physical layout; and the latter were related to factors associated with empathy and reliability.

Besides assessing banking service quality, the subject of the studies was relations between this phenomenon and other constructs, such as satisfaction and/or loyalty. In some of them, for measuring the quality of banking service, researchers also relied on the SERVQUAL approach, with smaller or larger changes (Hin, Wei, Bohari & Adam, 2011; Reddy & Karim, 2014; Yilmaz, Ari & Gürbüz, 2018). However, in certain studies, the approach for assessing quality was accommodated to the specific aspect of banking service. Therefore, when measuring Internet banking service quality among the student population in Pakistan, Raza, Umer, Qureshi and Dahri (2020) used the modified e-SERVQUAL model; Ganguli and Roy (2011), on the other hand, identified four quality dimensions (technology security and information quality, technology convenience, technology usage easiness and reliability, and customer service) regarding the technology-based banking services.

1.2. Green banking

As Zhelyazkova and Kitanov (2015) stated, despite its widespread application, the term “green banking”, also known as sustainable banking, ethical banking, or environment-friendly banking (Tara, Singh & Kumar, 2015), does not have a commonly accepted definition. Since its first introduction by the Dutch bank, Triodos Bank, in 1980 (Zhang, Wang, Zhong, Yang & Siddik, 2022), the GB concept has been the subject of many studies.

After presenting several views of other authors, Zhelyazkova and Kitanov (2015) defined green banking as “banking in all its business aspects (deposit gathering, credit disbursement, trade finance, leasing operations, mutual funds and custodian services, etc.) which is oriented towards preservation of environment” (p. 310). Following Tara et al. (2015) green banking represents “the environment-friendly banking practices that promote their customers to reduce the carbon footprint through their banking activities” (p. 1030). Bukhari et al. (2020, p. 372) quoted the definition of the international finance corporation (IFC) according to which green banking is related to “a blend of bank’s own direct environmental impact reduction, managing environmental and social risks in banks’ decision-making processes and supporting businesses and industries that have a positive impact on the environment and society” (p. 372). According to Park and Kim (2020), green banking was defined as “financing activities by banking and nonbanking financial institutions with an aim to reduce greenhouse gas emissions and increase the resilience of the society to negative climate change impacts while considering other sustainable development goals such as economic growth, job creation and gender equality” (p.4). In the paper by paper by Zhang et al. (2022), it was mentioned that “GB contributes towards the development of sustainable business practices and alleviation of the negative effects of banking activities on the environment through the supply of loans for environmentally favorable initiatives” (p. 3).

Banks can directly affect the environment through their daily operations related to waste and resource managing (the use of toners, electrical energy, paper, etc.); on the other hand, indirect effects are associated with relations between banks and their clients, concerning loans and other services, as well as to activities (such as marketing and PR) that should increase the environmental awareness at a social level (Zhelyazkova & Kitanov, 2015). In order to adjust their business to eco-friendly trends, banks have started to implement green financial products and services; they can all be classified into six main categories: loan, insurance, securitization, equity investment, brokerage and market-making, and technical assistance (Park & Kim, 2020, p. 17).

Among mentioned categories, loan and equity investment could be of special interest for students. Clients can use loans for purchasing energy-efficient and climate-smart products, whereby besides different appliances and vehicles, they can buy climate-adjusted seeds and agriculture equipment; banks can also support investing in
ventures and start-ups related to the development of climate-smart and green technologies (Park & Kim, 2020).

2. Research methodology

The paper analyses banking service quality (BSQ) by relying on the questionnaire presented in the research of Lau, Cheung, Lam and Chu (2013, p. 273). In addition to 15 statements regarding service quality dimensions, which respondents were supposed to rate on a scale from 1 (“strongly disagree”) to 7 (“strongly agree”), it included several questions related to demographic characteristics such as gender, age and household size.

The sample consisted of 191 students from the University of Novi Sad. The majority of them were female (more than 75%); the average age was 21.3 years, and the average household size was 4.1. The data have been processed in 2021, with the use of SmartPLS 3.0 software.

The quality of service is designed as a hierarchical reflective-formative model; the second-order construct (BSQ) is formed by five reflective first-order dimensions (assurance, empathy, reliability, responsiveness, and tangibles). This type of hierarchical model was applied in line with recommendations given by Parasuraman, Zeithalm and Malhotra (2005). Hereby, for its estimation the repeated indicator approach (Becker, Klein & Wetzels, 2012) was implemented, meaning that the higher-order construct was specified using all indicators of the underlying dimensions (Figure 1).

Following Hair, Hult, Ringle & Sarstedt (2017), we examined indicator reliability, average variance extracted (AVE), composite reliability (CR), and discriminant validity (by using the Fornell-Larcker criterion), when testing reflective first-order dimensions. When it comes to the second-order formative construct (BSQ), multicollinearity and path coefficients between BSQ and its first-order dimensions were analyzed (Hair et al. 2017).

Outer loadings (used for evaluating indicator reliability) were higher than 0.7 for all items; the values of AVE and CR were also satisfactory, i.e. they were above 0.5 and 0.7, respectively. However, the application of the Fornell-Larcker approach pointed to certain problems regarding discriminant validity between reliability, on one side, and assurance and responsiveness, on the other. In order to handle this issue, we performed the correlation analysis which included all indicators of previously mentioned constructs; as a result, we identified one indicator (Rel3) which was highly correlated with indicators in comparable constructs. After its elimination from both, the reliability dimension and higher-order BSQ construct, the changed model was tested.

TABLE 1

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>Loadings</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSQ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Assurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>0.891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>0.887</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>0.911</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Empathy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>0.886</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3</td>
<td>0.875</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Reliability</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rel1</td>
<td>0.888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel2</td>
<td>0.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Responsiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Res1</td>
<td>0.893</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Res2</td>
<td>0.909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Res3</td>
<td>0.877</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tangibles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>0.828</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>0.832</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td>0.838</td>
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</tbody>
</table>

As presented in Table 1, outer loadings (for all indicators), AVE, and CR (for lower-order constructs) were higher than threshold values of 0.7, 0.5, and 0.7, respectively. In addition, the Fornell-Larcker criterion was established, bearing in mind that values presented on the main diagonal...
(square roots of constructs’ AVE) were higher than values presented in the same columns and rows (correlations with other constructs).

Table 2 Fornell-Larcker criterion

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ass.</td>
<td>0.897</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emp.</td>
<td>0.697</td>
<td>0.865</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel.</td>
<td>0.828</td>
<td>0.695</td>
<td>0.882</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Res.</td>
<td>0.743</td>
<td>0.839</td>
<td>0.695</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>Tan.</td>
<td>0.671</td>
<td>0.734</td>
<td>0.621</td>
<td>0.823</td>
<td>0.833</td>
</tr>
</tbody>
</table>

Source: the authors

In the case of the higher-order BSQ construct, all path coefficients were positive and statistically significant with a p-value lower than 0.01, while all inner VIF values were below 10, demonstrating no multicollinearity issues.

3. Research results

Because of the use of the repeated indicator approach, $R^2$ value equaled 1. As previously mentioned, path coefficients were positive, ranging from 0.155 to 0.264 (Figure 2).

The largest path coefficient was recorded at responsiveness (0.264), followed by assurance (0.252). In the case of empathy and tangibles, their values were 0.238 and 0.214, respectively. The only path coefficient lower than 0.2 was recorded at reliability (0.155).

Discussion and conclusions

The paper examined banking service quality regarding student population in order to determine implications regarding green services. Although this segment of market may not be so attractive to banks, especially in the short term, through acquisition and retention of students, banks can expand their customer base and reap the benefits in later years (Narteh, 2013; Ozretić-Dosen & Žižak, 2015). Moreover, when it comes to green banking, it should be noted that students in emerging countries (as shown by several studies) generally have higher levels of environmental knowledge and moderate level of environmental awareness (Mohiuddin et al. 2018, p. 2). That can be taken as an additional motive for considering students as potential green service clients.

When analyzing the quality of banking service, the attention was devoted to its five dimensions, derived from SERVQUAL model: assurance, empathy, reliability, responsiveness and tangibles. Hereby, the special value of this research is the way in which banking service quality was modeled. It was set as a hierarchical reflective-formative model, which consists of one higher-order (BSQ) and five lower-order constructs (SERVQUAL dimensions); as those reflective lower-order constructs define banking service quality altogether, the higher-order construct is specified as formative.

The obtained results have shown that responsiveness and assurance were the dimensions that contributed the most to banking service quality. This is partially in a line with the research conducted by Ozretić-Došen and Žižak (2015) in which assurance was also perceived as a significant service quality dimension. In addition, in the study by Mokhlis et al. (2014) assurance had the highest importance score when it comes to banking service quality dimensions assessed by students. However, opposite to these studies, where reliability was perceived as an important dimension, in our research it had the lowest contribution. It should be noted here that due to different approaches in analyzing banking service quality, making comparisons with other studies is rather complex and should be approached with a certain caution.

When it comes to responsiveness, its contribution can be explained through the importance of contact and interaction between clients and bank staff. During studies, a significant number of people start to use banking services for the first time, and thus need more information; because of this, the initial contact with bank staff and its helpfulness and affability may be of great importance for students. Therefore, if banks offer green services, their staff should be well
acquainted, not only with technical aspects of those services but with environmental aspects as well (for example, the focus may be on both personal and environmental benefits of using green services). Moreover, some organizational accommodations could be made to increase clients’ awareness and facilitate the use of those services.

The significance of the assurance dimension can be reflected in the very nature of banking services; as they are directly connected to money, service accuracy and the fulfillment of promises can have special weight, not only for students but for other clients as well. The implementation of banking applications, through which clients can get the necessary information and control the service delivery process, may be of great help in increasing the level of assurance. Positive effects could also be expected from implementing assurance principles when offering green banking services.

In future researches, students’ environmental awareness and intentions regarding banking green services could be analyzed; moreover, additional variables, such as students’ socio-demographic characteristics, satisfaction, and loyalty could be examined as well.

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