

A mobile bank application loyalty model: The young bank customer perspective

Mustafa Nourallah

Main supervisor: Peter Öhman

Co-supervisor: Christer Strandberg

Faculty of Human Sciences

Thesis for a Licentiate degree in Business Administration

Mid Sweden University

Sundsvall, 2020-01-24

Akademisk avhandling som med tillstånd av Mittuniversitetet i Sundsvall framläggs till offentlig granskning för avläggande av ekonomie licentiatexamen den 24 januari 2020, kl. 13.15, Sal L.111, Mittuniversitetet Sundsvall. Seminariet kommer att hållas på engelska.

A mobile bank application loyalty model: The young bank customer perspective

© Mustafa Nourallah, 2020

Printed by Mid Sweden University, Sundsvall

ISSN: 1652-8948

ISBN: 978-91-88947-33-8

Faculty of Human Sciences

Mid Sweden University, Holmgatan 10, 851 70 Sundsvall

Phone: +46 (0)10 142 80 00

Mid Sweden University Licentiate Thesis 166

This thesis is dedicated to the memory of my co-supervisor Associate Professor Christer Strandberg (1952-2019)

Acknowledgement

This thesis would not have been possible without the intellectual and professional support of a range of individuals, groups, and institutions. I want to take the opportunity to thank them here.

First, I would like to thank my supervisor Professor Peter Öhman for encouragement, advice, answering my emails and queries, and allocating sufficient time to discuss my work. Without his guidance and constant feedback this thesis would not have been achievable. His fresh eyes and careful reading were helpful in shaping and refining my work. It was a real privilege to work with Professor Öhman and to benefit from his exceptional scientific knowledge and human qualities.

I must express my gratitude to my co-supervisor, the late Associate Professor Christer Strandberg (1952–2019), who was always kind and supportive. He gave me invaluable help during the very early stages of my research, and I thank him for those years of collaboration and friendship. Associate Professor Strandberg will always remain a source of inspiration for me.

In particular, I would like to thank Professor Darush Yazdanfar for his productive collaboration in teaching several courses at Mid Sweden University, for encouraging me and sharing insightful suggestions, and for being the opponent in my last seminar. My work has benefitted greatly from his numerous ideas and suggestions, and especially from discussions regarding the philosophy of science and data analysis.

I am deeply grateful to Associate Professor Tommy Roxenhall for taking time to be the opponent during the *mellanläggesseminarium*. His thoughts and comments were very helpful to me in developing this work. I would also like to thank Professor Heléne Lundberg for her comments on various parts of my thesis.

I am pleased to say thank you to Dr. Olof Wahlberg for his valuable comments during the seminar on the thesis proposal. I would like to acknowledge Dr. Anna-Karin

Stockenstrand, Dr. Edith Andresen, Dr. Habib Kachlami, the lecturer Prerna Kumar, and Dr. Ulrika Sjödin for all their hard work and productive collaboration. Associate Professor Daniel Laven and Dr. Saman Rashid deserve my gratitude for their kind support in various administrative processes.

I am deeply indebted to my fellow doctoral students and I am extremely lucky to have benefitted from their collegueship and friendship – thank you Dr. Alex Rad, Anna Ehrhart, Belén Casales Morici, Dennis Hedback, Emelie Säterberg, Irina Dimitrova, Kristin Sabel, Lina Bellman, Stylianos Papaioannou, Ulrich Schmutde, and everyone else.

Completing this work would have been all the more difficult were it not for the support and friendship of the other members of the Centre for Research on Economic Relations (CER) and the Department of Economics, Geography, Law and Tourism. I am indebted to my colleagues in Sundsvall and Östersund for their help. I should also thank my colleagues at the IT helpdesk, library, and post office for helping me overcome various technical issues.

I would like to thank Professor James Sallis at the Department of Business Studies at Uppsala University for his kind help regarding various issues related to structural equation modelling.

Finally, my family and friends deserve special thanks for all their encouragement over the years of my studies. My biggest thanks go to my wife Mai, my love: You were always the lighthouse that guided me through hard days! You and Kholoud (Lollo) were my true sources of happiness.

*Centre for Research on Economic Relationships, Mid Sweden University, Sundsvall, Sweden
19 December 2019*

Mustafa Nourallah

Table of Contents

| | |
|--|----|
| 1. Introduction | 1 |
| 1.1. A glance at the thesis | 1 |
| 1.2. The general problem, research questions, and aims | 4 |
| 2. Frame of reference | 9 |
| 2.1. Mobile financial services, mobile bank applications, and young bank customers | 9 |
| 2.1.1. Mobile financial services | 9 |
| 2.1.2. Mobile bank applications: roots, definitions, and ecosystem | 11 |
| 2.1.3. Characteristics of young bank customers | 16 |
| 2.2. Theoretical framework | 17 |
| 2.2.1. Relationship marketing | 17 |
| 2.2.2. Technology acceptance model | 18 |
| 2.3. Conceptual framework | 19 |
| 2.3.1. Usability | 19 |
| 2.3.2. Service quality: responsiveness and reliability | 20 |
| 2.3.3. Customer satisfaction | 22 |
| 2.3.4. Loyalty, antecedents and consequences | 23 |
| 2.4. Conceptual model | 24 |
| 3. Methodological considerations | 27 |
| 3.1. Overview | 27 |
| 3.2. Ontology and epistemology | 28 |
| 3.3. Deductive reasoning | 30 |
| 3.4. Methods | 31 |
| 3.4.1. Phase I: Questionnaire design | 31 |
| 3.4.2. Phase II: Sampling | 32 |
| 3.4.3. Phase III: Data collection | 33 |
| 3.4.4. Phase IV: Data analysis | 33 |
| 3.5. Limitations | 35 |
| 3.6. Reliability and validity | 36 |
| 3.6.1. Reliability | 37 |
| 3.6.2. Validity | 38 |
| 4. Overview of the articles | 40 |
| 4.1. Article 1: Overview | 40 |
| 4.2. Article 2: Overview | 42 |
| 5. Concluding discussion | 45 |
| 5.1. Main findings | 45 |
| 5.2. Implications | 48 |
| 5.2.1. Theoretical implications | 48 |
| 5.2.2. Practical implications | 50 |
| 5.3. Suggestions for further research | 51 |
| References | 53 |
| Appendix I: The questionnaire of article 1 | 68 |
| Appendix II: The questionnaire of article 2 | 69 |

List of Tables

| | |
|--|----|
| Table 1: Recommended values of the measurement model | 35 |
| Table 2: An overview of article 1 | 40 |
| Table 3: An overview of article 2 | 42 |

List of Figures

| | |
|--|----|
| Figure 1: Mobile financial services landscape. | 10 |
| Figure 2: Order of appearance of technological developments in the banking industry. | 11 |
| Figure 3: The mobile bank application ecosystem. | 15 |
| Figure 4: Conceptual model of YBC perceptions of loyalty in the MBA context. | 26 |
| Figure 5: The methodological considerations of this thesis. | 27 |
| Figure 6: Searle's categorization of facts. | 29 |
| Figure 7: The research phases. | 31 |
| Figure 8: Latent variables and observed variables (Q1, Q2, and Q3). | 37 |
| Figure 9: Cognitive antecedent model of YBC loyalty to MBAs. | 42 |
| Figure 10: Usability–loyalty model of YBC loyalty to MBAs. | 44 |
| Figure 11: Loyalty antecedent model of YBC loyalty to MBAs. | 47 |

Glossary of Abbreviations

| Term | Abbreviation |
|--|--------------|
| Automated teller machine | ATM |
| Composite reliability | CR |
| Confirmatory factor analysis | CFA |
| E-word of mouth | E-WoM |
| Exploratory factor analysis | EFA |
| Information and communication technology | ICT |
| International Organization for Standardization | ISO |
| Mobile bank application | MBA |
| Personal computer | PC |
| Relationship marketing | RM |
| Resistance to counter persuasion | RCP |
| Robust maximum likelihood | RML |
| Search motivation | SM |
| Short message service | SMS |
| Structural equation modelling | SEM |
| Technology acceptance model | TAM |
| Wireless application protocol | WAP |
| Word of mouth | WoM |
| Young bank customer | YBC |

Abstract

This thesis investigates young bank customer (YBC) perceptions of loyalty in the context of mobile bank applications (MBAs), including loyalty antecedents and the consequences of loyalty. A first study investigates the relationships between cognitive, affective, and conative antecedents, on one hand, and loyalty, on the other. A second study investigates the relationships between usability, responsiveness and reliability, and customer satisfaction, on one hand, and loyalty, on the other. The thesis employs a theoretical framework describing customer loyalty in the MBA context. An electronic questionnaire was sent to 500 YBCs in the Mid Sweden region (146 completed questionnaires were received), and confirmatory factor analysis and structural equation modelling were employed to test and develop a measurement model from the responses. Synthesizing the results of the studies performed suggests a model of MBA loyalty from the YBC perspective. The model indicates that cognitive and usability antecedents are significantly related to customer satisfaction, which in turn is significantly related to attitudinal and behavioural loyalty. Despite some limitations, the thesis has novel implications for theory and practice regarding YBC perceptions of MBAs.

Keywords: loyalty antecedents, usability, service quality, customer satisfaction, loyalty, consequences of loyalty, young bank customers, mobile bank applications, Sweden.

Summary in Swedish

Avhandlingen syftar till att beskriva och analysera unga bankkunders uppfattningar om mobila bankapplikationer i termer av lojalitet. Den första studien fokuserar på sambandet mellan kognitiva, affektiva och konativa drivkrafter å ena sidan och lojalitet å andra sidan. Den andra studien fokuserar på sambandet mellan användbarhet, tillmötesgående och tillförlitlighet respektive kundnöjdhet å ena sidan och lojalitet å andra sidan. Avhandlingen utgår från ett generellt teoretiskt ramverk för kundlojalitet, vilket anpassas till kontexten för avhandlingen. En elektronisk enkät skickades ut till 500 unga bankkunder i Mittsverige-regionen (146 fullständiga svar erhöles). Konfirmativ faktoranalys och strukturell ekvationsmodellering användes för att testa och utveckla en modell med hjälp av empirisk data. Modellen visar att kognitiva drivkrafter och användbarhet har ett samband med kundnöjdhet och att kundnöjdhet i sin tur har ett samband med attityds- och beteendelojalitet. Även om avhandlingen har vissa begränsningar bidrar den med teoretisk och praktisk kunskap om unga bankkunders uppfattningar om lojalitet kopplat till mobila bankapplikationer.

Nyckelord: drivkrafter bakom lojalitet, användbarhet, servicekvalitet, kundnöjdhet, lojalitet, konsekvenser av lojalitet, unga bankkunder, mobila bankapplikationer, Sverige.

List of papers

This thesis is based on the following two articles:

Article 1

Title: Mobile bank applications: Antecedents and consequences of young bank customer loyalty

Author: Mustafa Nourallah

Status: Accepted at the 6th Somaiya International Conference on Technology and Information in Mumbai, India (the conference is a discussion arena for a special issue for International Journal of Management Practice).

Article 2

Title: Mobile bank applications: Loyalty of young bank customers

Authors: Mustafa Nourallah, Christer Strandberg, and Peter Öhman

Status: Accepted for publication in Financial Services Review.

1. Introduction

1.1. A glance on the thesis

Loyalty is a strategic aim of businesses, such as banks, and can contribute significantly to business success (Pullman and Gross, 2004). The concept of loyalty refers to the commitment to repurchase or repatronize a preferred product/service (Oliver, 1999). Loyal customers act as promoters since they share their stories with friends and colleagues (Haapio, 2019). Loyal customers thereby tend to help increase a company's market share (Reichheld, 1993) and company value (Lee *et al.*, 2001). It is also argued that loyal customers complain less (Zeithaml *et al.*, 1996) and are more tolerant (Kandampully *et al.*, 2015) than non-loyal ones.

The loyalty literature features two theoretical frameworks: relationship marketing (RM) (Helgesen, 2006) and the technology acceptance model (TAM) (Thakur, 2014). RM enables investigation of the relationship between customers and businesses (Grönroos, 2000) and refers to the concepts of customer satisfaction, service quality, and loyalty (Helgesen, 2006). TAM is extensively used in business studies (Tam and Oliveira, 2017) and enables investigation of customer attitudes toward certain systems. TAM utilizes two concepts, ease of use and usefulness (Davis, 1989). This thesis employs the above-mentioned theoretical frameworks, frequently used in the mobile banking literature, to investigate the issue under study.

Previous studies in various industries have focused on how companies can obtain loyal customers, and on what explains the behaviour of those who become loyal customers. For example, Zeithaml *et al.* (1996) argued that service quality determines loyal behaviour, and Oliver (1999) concluded that customer satisfaction is fundamental to loyalty formation. Among many contributions to the loyalty literature, Dick and Basu's (1994) framework is seen as significant,⁽¹⁾ allowing us to investigate attitudes and behaviour toward brands, services, and vendors. However, there is a lack of empirical investigation based on Dick and Basu's framework

(1) According to <https://scholar.google.com>, Dick and Basu's (1994) work had been cited 9638 times as of 19 December 2019.

(Ngobo, 2017), and more such investigation could improve our knowledge in this research area, not least in the banking industry. This framework comprises three main components: (i) antecedents of attitudinal loyalty, (ii) loyalty, and (iii) consequences of attitudinal loyalty. Dick and Basu (1994) considered loyalty a combination of attitude and behaviour, addressing three types of antecedents to this combination: cognitive, affective, and conative antecedents. Oliver (1999) also argued that these three types of antecedents are fundamental to loyalty. Beside these antecedents, the literature reveals that loyalty has other types of antecedents, such as usability (Lee *et al.*, 2015), quality attributes (Helgesen, 2006), and customer satisfaction (Flavian *et al.*, 2006). In addition, Dick and Basu (1994) argued that loyalty may have some consequences, i.e., search motivation (SM), resistance to counter-persuasion (RCP), and word of mouth (WoM). All these concepts will be further discussed in section 2.

Given the importance of loyalty to any business, the concept has been considered a top priority (Aydin and Özer, 2005), particularly in contexts such those where intense competition and information and communication technology (ICT)-related developments are found. Over the last few years, the banking industry has witnessed a fundamental development of ICT (Malaquias and Hwang, 2019; Shankar and Jebarajakirthy, 2019), which in turn has enhanced competition. The competition is not limited to traditional players in the banking industry. New arrivals, such as financial technology (FinTech) companies, are competing with the traditional banks by offering diverse financial services (Gimpel *et al.*, 2018). In some cases, these arrivals can meet customer needs better than can traditional banks (Gomber *et al.*, 2017). Taking “big data” into consideration, these new arrivals acquire information about how to personalize services to suit customers’ preferences (Lee and Shin, 2018). Moreover, these new arrivals have broken away from the traditional model of banking, offering their services in fast and easy ways (Puschmann, 2017). Some claim that the future will witness an era of banking, but not banks (i.e., physical bank branches; Worthington and Welch, 2011).

Good examples of such ICT-related developments are those offering financial services via various modern electronic (or digital⁽²⁾) channels, such as mobile banking. These changes may influence the relationship with customers. The traditional image of a person in formal dress with hat in hand, waiting quietly in the hall of the bank, has become part of the past. Nowadays, bank customers manage various financial transactions in a hurry, perhaps while riding public transportation or during breaks at work, seeking ubiquity and immediacy of service (Tran and Corner, 2016).

In a way, mobile banking is replacing traditional bank visits, suggesting a new banking relationship characterized by lack of human contact and significant dependency on the electronic relationship (Sajasalo *et al.*, 2019). The ability to conduct financial transactions anywhere and anytime has become possible due to the functionality of mobile banking (Tran and Corner, 2016), new generations of mobile technology, and advanced Internet accessibility (Shaikh and Karjaluo, 2019). Today, banks are investing in developing application (“app”) technology (Giovanis *et al.*, 2019), offering a new generation of mobile banking via mobile bank applications (MBAs).

It can be argued that bank customers are not homogeneous in either attitude or behaviour (Heaney, 2007). For example, middle-aged bank customers are expected to be interested in planning their pensions efficiently, while younger ones could have different aims, such as buying nice cars. In recent discussion in academia (e.g., Chan *et al.*, 2017) and the World Economic Forum (2018), young bank customers (YBCs) are mentioned as a separate group that requires more investigation. Banks need to identify this group of customers and their preferences (Tan and Leby Lau, 2016), and should be aware of the role this young group can play in the future. YBCs represent promising opportunities, especially in countries where older employees represent a significant percentage of the workforce. YBCs will replace older employees in these markets; as a result, the purchasing power of YBCs will increase, allowing them to buy goods and services. YBCs are seen as a top priority for banks in Sweden, which

(2) This thesis ignores the difference in terminology, treating the concepts “electronic” and “digital” as equivalent.

has the highest labour force participation rate for older workers in the EU⁽³⁾ and where the banking industry faces fundamental changes in terms of ICT-related developments (Arvidsson, 2019).

Previous studies have used various theories when investigating mobile banking, including MBAs. Their focus has mostly been on the adoption perspective, i.e., the intention to use mobile banking, and there is a lack of studies concerning actual mobile banking use (Tam and Oliveira, 2017). Some of these studies of the adoption perspective have utilized TAM to investigate mobile-banking-related issues (e.g., Mohammadi, 2015). It can be argued that a synthesis of theoretical frameworks is needed to investigate YBC perceptions of loyalty antecedents in the MBA context.

As indicated, the increased use of MBAs has drawn academic attention to the importance of usability (Blázquez, 2014) and other quality attributes such as responsiveness and reliability (Sharma and Sharma, 2019) as well as customer satisfaction (Sampaio *et al.*, 2017). Furthermore, previous studies have investigated both the antecedents and consequences of loyalty (Chuah *et al.*, 2017; Javabdeh and Ahmad, 2014; Lu *et al.*, 2015; Omoregie *et al.*, 2019; Shankar and Jebarajakirthy, 2019; Wu *et al.*, 2019). It can also be argued that ongoing changes in the banking industry in terms of increased dependence on electronic channels have increased the importance of investigating groups such as YBCs.

1.2. The general problem, research questions, and aims

The general problem that this thesis investigates has four roots, as follows.

First, according to the European Banking Authority (2019), bank customer trends in European countries merit consideration when investigating customer-related issues. According to Statista (2019a), the proportion of people using mobile banking, including MBAs, worldwide increased from 9% in 2010 to 30% in 2015. In a recent survey (ING International Survey, 2018) covering 15 countries,⁽⁴⁾ 61% of European

(3) In Sweden, 73.5% of employed people are aged 50–64 years, versus an EU average of just 50.2% (Franklin *et al.*, 2014).

(4) Austria, Australia, Belgium, the Czech Republic, France, Germany, Italy, Luxembourg, the Netherlands, Poland, Romania, Spain, Turkey, the United Kingdom, and the USA. Except for Australia and the USA, all other countries are considered European.

respondents answered that they use smartphone apps, such as MBAs, to conduct financial transactions. This indicates that mobile banking represents a fundamental tool with which most of society accesses banking services. Overall, the expectation is that more than 2 billion customers worldwide will use MBAs by the end of 2021, compared with 1.2 billion in 2016 (Leon, 2018). Many countries are witnessing this trend of increased use of MBAs, and Sweden is a good example where the number of people using MBAs increased greatly over the three years between 2013 and 2016 (Davidsson and Findahl, 2016).

Recently, Sweden was ranked first in non-cash transactions per capita in the world (Arvidsson, 2019). Most bank branches in Sweden are cashless (Arvidsson *et al.*, 2017), and the trend of conducting financial transactions via mobile and app technology is well established (Davidsson and Findahl, 2016). Not only are commercial banks taking such changes into consideration; the Riksbank – the central bank of Sweden – stated that “the use of banknotes and coins is declining in [Swedish] society. At the same time, technological advances with regard to electronic money and payment methods are proceeding rapidly” (Riksbank, 2017). Given that Sweden is considered a bank-based market (Öhman and Yazdanfar, 2018a), it can be concluded that ICT-related developments, including MBAs, will likely shape the banking market in Sweden in the future.

Second, MBAs have become a main channel for consuming financial services (Owusu Kwateng *et al.*, 2019). Customers from different backgrounds prefer to use MBAs for many reasons, including their ubiquity and mobility (Tran and Corner, 2016). In particular, YBCs extensively use this channel (Berraies *et al.*, 2017), and they are important customers due to their purchasing power (Bilgihan, 2016) and skills in using app technology (Berraies *et al.*, 2017). It is also indicated that they have unique loyalty patterns compared with those of other age groups (Foscht *et al.*, 2009). Of particular importance is that YBCs are more likely than other customers to move to other banks (Gomber *et al.*, 2018). Moreover, YBCs seem to have low financial knowledge since they have less experience in dealing with financial institutions than do older bank customers (Bayuk and Altobello, 2019; Lusardi, 2017).

Young employees, who are YBCs as well, will gradually replace retiring ones. Therefore, YBCs represent a promising future market for bankers. In this regard, this thesis notes that focusing on a certain category of bank customers, i.e., YBCs, does not mean that other categories are unimportant. As this thesis aims to build knowledge of human behaviour (cf. Sarantakos, 1988), it can be argued that focusing on one category of bank customers will lead to coherent results, as bank customers in different age groups tend to behave differently (Heaney, 2007). Moreover, Aydin and Akben Selcuk (2019) recommended studying bank customers according to their financial knowledge, for example, investigating customers such as YBCs. Taken together, this thesis takes a further step in exploring loyalty-pattern-related issues according to the perceptions of YBCs.

Third, the mobile banking literature is centred on adoption-related theoretical perspectives, so the perceived behaviour perspective is overlooked (Farah *et al.*, 2018; Giovanis *et al.*, 2019). Previous studies (e.g., Baptista and Oliveira, 2015; Giovanis *et al.*, 2019; Hoehle *et al.*, 2012) have reviewed the mobile banking literature and found that certain theories⁽⁵⁾ have been used in investigating adoption-related issues, for example, the theory of reasoned action (Fishbein and Ajzen, 1975), TAM (Davis, 1989) and the theory of planned behaviour (Ajzen, 1991). A closer look at these theories reveals that concepts such as customer satisfaction and loyalty have not been thoroughly studied. Based on a review of Internet banking adoption, Yousafzai (2012, p. 223) claimed a need for “more comprehensive theoretical explications of the constructs,⁽⁶⁾ their measures and their relationships with other constructs”. Thakur (2014) emphasized the need to investigate customer satisfaction, while Tam and Oliveira (2017) highlighted loyalty concepts. Moreover, Shaikh and Karjaluoto (2015) suggested including attitude- and behaviour-related issues. This thesis problematizes previous literature in order to develop a theoretical model that can help in investigating YBCs’ perceived behaviour and loyalty antecedents in the MBA context.

(5) These studies have also found the use of other theories. However, this thesis highlights the most common ones in the literature; for further reading, see Shaikh and Karjaluoto (2015).

(6) This thesis uses “construct” and “concept” interchangeably.

Fourth, previous studies adoption in mobile banking (e.g., Akturan and Tezcan, 2012; Hoehle *et al.*, 2012; Koenig-Lewis *et al.*, 2010; Laukkanen and Pasanen, 2008; Lin, 2011; Yang, 2009) have utilized concepts associated with the adoption-related theoretical perspective. This focus on empirical investigations related to adoption-related issues is logical due to the slow development of mobile banking during the first decade of the new millennium (Zhou, 2012). Previous studies have highlighted specific issues such as “the factors and motivations that influence the adoption or behaviour intention” (Tam and Oliveira, 2017, p. 1045).

Due to ICT-related developments in the banking industry (Gomber *et al.*, 2017), it can be argued that merely studying adoption-related issues is not enough in order to investigate YBC perceptions of loyalty antecedents in the MBA context. Instead, previous studies have called for more studies of what customers perceive (e.g., Liébana-Cabanillas *et al.*, 2017). Tan and Leby Lau (2016, p. 28) stated that “understanding behavioural intention is essential, but it may not accurately represent actual behaviour”. In a similar vein, Tam and Oliveira (2017, p. 1060) emphasized that “knowing the determinants of the post-adoption phase, and keeping customers loyal to m-banking [i.e., mobile banking] are the emerging issues that should be considered in future research”. Hence, this thesis emphasizes the need to go beyond adoption-related issues, and instead investigate empirical concepts related to perceived behaviour.

Accordingly, the overall research question of the thesis is: How do YBCs perceive the relationships between the antecedents of loyalty, loyalty, and the consequences of loyalty in the MBA context?

This thesis investigates YBC perceptions of loyalty antecedents in the MBA context, and YBC perceptions of the relationships between loyalty antecedents, loyalty, and the consequences of loyalty. Two studies have been conducted to this end. The first study addresses the following research questions (RQs):

RQ 1a: How do YBCs perceive the relationships between the cognitive, affective, and conative antecedents of loyalty, and loyalty in the MBA context?

RQ 1b: How do YBCs perceive the relationships between loyalty and the consequences of loyalty in the MBA context?

The aim of this study is to investigate YBC perceptions of the relationships between the cognitive, affective, and conative antecedents of loyalty, on one hand, and attitudinal and behavioural loyalty to MBAs, on the other. In addition, this study investigates the relationships between loyalty and its consequences (i.e., word of mouth, E-word of mouth, consumer information search, and resistance to counter persuasion).

The second study addresses the following RQs:

RQ 2a: How do YBCs perceive the relationships between the loyalty antecedents usability, service quality (i.e., the concepts responsiveness and reliability), and customer satisfaction in the MBA context?

RQ 2b: How do YBCs perceive the relationships between the loyalty antecedents and loyalty in the MBA context?

The aim of this study is to investigate how YBCs perceive the relationships between several loyalty antecedents (i.e., usability, responsiveness, reliability, and customer satisfaction) and loyalty in the MBA context.

2. Frame of reference

2.1. Mobile financial services, mobile bank application, and young bank customer

Financial services within the banking industry focus on individuals' payments for goods and services, for example, bill payments via MBAs. The demand for these financial services has increased significantly in the economy since 2007 (Thomas, 2010), notably among the YBC population (Xiao, 2016). ICT-related developments have dramatically changed the financial services sector and helped shape mobile financial services.

2.1.1. Mobile financial services

Shaikh and Karjalutoto (2019) indicated that mobile financial services include mobile banking, mobile payment, and mobile money (see Figure 1), leading to three relationships. The first is between bank customers and mobile banking, for example, via MBAs. The second usually refers to the relationship between de-bank customers (i.e., customers who prefer not to conduct mobile banking transactions) and mobile payment solutions (e.g., PayPal), which does not represent a direct relationship between a customer and a bank. Various factors, such as transaction fees, might encourage de-bank customers to select mobile payments instead of mobile banking. The third relationship is between non-bank customers and mobile money (e.g., M-Pesa). This relationship is similar to the second one in that it does not include a direct relationship to a bank.

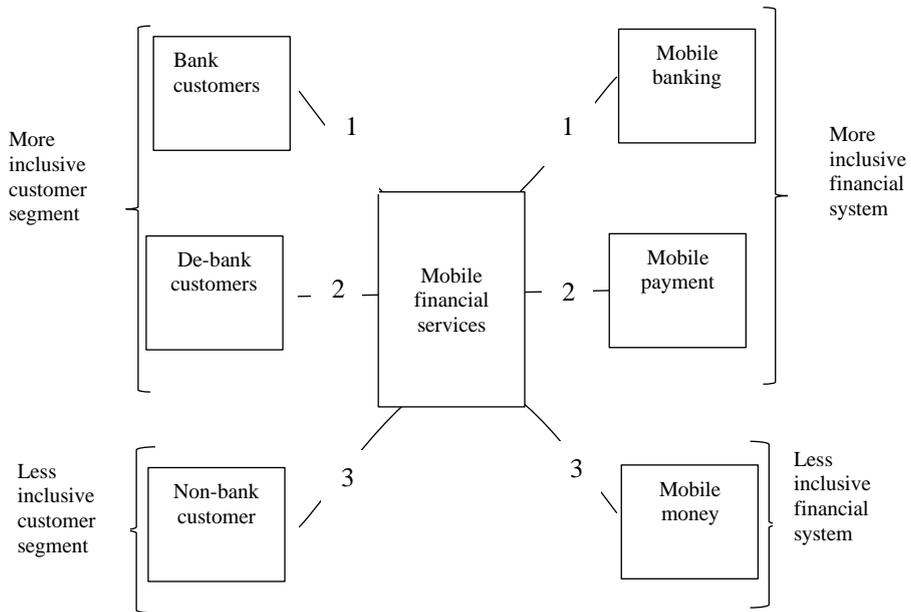


Figure 1: Mobile financial services landscape (Shaikh and Karjalutoto, 2019).

Mobile banking and mobile payments⁽⁷⁾ happen in more inclusive financial systems such as that of Sweden,⁽⁸⁾ where bank customers and de-bank customers have access to the Internet and banking infrastructure (Shaikh and Karjalutoto, 2019). Mobile money, common in some developing countries⁽⁹⁾, allows non-bank customers to send funds, receive funds, and/or pay in a financial system where the banking infrastructure is limited (Shaikh *et al.*, 2019).

Young people make extensive use of all three types of mobile financial services. Approximately 56% of the world population aged 15–24 years have an

(7) The literature sometimes uses these two terms interchangeably. This thesis distinguishes the concepts as follows: the first requires a direct relationship between two parties, a customer and a bank, while the second encompasses at least one more party, for example, a payment solution, which acts as mediator between the bank and the customer.

(8) In Sweden, significant use is made of mobile banking and the use of mobile payment solutions, such as Swish (www.getswish.se), is common (Davidsson and Findahl, 2016).

(9) Especially in Kenya and Sub-Saharan Africa (Demirguc-Kunt *et al.*, 2018).

account in a bank⁽¹⁰⁾ or another type of financial institution, or have access to mobile money solutions (Demirguc-Kunt *et al.*, 2018).

2.1.2. Mobile bank applications: roots, definitions, and ecosystem

Of the three types of mobile financial services presented in Figure 1, this thesis focuses on the first one by investigating MBAs, i.e. an advanced version of mobile banking. It is worth noting that the roots of mobile banking go back to the 1970s, when banking transactions started to change from paper-based financial transactions to automated teller machine (ATM) banking. Later in the 1980s, telephone banking was introduced, and in the 1990s electronic banking appeared (Barkhordari *et al.*, 2017). This evolution is illustrated in Figure 2.

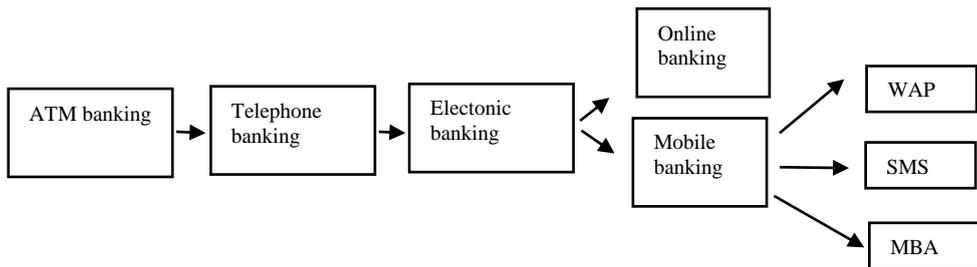


Figure 2: Order of appearance of technological developments in the banking industry. (WAP = wireless application protocol, SMS = short message service, and MBA = mobile bank application.)

It is worth highlighting that electronic banking contributed significantly to the development of financial services, since it enabled customers to benefit from the growing use of the Internet on different personal devices. Electronic banking refers to access to financial services via various electronic channels. Of these channels, two are most common:⁽¹¹⁾ online banking via personal computers (PCs) and mobile banking via mobile devices (Shaikh and Karjalutoto, 2019). Online banking

(10) Some countries, such as Andorra, are not included due to lack of data (The World Bank, 2019).

(11) In addition to these two common channels, previous studies have examined personal electronic assistant banking (e.g., Owusu Kwateng *et al.*, 2019), and smart-watch banking has recently appeared in several bank advertisements (e.g., see <https://www.youtube.com/watch?v=WeeiKPtYq4Q&t=16s>).

developed when bank customers became able to access banking services via PCs (Laukkanen, 2007a). Subsequently, banking services already available via PCs were offered via mobile devices, leading to mobile banking (Deng *et al.*, 2010). Consequently, ubiquitous and mobile banking services are now available to customers (Tran and Corner, 2016). In this regard, it is worth stressing that in recent decades, scholars have mostly focused on ATM banking, telephone banking, and electronic banking in terms of online banking (Laukkanen, 2007b; Laukkanen and Pasanen, 2005). Only recently has mobile banking received worldwide attention (Baptista and Oliveira, 2015; Huang *et al.*, 2015; Tan and Leby Lau, 2016; Taylor, 2016).

Shaikh and Karjalutoto (2019) found that previous studies have investigated mobile banking from different perspectives, such as mobile commerce, information systems, and e-finance. However, from an electronic banking perspective, mobile banking is seen as an innovative channel that enables bank customers to conduct financial transactions via phone devices with wireless networking anytime and anywhere (Baptista and Oliveira, 2015; Jun and Palacios, 2016; Malaquias and Hwang, 2018). Figure 2 shows that mobile banking is an umbrella term covering wireless application protocol (WAP), short message service (SMS), and MBA (Shaikh and Karjalutoto, 2015) banking.

The literature shows that mobile banking has experienced two phases of adoption, differing markedly in popularity (Shaikh and Karjalutoto, 2019). During the first decade of the new millennium, mobile banking failed to be widely adopted by bank customers. For example, in South Korea, only 4% of online bank customers adopted mobile banking in that period (Lee *et al.*, 2012). In Taiwan, less than 1% of banking transactions were conducted via mobile phones in 2003 (Luarn and Lin, 2005). Similar examples can be found in China (Laforet and Li, 2005), Finland (Suoranta and Mattila, 2004), and the USA (Mallat *et al.*, 2004). In other words, mobile banking did not become as widespread as expected (Koenig-Lewis *et al.*, 2010; Mohammadi, 2015; Shaikh and Karjalutoto, 2015) due to limitations such as slower transaction speeds, tiny screens, and primitive keypads (Laukkanen, 2007a;

Lee and Chung, 2009). Starting in the second decade of the new millennium,⁽¹²⁾ the number of customers who use mobile banking increased considerably. In the USA, the proportion of bank customers using mobile banking services increased from 29% to 51% over the 2011–2016 period (Statista, 2019b).

During the first phase, banking services via mobile devices were mostly conducted via WAP (Sun *et al.*, 2015) or SMS banking (Barnes and Corbitt, 2003; Dineshwar and Steven, 2013). When bank customers used WAP and/or SMS banking to access their bank accounts, they experienced a complicated and time-consuming process. A customer who wanted to access his or her bank account via WAP banking needed to open the online browser in his or her mobile device, access the bank's website, log into his or her bank account, insert the username and password, wait for the confirmation e-mail (which contained a PIN), and enter the PIN (Barnes and Corbitt, 2003). Only after this could the customer access his or her bank account.⁽¹³⁾ Similarly, those who used SMS banking first had to send the sequence <bank name><account number><password><transaction code> to the customer service centre by SMS; later, they received the information needed to conduct the desired transaction⁽¹⁴⁾ (Barnes and Corbitt, 2003).

In the second phase, banking services began to be accessed using app technology. Banks developed MBAs that enabled bank customers to access their bank accounts easily and quickly (Zhou, 2012). The customer could open the MBA, scan his or her fingerprint (or use other authentication methods), and then conduct various financial transactions in his or her bank account.⁽¹⁵⁾ Therefore, MBAs became a basic channel for conducting daily banking transactions such as checking balances, paying bills, and transferring money (Liébana-Cabanillas *et al.*, 2017; Lu *et al.*, 2015; Sampaio *et al.*, 2017). Notably, current MBAs have better interfaces than did older versions, making banking transactions easier (Zhou, 2012).

(12) In particular, after the launch of more advanced smartphones, such as the iPhone in 2007 (Shaikh and Karjaluo, 2019).

(13) An example of WAP banking can be viewed at <https://www.youtube.com/watch?v=aG1TcQH7icQ>

(14) An example of SMS banking can be viewed at https://www.youtube.com/watch?v=R0NF5_YNEDs

(15) An example of MBA banking can be viewed at <https://www.youtube.com/watch?v=kEnxmVCgZPQ>

MBA's enable bank customers to conduct financial transactions via a bank app downloaded to a smartphone that has a wireless networking connection. Due to the advanced capabilities of these smartphones, MBAs give bank customers various benefits, such as the ability to quickly access financial services and to easily access various types of information (Alavi and Ahuja, 2016). Unlike previous types of mobile banking, MBAs provide usable ways to conduct banking transactions (Abubakar *et al.*, 2015; Mohammadi, 2015), which in turn might be related to customer satisfaction and loyalty.

The MBA ecosystem (International Finance Corporation, 2014) is presented in Figure 3. The left side of the figure shows that users can use MBAs to send and/or receive money. The bottom part shows that users can buy various goods and services in the retail sector, either in shops or electronically. The right side shows that users can pay enterprises (e.g., pay utility bills) or receive money from them (e.g., receive salaries). The upper part shows that users can pay and/or receive money from the government sector.

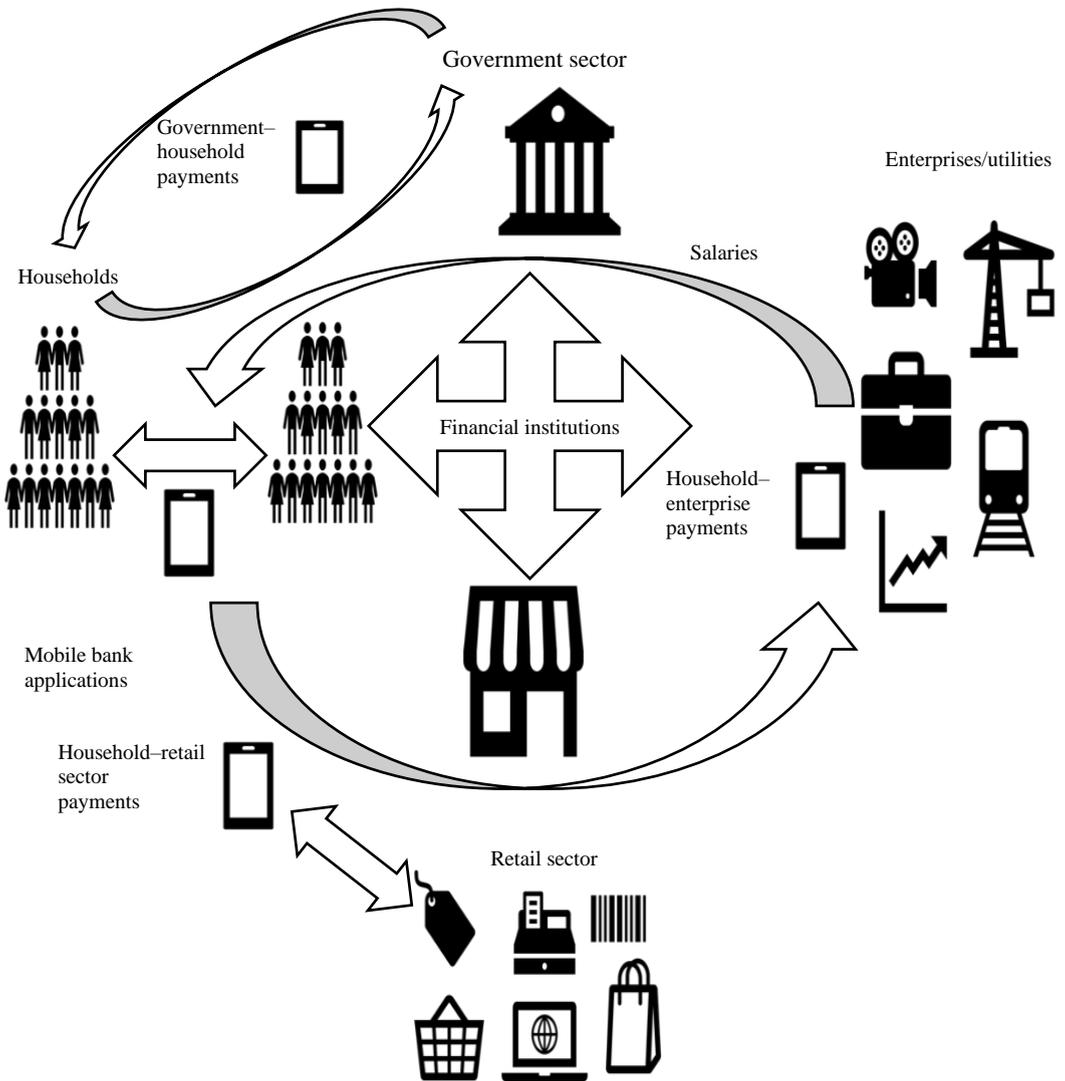


Figure 3: The mobile bank application ecosystem.

2.1.3. Characteristics of young bank customers

Customers behave in a different manner in financial service contexts compared with non-financial ones, for example, being more passive (Diacon and Ennew, 1996; Hauff, 2014). Bank customers arguably have higher expectations and behave in a more sophisticated manner than do other types of customers (Foscht *et al.*, 2009). Generational group research has been the focus of many business studies (Bilgihan, 2016), and this stream of research is common in the banking context (Heaney, 2007). Of the various generational groups, youth have attracted particular attention in scholarly research (Akturan and Tezcan, 2012; Chan *et al.*, 2017; Foscht *et al.*, 2010; Koenig- Lewis *et al.*, 2010).

Shaikh and Karjaluo (2019) distinguished two generational groups when it comes to use of mobile financial services. The first is *digital natives*, i.e., those born in the late 1980s, and *digital immigrants*, i.e., those born before the new digital era. The first group, which might be labelled the Google generation, is familiar with technology and has no difficulties dealing with different aspects of the digital era. This generation has an own lifestyle (Heaney, 2007), and tend to be innovative, adventurous, and curious to try new things (Chan *et al.*, 2017). The second group has learned how to use digital technology, but is still connected to the past and is unable to fully understand the new technology and their younger counterparts (Shaikh and Karjaluo, 2019).

In the banking industry, the digital natives are seen as YBCs (Shaikh and Karjaluo, 2019). They will likely buy many types of goods and services, including financing such as home mortgages, and they represent promising opportunities for banks. Increased market share is just one advantage that banks can gain by sustaining relationships with YBCs (Foscht *et al.*, 2009). Overall, the more ability a bank has to meet YBC needs and wants, the more profits the bank will likely earn.

The literature shows that YBCs might perceive financial services via MBAs in a different manner compared with other age groups. YBCs process websites faster than do older people (Bilgihan, 2016), and they use some banking services more frequently. In a survey, Gemalto (2014) found that 40% of those aged 16–24 years in the UK, the USA, Mexico, Brazil, and Singapore used mobile banking, such as

MBAs, to pay bills. Furthermore, they appreciated MBA functions that helped them manage their money (Berraies *et al.*, 2017; Wijland *et al.*, 2016).

It is worth noting that YBCs are not the only customer segment using MBAs. Laukkanen and Pasanen (2005) found that middle-aged customers used mobile banking services almost two times more than did those aged 18–24 years. Laforet and Li (2005) concluded that in China, typical mobile banking customers are up to 44 years old. However, YBCs represent an auspicious market, and special attention is required in order to investigate how MBAs could satisfy these customers and obtain their loyalty. Investigating YBC perceptions of loyalty antecedents in the MBA context is accordingly seen as highly important.

2.2. Theoretical framework

2.2.1. Relationship marketing

Although relationship marketing (RM) is probably as old as any trade relationship (Möller and Halinen, 2000), the RM field is relatively new. Berry (1983) was probably the first scholar to use the term “relationship marketing” in the service context, though RM did not receive significant attention until the 1990s (Möller and Halinen, 2000; Liljander and Roos, 2002). Zhang *et al.* (2016) claimed that the RM concept is used to study a fragmented idea and that there is disagreement regarding how to investigate RM, for example, concerning what concepts might be used in investigating issues related to RM.

Berry (1995, p. 236) defined RM as “attracting, maintaining and – in multi-service organizations – enhancing customer relationships”. Grönroos (2000, p. 98) introduced a more comprehensive definition, stating that RM is “the process of identifying and establishing, maintaining, enhancing, and when necessary, terminating relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met, where this is done by mutual giving and fulfilment of promises”. It is worth emphasizing that the understanding of RM used here is in line with Grönroos’ definition.

Möller and Halinen (2000) stated that four disciplinary roots contributed to founding RM as a field: (i) database marketing and direct marketing, for example,

using ICT to manage relationships with customers; (ii) service marketing, for example, when service-related issues such as quality and customer satisfaction are the main concerns; (iii) the study of channel relationships, for example, the dyadic relationship when the possession of goods moves from a business to a customer; and (iv) business marketing, for example, assessing customer engagement in relational market behaviour.

RM is classified into two main types, business-to-customer and business-to-business RM. Business-to-customer RM is the main interest of this thesis, as it focuses on MBAs and YBCs, with MBAs representing the business side and YBCs the customer side. Previous studies have found that the assumptions underlying these main types are different. In the business-to-customer case, the focus is on the individual customer relationship in the context of a large number of customers and a relatively active seller. A different scenario exists in the case of the business-to-business relationship. The focus here is on supplier-buyer dyads and exchange within focal networks comprising a small number of actors any one of whom can be active (Möller and Halinen, 2000). Of particular interest is that RM helps us investigate how people consume services (Blocker *et al.*, 2012), and previous studies (e.g., Garbarino and Johnson, 1999; Gwinner *et al.*, 1998; Liljander and Roos, 2002) have stressed that RM enhances the ability to offer individualized and customized services, which in turn may increase customer satisfaction and loyalty.

2.2.2. Technology acceptance model

In 1985, Davis introduced the technology acceptance model (TAM) (Davis, 1985). The model posits that system characteristics will likely influence user behaviour.⁽¹⁶⁾ Davis (1989) later concluded that ease of use and usefulness are two determinants of the attitude toward using a certain system. In this regard, ease of use is seen as the extent to which a technology is perceived as easy to experience and use, while usefulness refers to the extent to which a technology is perceived as providing benefits

(16) This thesis ignores the difference in terminology. The concepts of “user” and “customer” are treated as equivalent, and further sections of this thesis use “customers”, as this is the dominant term in business studies. It is worth noting that previous studies have discussed this issue (e.g., McLaughlin, 2009).

in performing certain activities (Davis, 1989). In their review of the mobile banking and individual performance contexts, Tam and Oliveira (2017) observed that, remarkably, previous studies have used TAM in assessing customer perceptions of mobile banking. Other studies, for example, by Kumar *et al.* (2017), extended the model to the mobile banking context. The stream of TAM research is also common in the online banking field (Yousafzai, 2012).

TAM was also employed to investigate usability in terms of ease of use and usefulness (e.g., Mohammadi, 2015). This application of TAM has been criticized. In the electronic banking context, Casaló *et al.* (2007, 2008a, 2008b) and Flavian *et al.* (2006) argued that usability can be explained as ease of use, but that usefulness refers to something else. This will be discussed further in the next section.

2.3. Conceptual framework

2.3.1. Usability

According to International Organization for Standardization (ISO) (1998), usability is the degree to which a product can be used by specified customers to achieve specified goals with effectiveness, efficiency, and customer satisfaction in a specified context of use. Slightly different definitions have also been suggested, for example, usability is the quality attribute that captures how easy customer interfaces are to use (Nielsen, 2012). Overall, previous studies have identified five usability dimensions: effectiveness, efficiency, customer satisfaction, ease of use, and usefulness (Hoehle and Venkatesh, 2015; Hussain *et al.*, 2014; International Organization for Standardization, 1998).

The first three dimensions, i.e., effectiveness, efficiency, and customer satisfaction, represent usability based on ISO's (1988) definition. This operationalization of usability is limited as it treats usability based on its possible consequences rather than seeking to explain what usability really means. In other words, this operationalization of usability is helpful as it makes us aware that a usable system can achieve effectiveness and efficiency and leads to customer satisfaction, but it does not elaborate on the concept of usability as such.

The study by Kim and Moon (1998) of the impact of visual design factors on trust in banking might be seen as one of the earliest contributions on usability in the banking context. In turn, Casaló *et al.* (2007, 2008a, 2008b) and Flavian *et al.* (2006) discussed ease of use and usefulness in investigating usability in the banking industry. According to them, usability and ease of use are similar, but usability and usefulness differ explicitly. This indicates that of the five dimensions, ease of use is likely the most helpful one for building a good operationalization of usability. However, it is also important to operationalize ease of use in a sophisticated way to avoid the inconsistency that might arise between (i) the customer's opportunities to deal effectively with any difficulties associated with a new system and (ii) usability (cf. Chitungo and Munongo, 2013; Liébana-Cabanillas *et al.*, 2017).

Previous studies highlighted the need to consider the context in which studies are conducted (Venkatesh *et al.*, 2003). Harrison *et al.* (2013, p. 1) stated that although usability issues such as “small screen sizes, limited connectivity, high power consumption rates, and limited input modalities are just some of the issues that arise when designing for small, portable devices. One of the biggest issues is the context in which they are used”.

Kang *et al.* (2012) stated that usability as related to MBAs likely concerns mobile interface and navigation issues. Casaló *et al.* (2007, 2008a, 2008b) and Flavian *et al.* (2006) developed an online-banking-oriented usability concept. Their work stated that usability can be understood as based on six dimensions: (i) ease of understanding the structure of a system, (ii) contents that can be observed by the customer, (iii) simplicity when using the website [or MBA], (iv) speed to find what the customer is looking for, (v) perceived ease of site navigation, and (vi) customer control of site/MBA use. This operationalization is employed here.

2.3.2. Service quality: responsiveness and reliability

The pioneering study by Parasuraman *et al.* (1985) is among the most significant contributions to the service quality field. It paved the way for a series of academic discussions (see Cronin and Taylor, 1992, 1994; Parasuraman *et al.*, 1988, 1991, 1994), which in turn formulated two approaches to service quality: the first treats

service quality as the gap between expectations and perceptions, i.e., SERVQUAL, while the second merely considers perceived service quality, i.e., SERVPERF.

The gap perspective has been criticized. For example, Buttle (1996, p. 11) stated that “the term expectation is polysemic; customers use standards other than expectations to evaluate SQ [i.e., service quality], and SERVQUAL fails to measure absolute SQ expectations”. Moreover, previous studies (e.g., Brown *et al.*, 1993; Cronin and Taylor, 1992) have found that perceived service quality is a better approach than the gap approach.

Regarding the banking industry, many studies have employed either SERVQUAL (e.g., Kumar *et al.*, 2009) or SERVPERF (e.g., Beerli *et al.*, 2004) to investigate service quality. The SERVQUAL and SERVPERF scales each consist of five dimensions: responsiveness, reliability, assurance, empathy, and tangibles. This thesis utilizes the perceived service quality approach, and employs only the first two dimensions, i.e., responsiveness and reliability, due to their appropriateness in the MBA context. The other three dimensions, i.e., tangibles, assurance, and empathy, were neglected because they are inapplicable to the MBA context: tangibles refers to the physical environment a bank uses to offer services; assurance refers to bank employees’ knowledge and courtesy; while empathy is the care that employees give to customers (Parasuraman *et al.*, 1988).

Iberahim *et al.* (2016) stated that responsiveness is the ability to respond to customer requirements in a timely and flexible way. Moreover, previous studies have concluded that reliability and responsiveness are important in quality-related issues in the banking industry (e.g., Jun and Palacios, 2016; Marimon *et al.*, 2012; Yang *et al.*, 2004). Reliability is seen as the extent to which customers believe that new technology can help them perform their tasks consistently and accurately (Lee *et al.*, 2003). Hanafizadeh *et al.* (2014) stressed that reliability is an extremely important risk-related factor in technology-based financial services.

2.3.3. Customer satisfaction

Customer satisfaction is an assessment applicable to the after-purchase phase (Fornell, 1992) that presumably affects customer loyalty (Cronin and Taylor, 1992; Rust and Zahorik, 1993) and future revenue (Jacobson and Aaker, 1987; Phillips *et al.*, 1983; Shapiro, 1983). However, customer satisfaction might not work as assumed, due to the complexity of the relationship between customer satisfaction and customer behaviour (Coyne, 1989; Oliva *et al.*, 1992).

On one hand, customer satisfaction is seen as “a function of an initial standard and some perceived discrepancy from the initial reference point” (Oliver, 1980, p. 460), i.e., it is a post-purchase assessment based on the confirmation/disconfirmation model (Arcand *et al.*, 2017; Thakur, 2014). On the other hand, others (e.g., Fornell, 1992; Tse and Wilton, 1988) have argued that perceived customer satisfaction may have a stronger influence than that of expectations, so customer satisfaction can be studied based on customer perceptions.

Customer satisfaction can be divided into two types: transaction and cumulative. While the first one focuses on satisfaction on a specific occasion, the second one considers the overall assessment of the whole experience (Anderson *et al.*, 1994; Boulding *et al.*, 1993).

Since the 1980s, interest in measuring customer satisfaction has continued to be evident in academic studies (cf. Churchill *et al.*, 1982; Oliver, 1980). Hausknecht (1990) identified more than 30 customer satisfaction measures, three of which have been treated as main measures: (i) general customer satisfaction, (ii) confirmation of expectations, and (iii) distance from the customer’s hypothetical ideal product. In the banking industry, a significant number of studies have focused on the general assessment of customer satisfaction (e.g., Arcand *et al.*, 2017; Sampaio *et al.*, 2017; Yoon, 2010).

Overall, customer satisfaction “is not the result of a specific transaction but that of a global evaluation of the relationship history between the parties” (Casaló *et al.*, 2008a, p. 327). Studies targeting customer satisfaction in the MBA context have used general perceived customer satisfaction (i.e., the cumulative approach) and its relationship with loyalty (e.g., Santouridis and Trivellas, 2010). Moreover, this

approach enabled the present research to identify YBCs' general evaluation of their satisfaction with MBAs.

2.3.4. Loyalty, antecedents and consequences

Loyal customers are key to the success of many service providers (Pullman and Gross, 2004). It is also seen as a fundamental strategy for banks (Liébana-Cabanillas *et al.*, 2017), since it increases their profits (Baldinger and Rubinson, 1999). Recent decades have witnessed the development of many programmes intended to strengthen customer loyalty (Masrek *et al.*, 2012; Szűts and Tóth, 2008). Loyalty fosters the ability to employ businesses' resources efficiently, since the buying behaviour of loyal customers is regular and predictable (Hennig-Thurau *et al.*, 2001). Moreover, loyal customers may be willing to pay more (Bandyopadhyay and Martell, 2007; Rundle-Thiele, 2005) either because they perceive some unique value (Chaudhuri and Holbrook, 2001; Jacoby and Chestnut, 1978) or due to their lower price elasticities compared with those of non-loyal customers (Reichheld and Sasser, 1990). Among the various views of loyalty, two are common. The first considers loyalty in terms of repurchasing, i.e., as a behaviour (e.g., Ehrenberg *et al.*, 1990), while the other emphasizes that loyalty is a combination of attitude and behaviour (e.g., Dick and Basu, 1994).

Loyalty to mobile banking has mostly been investigated in terms of intention to repurchase or WoM (e.g., Aydin and Özer 2005; Deng *et al.*, 2010; Lin, 2012), a limited perspective that ignores antecedents and consequences. Several previous studies (e.g., Bandyopadhyay and Martell, 2007; Uncles *et al.*, 2003) have highlighted the need to investigate loyalty based on a broader perspective than merely intention.

As mentioned above, Dick and Basu's (1994) customer loyalty framework comprises three main components: antecedents of attitudinal loyalty (i.e., cognitive, affective, and conative antecedents), attitudinal/behavioural loyalty (meaning that loyalty represents a combination of attitude and behaviour), and the consequences of loyalty in terms of SM, RCP, and WoM (regarding WoM, today it can even be shared electronically, i.e., E-word of mouth, E-WoM). Overall, loyalty is defined as "a deeply held commitment to rebuy or repatronize a preferred product/service

consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour” (Oliver, 1999, p. 34).

2.4. Conceptual model

It has been suggested that a person cannot view commercial interactions as anything but relational (Blocker *et al.*, 2012; Vargo and Lusch, 2004). The relationship represents the essential structure of the marketplace exchange. As such, the interaction between two parties – within a network of relationships – represents the core of any relationship (Gummesson, 2008). As a segment of the market, YBCs favour particular goods and services (Bilgihan, 2016) and have different relationships from those of other age groups (Chau and Ngai, 2010). Mobile financial services in general, and MBAs in particular, have changed the way that YBCs consume financial services (Tan and Leby Lau, 2017). Speed, mobility, and many other advantages have enabled YBCs to access various financial services, such as money transfers, checking accounts, and bill payment, via MBAs (Owusu Kwateng *et al.*, 2019).

YBCs generally need to visit a bank to open an account.⁽¹⁷⁾ In practice, this visit likely raises YBC awareness of MBAs, as banks promote their MBAs by various means, for example, through oral information provided by employees. The starting point of this relationship is when a YBC downloads an MBA to his or her mobile phone. Subsequently, the YBC starts to conduct financial services via his or her MBA. The first step happens only once, while the second step is long and repetitive and will likely determine the success of the relationship between the YBC and the MBA. The bank’s expectation is that the use of MBAs will be dominant, due to the decline in human contact between customers and banks (Fenu and Pau, 2015; Haapio, 2019; Manser Payne *et al.*, 2018). In other words, the relationship between YBCs and MBAs is expected to replace the one between YBCs and traditional banks, since YBCs can use their MBAs in organizing, analyzing, and conducting financial transactions.

(17) Recently, mobile-only banks (e.g., www.n26.com) have started to open bank accounts without the need for customers to visit a physical bank branch or office.

Based on the literature review, several concepts are embedded in the conceptual model outlined in Figure 4. The left and upper parts of Figure 4 show the loyalty antecedents. To the left are the ones suggested by previous studies, i.e., usability, responsiveness, customer satisfaction, and reliability. In the upper part are the cognitive, affective, and conative antecedents from Dick and Basu's (1994) framework. Figure 4 also features attitudinal and behavioural loyalty as a focus. The model extends the investigation to cover loyalty and its suggested consequences. The dotted, vertically oriented box indicates the subject of the first article, which applies Dick and Basu's (1994) framework. The solid, horizontally oriented box indicates the subject of the second article, which examines the relationships between a number of suggested loyalty antecedents and loyalty.

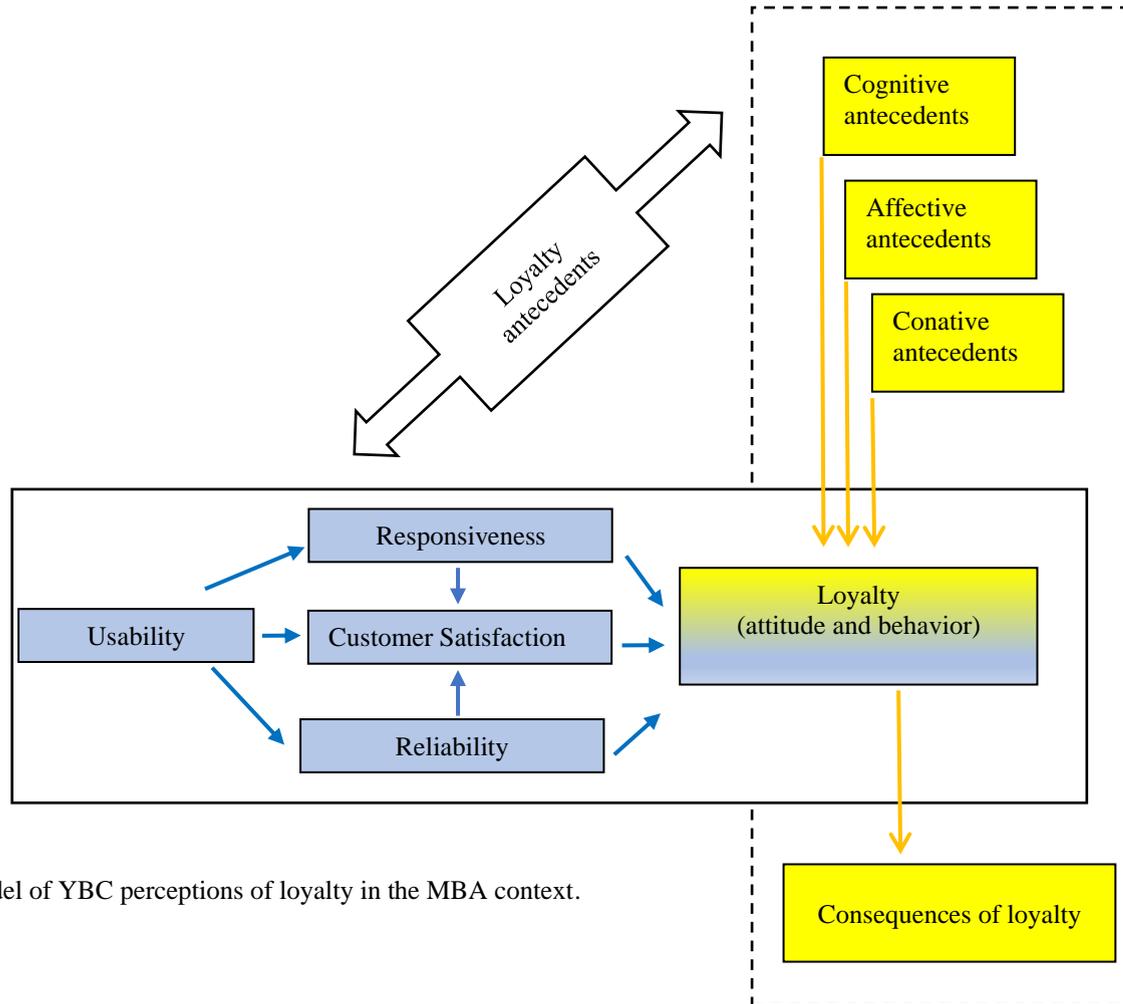


Figure 4: Conceptual model of YBC perceptions of loyalty in the MBA context.

3. Methodological consideration

3.1. Overview

Investigating the opinions of customers in the banking industry can be described as a challenge that is especially problematic due to the investigated respondents, i.e., YBCs, and the MBA context. YBC perceptions of loyalty antecedents in the MBA context raise questions related to opinions, attitude, behaviour, and so forth. Individuals belonging to the younger generation have their own vision of reality (Hooghe, 2004), and MBAs entail difficulties, for example, in operationalizing Dick and Basu's (1994) original framework. This chapter presents an overview of the methodological considerations of this thesis (see Figure 5).

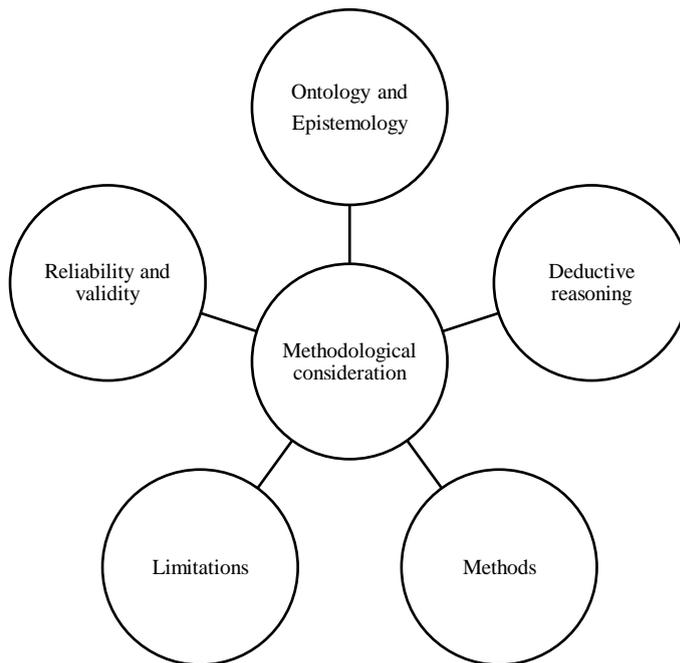


Figure 5: The methodological considerations of this thesis.

3.2. Ontology and epistemology

Ontological and epistemological positions are basic determinants in social science (cf. Burrell and Morgan, 1979; Sandberg and Alvesson, 2011). Ontology is the study of being, the nature of existence, and what constitutes social reality. The main ontological question is whether social reality is external to the individual or a product of individual consciousness. Epistemology provides a philosophical description of what knowledge is legitimate and adequate. The main epistemological question is whether it is possible to identify knowledge as hard, real, and capable of being transmitted in tangible form or as soft, subjective, spiritual, or even transcendental (cf. Burrell and Morgan, 1979).

Johansson (2016) argued for the importance of distinguishing between ontology and epistemology. The author used the story of Jan Myrdal,⁽¹⁸⁾ who in his writing highlighted his mother's attention to him. Jan Myrdal's sister later published a book in which she described Jan as a terribly egoistic boy who would display jealous behaviour in order to obtain his mother's love and attention. In Jan's reply to his sister, he said that it was his truth that he believes. Johansson (2016, p. 36) discussed this dilemma as follows:

There is reason here to make a distinction between two different senses of the objective–subjective contrast. The first sense is epistemological. It is that a claim is objectively true, or objectively false, if the truth or falsity of that claim does not depend on who makes the claim. Another sense of the objective–subjective contrast is ontological. A phenomenon, circumstance, event or object, in short, anything we can talk about, is objective in the ontological sense if its existence is independent of any individual's mental states. Otherwise, it is ontologically subjective. A person's attitudes, feelings and thoughts are subjective in the ontological sense. It follows that one can make objectively true or false claims about these phenomena, i.e., about subjective experiences.

(18) A well-known Swedish author and a son of Alva Myrdal, the Peace Prize laureate in 1982.

In turn, Searle (1995) presented four positions related to ontology and epistemology as shown in Figure 6.

| | | |
|--------------------------|--------------------------|-------------------------|
| Ontologically objective | i | ii |
| Ontologically subjective | iii | iv |
| | Epistemically subjective | Epistemically objective |

Figure 6: Searle’s categorization of facts.

According to Searle (1999) there could be a “natural science” of things, such as perceptions, that have a subjective appearance, i.e., things that are ontologically subjective can be studied in an epistemically objective way. Searle (1999) distinguished between observer-dependent (or observer-relative) phenomena, such as money, and observer-independent phenomena, such as mass, arguing that things such as money and chairs are considered observer dependent because of the observer. For example, people accept some types of paper as money because of the attitude of people. Mass and gravitational attraction are considered observer independent because such things are not related to the observer. Searle (1999) said that, in general, observer-dependent phenomena are part of social science, while observer-independent phenomena are part of natural science.

Searle (1999) asked whether there was a case in which a subjective state might be observer independent. He argued that intentionality, which subjectively relates a person to the rest of the world, determines whether a thing is observer independent (intrinsic intentionality) or observer dependent (derived intentionality).

In the case of intrinsic intentionality, a person can have a certain state regardless of what other people think. For example, a person can say “I am sad”. This conveys intrinsic intentionality but is also observer independent, because the person is sad, and this is the state of that person regardless of what someone else thinks about it. Derived intentionality is a state that exists only in relation to the observer. For example, money is money for both buyer and seller, and it is sufficient to take an SEK 20 note from a wallet and show it to the buyer. Overall, Searle (1999, p. 117) argued

that intrinsic intentionality is the case that “though it is ontologically subjective, is observer independent”.

Searle (1999) went further and argued that intrinsic intentionality creates collective intentionality. The author used the orchestra as a metaphor, arguing that each member of an orchestra performs his or her role in isolation, and collectively the players produce the music.

In light of Searle’s (1999) argument about collective intentionality, this thesis argues that loyalty to an MBA is a form of collective intentionality. Customers are loyal to MBAs only because each of them has intrinsic intentionality regarding the MBAs. In other words, when a customer perceives that he or she is loyal to an MBA, then this customer is loyal regardless of whether someone else (i.e., an observer) notices this “loyalty”. Nevertheless, the observer can say that a group of customers is loyal to the MBA. The argument here is that collective intentionality creates loyalty to MBAs.

Overall, it is argued that customers can present their own opinions regarding loyalty, its antecedents, and consequences in the context under study, and the thesis intends to objectively study these “subjective opinions”. In other words, it investigates YBC perceptions of loyalty antecedents, loyalty, and loyalty consequences in the MBA context, which are seen as “ontologically subjective”. Simultaneously, the thesis attempts to justify these perceptions from those who experience them, i.e., the YBCs. The thesis therefore has an objective stance in terms of epistemology, meaning that it occupies position iii in Figure 6.

3.3. Deductive reasoning

Deductive reasoning is fundamental to many studies. In general, deductive reasoning starts with theory and narrows itself to hypotheses. Subsequently, observations are collected to test the hypotheses (Bryman and Bell, 2015; Sarantakos, 1998). The current thesis follows the deductive reasoning approach. The first study tests and develops Dick and Basu’s (1994) framework in the MBA context, while the second study uses theories to develop hypotheses before empirically testing them.

3.4. Methods

The research method consists of four successive phases: questionnaire design, sampling, data collection, and data analysis (as Figure 7 indicates).

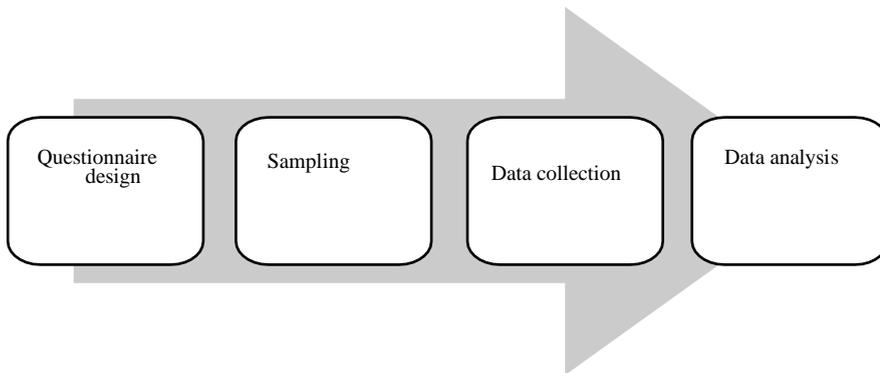


Figure 7: The research phases.

3.4.1. Phase I: Questionnaire design

Regarding the questionnaire items, previous studies were examined, and previously used items that served the purpose of the thesis were selected. The next step was to operationalize these items. Focus group interviews⁽¹⁹⁾ were conducted to obtain the required knowledge to operationalize the selected items. The focus group interviews were also helpful in other matters, such as explaining “trends and variances, reasons and causes, through the views of the respondents” (Sarantakos, 1988, p. 182). The focus group interviews were recorded, after obtaining approval from the respondents.⁽²⁰⁾

(19) The thesis co-supervisor helped conduct these interviews, and his experience and practical knowledge supported the work.

(20) The focus group interviews were conducted according to research methodology textbooks, such as those by Bryman and Bell (2015) and Sarantakos (1988).

The questionnaire was developed to minimize undesirable consequences, for example, by avoiding long and unclear items. The questionnaire followed a logical sequence, starting with a number of background questions about, for example, gender and age, followed by specific items related to the operationalized concepts in an easy-to-follow manner (cf. Morris, 2008). The background questions and items about loyalty were utilized in both studies. However, items related to specific concepts of interest differed between the two studies (see Appendices I and II). To ensure the readability of the questionnaire, a pilot study and back translation were conducted. Finally, the questionnaire was presented and discussed in several academic workshops and seminars. The pilot study, back translation, and workshop and seminars discussions successively improved the questionnaire.

3.4.2. Phase II: Sampling

The idea of this thesis was presented to one of the “big four” banks in Sweden, and two discussions were held with a responsible person from the bank in the Mid-Sweden region. However, the approval required in order to send the questionnaire to the bank’s YBCs was not obtained due to bank security reasons. Therefore, the eligible units, i.e., potential respondents, were limited to students in a Swedish university, and a sample of 500 respondents from various education programs was selected. This kind of university student sample has been used in previous studies (e.g., Tan and Leby Lau, 2016).

Three criteria were used when considering someone as a respondent: (i) having a bank account in Sweden, (ii) belonging to the selected age group (18–29 years), and (iii) using an MBA in Sweden for at least one year. The same sample was used for both studies.

Ethical principles were taken into account, including potential harm to respondents, the confidentiality of the information collected, the confidentiality of the data, and data-storage issues (Bryman and Bell, 2015; Grinyer, 2009). In this regard, several steps were taken to ensure that no harm would accrue either to the educational processes or to the potential respondents.

3.4.3. Phase III: Data collection

The data were collected using a questionnaire, designed to be completed at the respondents' convenience, suitable for investigating the relationships among loyalty and its antecedents and consequences (cf. Sarantakos, 1988). Various considerations made the questionnaire approach suitable for collecting the data: it is a suitable means to collect information about attitude and behaviour (Boynnton and Greenhalgh, 2004); it helps minimize the risk of bias and errors inherent in other methods, such as interviews; and it offers the potential for consistent and uniform measures (Bryman and Bell, 2015). Moreover, a questionnaire gives respondents the ability to participate at their preferred time, and it permits the gathering of anonymous responses (Sarantakos, 1988). In addition to these scientific considerations, other operational considerations were taken into account, i.e., cost and time (cf. Bryman and Bell, 2015). Questionnaires arguably have some disadvantages, such as no possibility of offering help to respondents. Nevertheless, in this thesis research, it was important that the respondents have the opportunity to indicate their opinions with little external influence. The questionnaire consisted of statements responded to on a seven-point Likert scale ranging from strongly disagree to strongly agree.

Online questionnaire software that upholds the General Data Protection Regulation (www.eugdpr.org) was utilized. An electronic invitation to complete the questionnaire was sent via email to the 500 respondents in October 2018, and a reminder was sent in November 2018. By the deadline for responding to the questionnaire, the total number of completed questionnaires was 146, and significant differences between early and late respondents was found (cf. Pohlmann, 2004). The response rate of 29.2% can be considered acceptable (Fraze *et al.*, 2003), considering that the response rates for email-based surveys are usually lower than for other survey modes (Fan and Yan, 2010).

3.4.4. Phase IV: Data analysis

To analyze the data, the thesis employed confirmatory factor analysis (CFA) and structural equation modelling (SEM) using LISREL. For the purpose of the first article, exploratory factor analysis (EFA) using SPSS was also conducted. Before

these analyses, two initial statistical analyses were conducted to ensure the quality of the data, identify outliers, and check for normality. SPSS allows the identification of outliers using 1.5 as a multiplier. However, previous studies (Hoaglin *et al.*, 1986; Hoaglin and Iglewicz, 1987; Tukey, 1977) have recommended 2.2 as a multiplier to determine outliers. Therefore, this thesis employs the following equations to determine the upper and lower thresholds for determining outliers. The cases that were not within the upper and lower thresholds were changed according to a Winsorizing method, i.e., replacing these cases that exceeded the upper or lower thresholds with the threshold values.

$$\text{Upper threshold} = Q_3 + [2.2 (Q_3 - Q_1)]$$

$$\text{Lower threshold} = Q_1 - [2.2 (Q_3 - Q_1)]$$

Multivariate normality testing is commonly used to explore whether or not data are normally distributed. In practice, the assumption of multivariate normal data distribution is rarely satisfied (cf. ssicentral.com/lisrel, nd). If data do not pass multivariate normality testing, they can still be used. Previous studies have suggested several solutions, for example, selecting the principal axis factor in SPSS when EFA is performed (Costello and Osborne, 2005; Fabrigar *et al.*, 1999) or employing robust maximum likelihood (RML) estimation, which is considered robust against non-normality (Anderson and Gerbing, 1988; Hayton *et al.*, 2004). This thesis applied the second solution.

As mentioned, CFA, SEM, and EFA were utilized to analyze the data. EFA (RML and varimax rotation) was conducted before CFA and SEM due to its capability for “data reduction and for reaching a more parsimonious understanding of measured variables by determining the number and nature of common factors needed to account for the patterns of observed correlations” (Hayton *et al.*, 2004, p. 191). Three tests were employed to identify whether the data were suitable for EFA: determinant >0.00001 , Kaiser-Meyer-Olkin >0.5 , and a significant Bartlett’s sphericity result, i.e., $p <0.05$ (cf. Hair *et al.*, 2014; Kaiser, 1974). EFA was conducted several times to delete the cross-loading and low-loading factors.

Subsequently, Cronbach’s alpha was calculated to determine the internal consistency of the suggested factors; results higher than 0.7 are considered good (Bagozzi and Yi, 1988)

This research assessed reliability and validity to ensure the quality of the results (see section 3.6). The measurement model was evaluated according to the fit indices (Westland, 2015). Table 1 summarizes the recommended values of the measurement model.

Table 1: Recommended values of the measurement model

| | |
|---|--------------------|
| χ^2/df | $< 2_{(21)}$ |
| Root mean square error of approximation | $\leq 0.08_{(22)}$ |
| Goodness of fit index | ≥ 0.9 |
| Normed fit index | ≥ 0.9 |
| Non-normed fit index | ≥ 0.9 |
| Comparative fit index | ≥ 0.9 |

In the last step, SEM was performed to test the theoretical assumptions associated with the first article and the hypothesis associated with the second article. For more details regarding the data analysis, please see the attached articles.

3.5. Limitations

Similar to any research, this thesis has several methodological limitations. First, the studied sample is seen as limited in size, since it did not exceed 200 respondents. Regarding the sample size (146), the literature, however, indicates no single recommended minimum sample size in CFA/SEM research (e.g., Wolf *et al.*, 2013). In general, 200 is the most recommended number (Westland, 2015), but Nunnally (1967) argues that 10 cases per variable is enough. In fact, different factors (e.g., the

(21) According to Carmines and McIver (1981), the value is still acceptable if it is < 3 .

(22) The most common threshold value is ≤ 0.8 (Bagozzi and Yi, 1998; Hair *et al.*, 2014; Jöreskog and Sörbom, 1993). However, according to Hair *et al.* (1998), a value ≤ 1 might still be acceptable, while Hu and Bentler (1999) have suggested ≤ 0.06 .

number of latent variables) can affect the proper size of the sample (Wolf *et al.*, 2013). Boomsma (1985) suggests that 100 can be considered the minimum sample size when the ratio of observed to latent variables is four, whereas the minimum size might be 50 if that ratio is 12. Overall, according to the suggestion of Nunnally (1967) – bearing in mind that more is not necessarily better (Wolf *et al.*, 2013) – a sample of approximately 150 (15 observed variables x 10) is an acceptable size.

There are limitations from a quality perspective as well, because the sample represents only educated YBCs in a country where the state of financial literacy is good compared with that of the world: 33% of the world population is financially literate versus 71% in Sweden (Lusardi, 2017). Hence, it is hard to generalize the empirical results to a wider context.

The investigation was limited to a number of antecedents of loyalty, i.e., cognitive, effective, and conative antecedents, as well as usability, service quality concepts (i.e., responsiveness and reliability), and customer satisfaction. Therefore, the thesis did not investigate other antecedents, although trust, for example, was used, for example, by Aydın and Özer (2005). In a similar vein, the thesis utilized only Dick and Basu's (1994) assumed consequences of loyalty; other consequences, such as profitability (Zeithaml *et al.*, 1996), were not investigated. Moreover, as mentioned in section 3.4.3, questionnaire research has some inherent limitations. All these limitations can be considered in future studies (see section 5.3).

3.6. Reliability and validity

Concepts such as loyalty might be defined “in conceptual terms but cannot be directly measured” (cf. Hair *et al.*, 2014, p. 543). These concepts are latent variables, i.e., they cannot be measured directly but can be represented by one or more observed variables (see Figure 8).

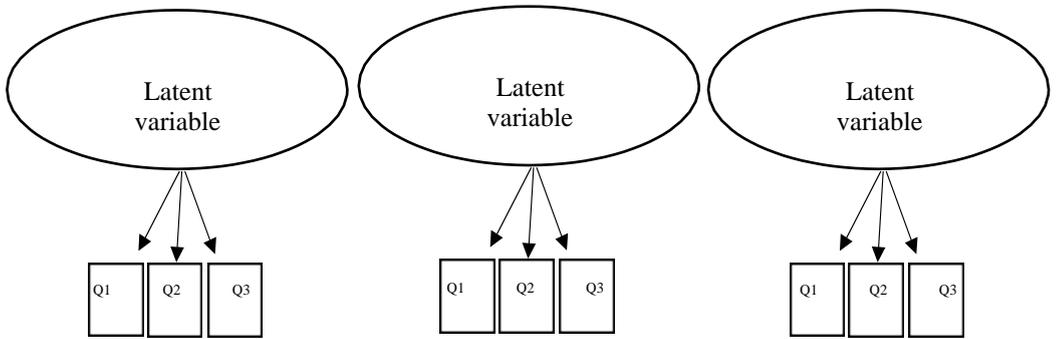


Figure 8: Latent variables and observed variables (Q1, Q2, and Q3).

3.6.1. Reliability

Reliability refers to the question of whether the results of a study are repeatable, and to the consistency of variable measures (Bryman and Bell, 2015). To ensure the reliability of the observed variables in relation to the latent variables, this thesis (including the two studies) utilized several methods as discussed below.

A pilot study and back translations were conducted to ensure the readability of the questionnaire. The first study utilized Cronbach's alpha and composite reliability (CR) with EFA and CFA, respectively, to assess internal consistency. Cronbach's alpha is a method to evaluate the consistency of the entire scale, and CR is used for testing the internal consistency and reliability of the observed variables representing the latent variables (cf. Hair *et al.*, 2014). The internal consistency was assessed on two occasions, the first (Cronbach's alpha) associated with EFA and the second (CR) with CFA. The most recommended reliability coefficient of Cronbach's alpha is 0.7, while a CR value >0.6 is acceptable (Bagozzi and Yi, 1988; Hair *et al.*, 2014). The three suggested factors (cognitive antecedents, customer satisfaction, and loyalty), i.e., the latent variables, had an acceptable Cronbach's alpha and they had all $CR > 0.6$. Therefore, reliability was not considered an issue in these cases.

In the second study, squared multiple correlations – i.e., the extent to which an observed variable’s variance is captured by a latent variable (cf. Hair *et al.*, 2014) – were utilized to assess the reliability of the observed variables in relation to the latent variables (cf. Schreiber *et al.*, 2006). CR was used to assess internal consistency. The value of the squared multiple correlations was acceptable for almost all the observed variables (>0.5). Only two observed variables (included in different latent variables) did not meet this threshold (the first was 0.48 and the second 0.44). However, the latent variables had CR values >0.6 . Since the empirical results indicated that all other measurements of these two observed variables were acceptable, they were not deleted.⁽²³⁾

3.6.2. Validity

To ensure that a set of observed variables assumed to capture a latent variable really do capture it (Bryman and Bell, 2015), this thesis utilized convergent validity, i.e., observed variables of a certain latent variable ought to have a high proportion of variance in common (cf. Hair *et al.*, 2014). The thesis also utilized discriminant validity, i.e., the degree to which a latent variable is distinct from other latent variables in terms of (i) how much it correlates with other latent variables and (ii) how distinctly it captures only this single latent variable (cf. Hair *et al.*, 2014).

The first study used standardized factor loadings, *t*-values, and CR to determine convergent validity (cf. Hair *et al.*, 2014). The empirical results indicated that all measures were standardized factor loadings above the threshold >0.6 (cf. Hatcher, 1994), *t*-values >2 (cf. Westland, 2015), and CR >0.6 (cf. Bagozzi and Yi, 1988; Hair *et al.*, 2014).

The second study utilized the average variance extracted >0.5 (cf. Fornell and Larcker, 1981). This measure is the average percentage of variation explained (i.e., variance extracted) among the observed variables of the latent variable (cf. Hair *et al.*, 2014). Moreover, to assess the convergent validity, the study used *t*-values >2 (cf. Westland, 2015) and CR >0.6 (cf. Bagozzi and Yi, 1988; Hair *et al.*, 2014).

(23) Similar situations can be found in previous studies; see, for example, Kuo and Deng (2009).

The two studies utilized confidence intervals [\pm two standard errors] around the standardized factor loading to assess discriminant validity (cf. Anderson and Gerbing, 1988; Söderberg *et al.*, 2014). This test indicated that discriminant validity was acceptable in the two studies.

4. Overview of the articles

This section presents an overview of each of the two articles included in the thesis. The overviews summarize the articles' purposes, frames of reference, methods, samples, data analysis, findings, and main contributions. The full articles are attached at the end of the thesis.

4.1. Article 1: Overview

This article – Mobile bank applications: Antecedents and consequences of YBC loyalty – challenges Dick and Basu's (1994) conceptual framework for customer loyalty in the MBA context, testing it according to YBC perceptions. An overview of the article is presented in Table 2.

Table 2: An overview of article 1

| | |
|-----------------------------------|---|
| Purpose | The purpose of the study is to investigate YBC perceptions of the relationships between cognitive, affective, and conative antecedents, on one hand, and attitudinal and behavioural loyalty to MBAs, on the other. In addition, this study investigates the relationships between loyalty and the consequences of loyalty (i.e., word of mouth, E-word of mouth, consumer information search, and resistance to counter persuasion). |
| Frame of reference | The study uses Dick and Basu's (1994) framework for customer loyalty, and studies from banking, mobile, and other related areas. |
| Method, sample, and data analysis | The study uses a questionnaire for data collection. The sample was YBCs in the Mid-Sweden region. Exploratory factor analysis, confirmatory factor analysis, and structural equation modelling were used to analyze the data. |
| Findings | The study finds that one affective attribute (i.e., satisfaction) and one conative attribute (i.e., expectation) merged to form a customer satisfaction mediator between cognitive antecedents and loyalty. |

| | |
|-------------------|---|
| Main contribution | The study contributes by improving our knowledge of the relationships between cognitive antecedents, customer satisfaction, and loyalty in the MBA context. |
|-------------------|---|

The theoretical framework presents definitions of Dick and Basu’s (1994) original concepts, and the departure point was to review the framework in light of studies from banking, mobile, and other related areas, and to develop a theoretical framework for customer loyalty applied in the context under study. The study utilized previous studies and focus group interviews to develop the questionnaire (see Appendix I). An electronic version of the questionnaire was sent to 500 YBCs, and 146 responses were collected.

The first step in analyzing the data was EFA (RML with varimax rotation). Three tests were first utilized to ensure that the data were appropriate, the determinant of the correlation matrix was >0.00001 , and Kaiser-Meyer-Olkin was >0.5 . Therefore, neither multicollinearity nor sampling adequacy was an issue in the data. Moreover, the Bartlett’s sphericity result was significant at $p < 0.05$ (cf. Pallant, 2007), meaning that the data were useful for the factor analysis. In a further step, CFA and SEM were conducted to test the theoretical framework.

The empirical results did not support the developed theoretical framework, and raised questions regarding the assumptions of Dick and Basu’s (1994) framework. Instead, it was concluded that customer satisfaction acts as a mediator between cognitive antecedents and loyalty. The results further emphasized that loyalty has dyadic dimensions in terms of attitudinal and behavioural aspects. The assumptions that WoM (including E-WoM) and switching costs are related to loyalty were not supported. Overall, the study concluded that cognitive antecedents are significantly related to customer satisfaction and indirectly related to loyalty in the MBA context, as indicated by Figure 9.

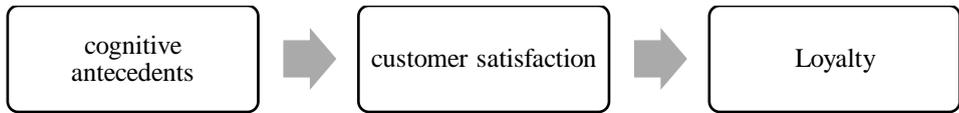


Figure 9: Cognitive antecedent model of YBC loyalty to MBAs.

4.2. Article 2: Overview

This article – Mobile bank applications: Loyalty of YBCs – addresses the relationship between the loyalty antecedents usability, service quality concepts (i.e., responsiveness and reliability), and customer satisfaction, on one hand, and loyalty, on the other. An overview of the article is presented in Table 3.

Table 3: An overview of article 2

| | |
|----------------------------------|--|
| Purpose | The purpose of the study is to investigate how YBCs perceive the relationships between several antecedents (i.e., usability, responsiveness, customer satisfaction, and reliability) and loyalty in the MBA context. |
| Frame of reference | In light of studies from banking, mobile, and other related areas, a research model was developed. This model includes antecedents of loyalty – usability, service quality concepts (i.e., responsiveness and reliability), and customer satisfaction – and their relationships with loyalty. Eight hypotheses were developed. |
| Method, sample and data analysis | The study uses a questionnaire for data collection. The sample was YBCs in the Mid-Sweden region. Confirmatory factor analysis and structural equation modelling were used to analyze the data. |
| Findings | The study finds that usability is directly related to customer satisfaction and indirectly related to loyalty. |
| Main contribution | The study contributes by improving our knowledge of the relationships between usability and customer satisfaction, on one hand, and loyalty, on the other, in the MBA context. |

The study reviewed the literature to find potential antecedents of loyalty applicable in the MBA context. Based on previous studies from banking, mobile, and other related areas, a research model including eight hypotheses (H1–H8) was developed.

To test the eight hypotheses, a questionnaire was developed (see Appendix II). Two focus group interviews were conducted to ensure the quality of the questionnaire. A pilot study and back translation were utilized to ensure that the respondents could understand the questions asked. We received and analysed 146 completed responses (of 500). CFA was employed to assess the measurement model (cf. Westland, 2015) and SEM was employed to test the hypotheses.

To begin with, the empirical results indicated that the “usability hypotheses” (H1–H3) were supported:

H1: The higher the usability, the higher the responsiveness is likely to be.

H2: The higher the usability, the higher the customer satisfaction is likely to be.

H3: The higher the usability, the higher the reliability is likely to be.

Moreover, two additional hypotheses (H6 and H7) were supported:

H6: The higher the responsiveness, the higher the loyalty is likely to be.

H7: The higher the customer satisfaction, the higher the loyalty is likely to be.

However, the remaining hypotheses (H4, H5, and H8) were not supported:

H4: The higher the responsiveness, the higher the customer satisfaction is likely to be.

H5: The higher the reliability, the higher the customer satisfaction is likely to be.

H8: The higher the reliability, the higher the loyalty is likely to be.

Overall, the study concluded that usability is significantly related to service quality concepts (i.e., responsiveness and reliability) and customer satisfaction. Usability was found to be indirectly related to loyalty through responsiveness and customer satisfaction (see Figure 10).

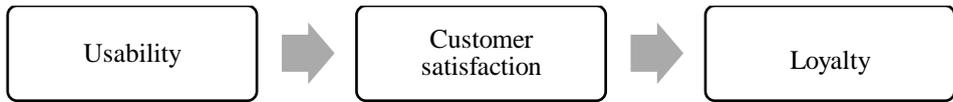


Figure 10: Usability–loyalty model of YBC loyalty to MBAs.

5. Concluding discussion

5.1. Main findings

This thesis addresses four research questions. These research questions are presented below together with their summarized answers.

RQ 1a: How do YBCs perceive the relationships between the cognitive, affective, and conative antecedents of loyalty, and loyalty in the MBA context?

According to the YBCs under study, customer satisfaction emerges from both affective and conative antecedents. The YBCs perceived that cognitive antecedents are directly and significantly related to their satisfaction, which in turn is directly and significantly related to their loyalty to MBAs.

RQ 1b: How do YBCs perceive the relationships between loyalty and consequences of loyalty in the MBA context?

Loyalty has two aspects: attitude and behaviour. However, the study found no significant relationship between loyalty and the assumed consequences, in contrast to Dick and Basu's (1994) framework.

RQ 2a: How do YBCs perceive the relationships between the loyalty antecedents usability, service quality (i.e., the concepts responsiveness and reliability), and customer satisfaction in the MBA context?

In the MBA context, the YBCs under study perceived that usability drives the service quality concepts (i.e., responsiveness and reliability) and customer satisfaction.

RQ 2b: How do YBCs perceive the relationships between the loyalty antecedents and loyalty in the MBA context?

It was concluded that each of responsiveness and customer satisfaction, but not reliability, is directly and significantly related to loyalty. Neither responsiveness

nor reliability seems to be directly and significantly related to YBC satisfaction with MBAs.

Since limited research has examined the perceived use of electronic banking channels (Farah *et al.*, 2018), little is known regarding the relationship between customers and businesses when the former represents humans (e.g., YBCs) and the latter represents machines (e.g., MABs). Grönroos (2000) highlighted four processes: (i) identifying and establishing, (ii) maintaining, (iii) enhancing, and when necessary (iv) terminating relationships. The answers to the research questions improve our knowledge of the research area covering these four processes in terms of YBC perceptions in the MBA context.

Cognitive antecedents represent the identifying and establishing process between YBCs and MBAs. These antecedents help YBCs build their cognition toward MBAs, and become familiar with the applications they use. Cognition toward MBAs comprises the ability to understand and remember how to use the MBA, and feeling confident when using the MBA. In this regard, the cognitive antecedents help the YBCs identify the main features of MBAs, and to establish a good relationship with MBAs. Figure 11 also illustrates that the usability dimensions ensure that the YBCs will keep using their MBAs (cf. Casaló *et al.*, 2007). The empirical results of this thesis indicate that the usability dimensions help YBCs build a sustainable relationship with the MBAs they use. It might be argued that as long as a certain MBA is easy to use, the YBCs seem to perceive this MBA as attractive. This also corresponds with Davis' (1989) finding that ease of use is related to the attitude toward using a system. The empirical results of this thesis further suggest that cognitive antecedents and usability dimensions will enhance YBC satisfaction with MBAs, strengthening the relationship between "the human and the machine". This conclusion regarding the cognitive antecedents and usability is in line with Yousafzai's (2012) results and echoes the results of Flavian *et al.* (2006).

In Grönroos' (2000) definition of RM, termination is the process by which a customer decides to end his or her relationship with a business. Neither the literature nor practice indicates that such a situation might be intended by any business. In this

regard, YBC satisfaction with and their attitudinal and behavioural loyalty toward MBAs determine whether they might terminate this relationship.

At the overall level, the thesis sought to answer the following RQ: How do YBCs perceive the relationships between the antecedents of loyalty, loyalty, and the consequences of loyalty in the MBA context?

The conceptual model presented in Figure 4 was the point of departure for the empirical investigations of this thesis. The empirical results of the first study, presented in section 4.1, built on this model. The cognitive antecedents represent the first component related to Dick and Basu's (1994) framework. The affective and conative consequences are integrated in a way that represents YBC satisfaction. The second study concluded that usability seems to be of major importance.

In more detail (see Figure 11), the cognitive style of YBCs in the MBA context is formed by three attributes: memorability, confidentiality, and understandability. At the same time, YBC perceptions of the usability of MBAs centre on ease of use (even from the first use), ease of information search, and ease of navigation. Both cognitive antecedents and usability are significantly related to YBC satisfaction, and are indirectly related to their attitudinal and behavioural loyalty. Taken together, YBC loyalty toward MBAs is affected directly by their satisfaction and indirectly through cognitive antecedents and usability.

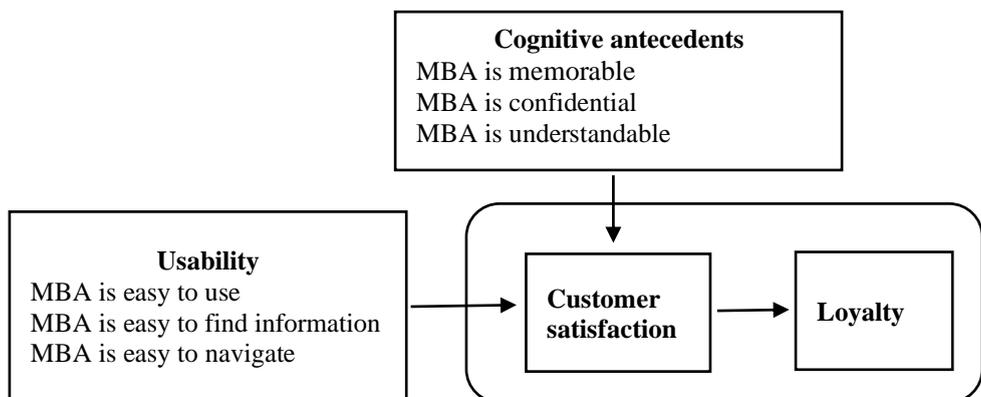


Figure 11: Loyalty antecedent model of YBC loyalty to MBAs.

Examining these relationships improves our empirical knowledge of how YBCs consume services in the banking industry via electronic channels. This illustrates the importance of the relationship between customers (as humans) and businesses (as machines). This also illustrates the importance of broader thinking than the limited one that depends solely on intention and/or adoption (cf. Tam and Oliveira, 2017). In other words, this broader thinking could help us investigate the fast-growing customer relationships with the recent ICT development of “robo advisors” (Gimpel *et al.*, 2018; Giovanis *et al.*, 2019).

5.2. Implications

This thesis contributes to the growing number of MBA studies, not least within the Swedish context. Given that Sweden has the highest per capita number of non-cash transactions in the world (Arvidsson, 2019), and that most Swedish bank branches are cashless (Arvidsson *et al.*, 2017), this thesis has theoretical as well as practical implications.

5.2.1. Theoretical implications

First, previous studies have emphasized that cognitive antecedents might be significantly related to customer satisfaction (Oliver, 1980). Based on the current results, cognitive antecedents seem to drive YBC satisfaction in the MBA context, which in turn ensures attitudinal and behavioural loyalty.

Second, this thesis contributes to the research area by adapting Dick and Basu’s (1994) framework to the MBA context, developing the framework for further use in various contexts. Testing Dick and Basu’s (1994) framework in the MBA context showed that the role of effective and conative antecedents seemed to be limited to customer satisfaction.

Third, the thesis improves our knowledge of usability, especially in the banking industry. Different perspectives have been introduced regarding the meaning of usability. This thesis confirms the conclusion of Casaló *et al.* (2007, 2008a, 2008b) and Flavian *et al.* (2006) that ease of use was the core meaning of usability, and is aligned with other recent studies emphasizing the role of ease of use in determining customer satisfaction and loyalty (e.g., Gebert-Persson *et al.*, 2019; Humbani and Wiese, 2019).

Fourth, the finding of a number of non-significant relationships contributes to the research field of YBC loyalty antecedents in two ways. Responsiveness and reliability are seen as fundamental factors in satisfying customers (Ali Raza *et al.*, 2015), but do not necessarily drive YBC satisfaction in the MBA context. Emotions are a potential area of investigation in banking studies (Ceravolo *et al.*, 2019), and are described as a key to YBC satisfaction (Kumar and Lim, 2008). However, this thesis found that emotions were insignificantly related to YBC satisfaction in the MBA context. Moreover, Vinciarelli *et al.* (2015) highlighted several enquiries into the role of emotions in the human-machine relationship. This thesis suggests that emotions are not necessarily related to YBC satisfaction in the MBA context.

Fifth, cognitive and usability-related issues in the MBA context draw attention to social cognitive theory (Bandura, 1986). Bandura (1986) assumed that people, such as customers, build their cognitive style by observing what others do. This is the case when people interact in face-to-face situations. Recent studies have raised questions regarding how customers learn when they deal with machines (Gimpel *et al.*, 2018), when no other customers are conducting similar transactions. In this thesis, it was concluded that cognitive antecedents and usability can help customers acquire knowledge of using the human-machine system.

Sixth, YBCs display complicated switching behaviour and do not perceive “money cost” or “time cost” as obstacles to moving to a new MBA. This is due to the availability of free MBAs for smartphones (Bhatiassevi, 2016) and to YBCs’ skill at configuring new applications in their devices.

5.2.2. Practical implications

ICT-related developments have resulted in intense competition in the banking industry, making customer satisfaction and loyalty increasingly important for bankers (Boateng, 2019). MBAs have become a main channel for conducting financial transactions (Muñoz-Leiva *et al.*, 2017), and bankers might be able to ensure satisfied and loyal YBCs in the MBA context. As described in the previous section, MBAs can attract the young generation if their design takes account of cognitive antecedents and usability.

The thesis found no significant relationship between loyalty and its assumed consequences (WoM or E-WoM), meaning that YBCs do not act as part-time promoters (cf. Grönroos, 1994). This thesis supports Bayuk and Altobello (2019, p. 966), who stated that “it is important that app designers build social features into their apps, aligning with the banking industry strategic priority to improve engagement between customers and banks via mobile banking apps”. This seems to be important in countries like Sweden where the relationship between customers and banks is vital (Strandberg *et al.*, 2015; Öhman and Yazdanfar, 2018b). Within a competitive environment, bankers could seek effective tactics to sustain their customers and to make moving to other MBAs relatively hard. This thesis suggests that traditional tactics, such as switching costs, do not prevent YBCs from changing MBAs.

Because of YBCs’ limited experience of financial matters, such as applying for a home mortgage or making investment decisions, the young generation are described as a category of bank customers who have low financial information (Bayuk and Altobello, 2019; Lusardi, 2017). Schmidt (2019, p. 501) stated that “a customer’s decision making is greatly impacted by the way the customer perceives and processes information, commonly referred to as cognitive style”. In this regard, the thesis finds that a combination of cognitive antecedents and usability dimensions may help YBCs make more accurate financial decisions. This is an important practical implication.

5.3. Suggestions for further research

The limitations of this thesis (presented in section 3.5) represent potential areas for further research. One recommendation for future studies in the area is to study larger samples including YBCs with secondary education, and to conduct cross-cultural studies. It might be possible to compare the perceptions of loyalty antecedents in the MBA context among YBCs in Sweden versus in a country where cash is preferred, such as South Africa (Humbani and Wiese, 2019).

It could be argued that new approaches are needed to investigate, in greater depth, the use of mobile banking (Farah *et al.*, 2018; Giovanis *et al.*, 2019), to assess customer satisfaction (Humbani and Wiese, 2019; Thakur, 2014) and loyalty (Tam and Oliveira, 2017), and to answer recent calls for research into ensuring a good customer experience (Lemon and Verhoef, 2016). The present results have demonstrated that increasing YBC cognitive processes and MBA usability will likely increase YBC satisfaction with and loyalty to MBAs, suggesting that YBC attitudes and behaviours seem to interact simultaneously in a way that creates loyalty.

Modern generations of smartphones increase MBAs' ability to offer financial advice, making them more than just a channel for conducting financial services. Compared with other channels such as ATMs, MBAs increase interactions with banks and enable YBCs to make informed financial decisions. In this regard, future studies can go beyond current research focusing on MBA-adoption-related issues to investigate how robo advisors can support YBCs' financial decisions.

Recent studies (Hauff, 2019; Kaabachi *et al.*, 2019) have called for more research into risk, trust, and security-related issues. In fact, these issues may help improve our knowledge of YBC financial behaviour in the MBA context. The focus group interviews highlighted that YBCs seem to trust their mobile phones, which might have various implications for evaluating risk. Future studies could investigate how YBCs evaluate various risk positions during financial transactions.

Hauff (2019) argued that bank customers can be distinguished based on their financial aims, i.e., saving versus borrowing, and Schmidt (2019) distinguished financial service customers according to their cognitive style, i.e., analytical versus

intuitive. Future studies could usefully investigate possible differences between various categories of bank customers, including men versus women, in the MBA context.

The loyalty antecedent model of YBC loyalty to MBAs (see Figure 11) is a synthesis of the results of the two studies included in this thesis. This model has not been empirically tested as a whole, but it is fair to say that further empirical investigation of it is needed. Nevertheless, in its current form, the model may improve our knowledge of YBC perceptions in the MBA context, while being a point of departure for more research in various contexts using various samples and methods.

References

- Abubakar, H.I., Hussain, A. and Hashim, N.L. (2015), "Verification process of usability evaluation model for m-banking application", *Proceedings of the L7th International Conference on Mathematical and Computational Method in Science and Engineering*, pp. 325-334.
- Ajzen, I. (1991), "The theory of planned behaviour", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Akturan, U. and Tezcan, N. (2012), "Mobile banking adoption of the youth market", *Marketing Intelligence & Planning*, Vol. 30 No. 4, pp. 444-459.
- Alavi, S. and Ahuja, V. (2016), "An empirical segmentation of users of mobile banking apps", *Journal of Internet Commerce*, Vol. 15 No. 4, pp. 390-407.
- Ali Raza, S., Ayesha, H. and Tehseen Jawaid, S. (2015), "Internet banking and customer satisfaction in Pakistan", *Qualitative Research in Financial Markets*, Vol. 7 No. 1, pp. 24-36.
- Anderson, E.W., Fornell, C. and Lehmann, D.R. (1994), "Customer satisfaction, market share, and profitability: findings from Sweden", *Journal of Marketing*, Vol. 58 No. 3, pp 53- 66.
- Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No. 3, pp. 411- 423.
- Arcand, M., PromTep, S., Brun, I. and Rajaobelina, L. (2017), "Mobile banking service quality and customer relationships", *International Journal of Bank Marketing*, Vol. 35 No. 7, pp. 1066-1087.
- Arvidsson, N. (2019), *Building a cashless society*, Springer, Switzerland.
- Arvidsson, N., Hedman, J. and Segendorf, B. (2017), "Cashless society: when will merchants stop accepting cash in Sweden - a research model", *Lecture Notes in Business Information Processing*, Vol. 276, pp. 105-113.
- Aydin, A.E. and Akben Selcuk, E. (2019), "An investigation of financial literacy, money ethics and time preferences among college students: a structural equation model", *International Journal of Bank Marketing*, Vol. 37 No. 3, pp. 880-900.
- Aydin, S. and Özer, G. (2005), "The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market", *European Journal of Marketing*, Vol. 39 No. 7/8, pp. 910-925.
- Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16 No. 1, pp. 74-94.
- Baldinger, A. and Rubinson, J. (1999), "Brand loyalty: the link between attitude and behaviour", *Journal of Advertising Research*, Vol. 36 No. 6, pp. 22-34.
- Bandyopadhyay, S. and Martell, M. (2007), "Does attitudinal loyalty influence behavioural loyalty? A theoretical and empirical study", *Journal of Retailing and Consumer Services*, Vol. 14 No. 1, pp. 35-44.
- Bandura, A. (1986), *Social foundations of thought and action: a social cognitive theory*, Prentice-Hall, Englewood Cliffs.
- Baptista, G. and Oliveira, T. (2015), "Understanding mobile banking: the unified theory of acceptance and use of technology combined with cultural moderators", *Computers in Human Behavior*, Vol. 50, pp. 418-430.

- Barkhordari, M., Nourollah, Z., Mashayekhi, H., Mashayekhi, Y. and Ahangar, M.S. (2017), "Factors influencing adoption of e-payment systems: an empirical study on Iranian customers", *Information Systems and E-Business Management*, Vol. 15 No. 1, pp. 89- 116.
- Barnes, S.J. and Corbitt, B. (2003), "Mobile banking: concept and potential", *International Journal of Mobile Communications*, Vol. 1 No. 3, pp. 1-17.
- Bayuk, J. and Altobello, S.A. (2019), "Can gamification improve financial behaviour? The moderating role of app expertise", *International Journal of Bank Marketing*, Vol. 37 No. 4, pp. 951-975.
- Beerli, A., Martín, J.D. and Quintana, A. (2004), "A model of customer loyalty in the retail banking market", *European Journal of Marketing*, Vol. 38 No. 1/2, pp. 253-275.
- Berraies, S., Ben Yahia, K. and Hannachi, M. (2017), "Identifying the effects of perceived values of mobile banking applications on customers", *International Journal of Bank Marketing*, Vol. 35 No. 6, pp. 1018-1038.
- Berry, L.L. (1995), "Relationship marketing of services-growing interest, emerging perspectives", *Journal of the Academy of Marketing Science*, Vol. 23 No. 4, pp. 236-245.
- Bhatiasevi, V. (2016), "An extended UTAUT model to explain the adoption of mobile banking", *Information Development*, Vol. 32 No. 4, pp. 799-814.
- Bilgihan, A. (2016), "Gen y customer loyalty in online shopping: an integrated model of trust, user experience and branding", *Computers in Human Behavior*, Vol. 61 No. August, pp. 103-113.
- Blázquez, M. (2014), "Fashion shopping in multichannel retail: the role of technology in enhancing the customer experience", *International Journal of Electronic Commerce*, Vol. 18 No. 4, pp. 97-116.
- Blocker, C.P., Houston, M.B. and Flint, D.J. (2012), "Unpacking what a 'relationship' means to commercial buyers: how the relationship metaphor creates tension and obscures experience", *Journal of Consumer Research*, Vol. 38 No. 5, pp. 886-908.
- Boateng, S.L. (2019), "Online relationship marketing and customer loyalty: a signaling theory perspective", *International Journal of Bank Marketing*, Vol. 37 No. 1, pp. 226-240.
- Boomsma, A. (1985), "Nonconvergence, Improper Solutions, and Starting Values in LISREL Maximum Likelihood Estimation", *Psychometrika*, Vol. 50 No.2, pp. 229-242.
- Boulding, W., Karla, A., Staelin, R. and Zeithaml, V. (1993), "Dynamic process model of service quality: from expectations to behavioural intentions", *Journal of Marketing Research*, Vol. 30 No. 1, pp. 7-27.
- Boynton, P.M. and Greenhalgh, T. (2004), "Hands-on guide to questionnaire research: selecting, designing, and developing your questionnaire", *British Medical Journal*, Vol. 328 No. 7451, pp. 1312-1315.
- Brown, J., Churchill, G.A. and Peter, J.P. (1993), "Research note: improving the measurement of service quality", *Journal of Retailing*, Vol. 69 No. 1, pp. 127-139.

- Bryman, A. and Bell, E. (2015), *Business research methods*, Oxford university press, Glasgow.
- Burrell, G. and Morgan, G. (1979), *Sociological paradigms and organizational analysis: elements of the sociology of corporate life*. Heinemann, London.
- Buttle, F. (1996), "SERVQUAL: review, critique, research agenda", *European Journal of Marketing*, Vol. 30 No. 1, pp. 8-32.
- Chaudhuri, A. and Holbrook, M. B. (2001), "The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty", *Journal of marketing*, Vol. 65 No. 2, pp. 81-93.
- Casaló, L. V, Flavián, C. and Guinalíu, M. (2007), "Online information review the role of security, privacy, usability and reputation in the development of online banking", *Online Information Review*, Vol. 31 No. 5, pp. 583-603.
- Casaló, L., Flavián, C. and Guinalíu, M. (2008a), "The role of perceived usability, reputation, satisfaction and consumer familiarity on the website loyalty formation process", *Computers in Human Behavior*, Vol. 24 No. 2, pp. 325-345.
- Casaló, L.V, Flavián, C. and Guinalíu, M. (2008b), "The role of satisfaction and website usability in developing customer loyalty and positive word-of-mouth in the e-banking services", *International Journal of Bank Marketing*, Vol. 26 No. 6, pp. 399-417.
- Ceravolo, M.G., Farina, V., Fattobene, L., Leonelli, L. and Raggetti, G.M. (2019), "Presentational format and financial consumers' behaviour: an eye-tracking study", *International Journal of Bank Marketing*, Vol. 37 No. 3, pp. 821-837.
- Chan, K., Tsang, L. and Chen, J. (2017), "Young consumers marketing bank services to youth in China", *Young Consumers*, Vol. 18 No. 3, pp. 278-289.
- Chau, S. V. and Ngai, L.W.L.C. (2010), "The youth market for internet banking services: perceptions, attitude and behaviour", *Journal of Services Marketing*, Vol. 24 No. 1, pp. 42-60.
- Chitungo, S. and Munongo, S. (2013), "Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe", *Journal of Business Administration and Education*, Vol. 3 No. 1, pp. 51-79.
- Chuah, S.H.W., Rauschnabel, P.A., Marimuthu, M., Thurasamy, R. and Nguyen, B. (2017), "Why do satisfied customers defect? A closer look at the simultaneous effects of switching barriers and inducements on customer loyalty", *Journal of Service Theory and Practice*, Vol. 27 No. 3, pp. 616-641.
- Churchill, G.A. and Surprenant, C. (1982), "An investigation into the determinants of customer satisfaction", *Journal of Marketing Research*, Vol. 19 No. 4, pp. 491-504.
- Costello, A.B. and Osborne, J.W. (2005), "Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis", *Practical Assessment, Research & Evaluation*, Vol. 10 No. 7, pp. 1-9.
- Coyne, K. (1989), "Beyond service fads-meaningful strategies for the real world", *Sloan Management Review*, Vol. 30 No. 4, pp. 69-76.
- Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: a reexamination and extension", *Journal of Marketing*, Vol. 56 No. 3, pp. 55-68.

- Cronin, J.J. and Taylor, S.A. (1994), "SERVPERF versus SERVQUAL: reconciling performance-based and perceptions-minus-expectations measurement of service quality", *Journal of Marketing*, Vol. 58 No. 1, pp. 125-131.
- Davis, F. (1985), "A technology acceptance model for empirically testing new end-user information systems: theory and results", Massachusetts Institute of Technology, available at: <https://dspace.mit.edu/bitstream/handle/1721.1/15192/14927137-MIT.pdf> (accessed 10 June 2019).
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, p. 319-340.
- Davidsson, P. and Findahl, O. (2016), "Svenskarna och internet 2016: undersökning om svenskarnas internetvanor", available at: https://www.iis.se/docs/Svenskarna_och_internet_2016.pdf (28 May, 2019).
- Demircuc-Kunt, A., Klapper, L., Singer, D., Ansar, S. and Hess, J. (2018), "The global finindex database 2017: measuring financial inclusion and the fintech revolution", available at: <https://doi.org/10.1596/978-1-4648-1259-0>.
- Deng, Z., Lu, Y., Wei, K.K. and Zhang, J. (2010), "Understanding customer satisfaction and loyalty: an empirical study of mobile instant messages in China", *International Journal of Information Management*, Vol. 30 No. 4, pp. 289-300.
- Diacon, S.R. and Ennew, C.T. (1996), "Ethical issues in insurance marketing in the UK", *European Journal of Marketing*, Vol. 30 No. 5, pp. 67-80.
- Dick, A.S. and Basu, K. (1994), "Customer loyalty: toward an integrated conceptual framework", *Journal of the Academy of Marketing Science*, Vol. 22 No. 2, pp. 99-113.
- Dineshwar, R. and Steven, M. (2013), "An investigation on mobile banking adoption and usage: a case study of mauritius", *Proceedings of 3rd Asia-Pacific Business Research Conference, February*, pp. 1-21.
- Ehrenberg, A.S.C., Goodhardt, G.J. and Barwise, T.P. (1990), "Double jeopardy revisited", *Journal of Marketing*, Vol. 54 No. 3, pp. 82-91.
- European Banking Authority. (2019), "Consumer corner", available at: <https://eba.europa.eu/consumer-corner;jsessionid=7636088352C9A74065250D81BBAEDBD3> (accessed 28 May, 2019).
- Fabrigar, L.R., Wegener, D.T., Maccallum, R.C. and Strahan, E.J. (1999), "Evaluating the use of exploratory factor analysis in psychological research", *Psychological Methods*, Vol.4 No. 3, pp.272-299.
- Fan, W. and Yan, Z. (2010), "Factors affecting response rates of the web survey: a systematic review", *Computers in Human Behavior*, Vol. 26 No.2, pp. 132-139.
- Farah, M.F., Hasni, M.J.S. and Abbas, A.K. (2018), "Mobile-banking adoption: empirical evidence from the banking sector in Pakistan", *International Journal of Bank Marketing*, Vol. 36 No. 7, pp. 1386-1413.
- Fenu, G. and Pau, P.L. (2015), "An analysis of features and tendencies in mobile banking apps", *Procedia Computer Science*, Vol. 56, pp. 26-33.
- Fishbein, M. and Ajzen, I. (1975), *Belief, attitude, intention and behavior: an introduction to theory and research*, Addison-Wesley, Reading.
- Flavian, C., Guinalu, M. and Gurrea, R. (2006), "The role played by perceived usability, satisfaction and consumer trust on website loyalty", *Information and Management*, Vol. 43 No. 1, pp. 1-14.

- Fornell, C. (1992), "A national customer satisfaction barometer: the Swedish experience", *Journal of Marketing*, Vol. 56 No. 1, pp. 6-21.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39- 50.
- Foscht, T., Maloles, C., Schloffer, J., Chia, S.L. and "Jay" Sinha, I. (2010), "Banking on the youth: the case for finer segmentation of the youth market", *Young Consumers*, Vol. 11 No. 4, pp. 264-276.
- Foscht, T., Schloffer, J., Maloles, C., Swee, I., Chia, L., Maloles III, C. and Chia, S.L. (2009), "Assessing the outcomes of generation-Y customers' loyalty", *International Journal of Bank Marketing*, Vol. 27 No. 2, pp. 218-241.
- Franklin, B., Creighton, H. and Beach, B. (2014), "Rising from the ashes. International Longevity Centre – UK", available, at: <https://www.bl.uk/collection-items/rising-from-the-ashes-the-role-of-older-workers-in-driving-eurozone-recovery> (accessed 24 December, 2018).
- Fraze, S.D., Hardin, K.K., Brashears, M.T., Haygood, J.L. and Smith, J.H. (2003), "The effects of delivery mode upon survey response rate and perceived attitudes of Texas agri-science teachers", *Journal of Agricultural Education*, Vol.44 No.2, pp.27-37.
- Garbarino, E. and Johnson, M.S. (1999), "The different roles of satisfaction, trust, and commitment in customer relationships", *Journal of Marketing*, Vol. 63 No. 2, pp. 70-87.
- Gebert-Persson, S., Gidhagen, M., Sallis, J.E. and Lundberg, H. (2019), "Online insurance claims: when more than trust matters", *International Journal of Bank Marketing*, Vol. 37 No. 2, pp. 579-594.
- Gemalto. (2014), "Generation Mbanking: an international study of youth attitudes to banking and online banking services", available at: https://www.gemalto.com/brochures-site/download-site/Documents/documentgating/Gemalto_mGeneration_Whitepaper.pdf (accessed 3 June 2019).
- Gimpel, H., Rau, D. and Röglinger, M. (2018), "Understanding FinTech start-ups - a taxonomy of consumer-oriented service offerings", *Electronic Markets*, Vol. 28 No. 3, pp. 245-264.
- Giovanis, A., Athanasopoulou, P., Assimakopoulos, C. and Sarmaniotis, C. (2019), "Adoption of mobile banking services", *International Journal of Bank Marketing*, Vol. 37 No. 5, pp.1165-1189.
- Gomber, P., Koch, J.A. and Siering, M. (2017), "Digital finance and FinTech: current research and future research directions", *Journal of Business Economics*, Vol. 87 Vol. 5, pp. 537- 580.
- Gomber, P., Kauffman, R.J., Parker, C. and Weber, B. W. (2018), "On the fintech revolution: interpreting the forces of innovation, disruption, and transformation in financial services", *Journal of Management Information Systems*, Vol. 35, No. 1, pp. 220-265.
- Grinyer, A. (2009), "The anonymity of research participants: assumptions, ethics, and practicalities", *Pan-Pacific Management Review*, Vol. 12 No. 1, pp. 49-58.
- Grönroos, C. (1994), "From marketing mix to relationship marketing", *Management Decision*, Vol. 32 No. 2, pp. 4-20.

- Grönroos, C. (2000), *Service management and marketing: a customer relationship management approach*, Wiley, New York.
- Gummesson, E. (2008), *Total relationship marketing*, Routledge, New York.
- Gwinner, K.P., Gremler, D.D. and Bitner, M.J. (1998), "Relational benefits in services industries: the customer's perspective", *Journal of the Academy of Marketing Science*, Vol. 26 No. 2, pp. 101-114.
- Hanafizadeh, P., Behboudi, M., Koshksaray, A.A. and Tabar, M.J.S. (2014), "Mobile-banking adoption by Iranian bank clients", *Telematics and Informatics*, Vol. 31 No.1, pp. 62-78.
- Haapio, H. (2019), "How emotions are considered crucial on an omnichannel banking environment in gaining customer loyalty", in Shaikh, A.A. and Karjaluoto H. (Eds.), *Marketing and mobile financial services: a global perspective on digital banking consumer behaviour*, Routledge, New York, pp. 50-69.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2014), *Multivariate data analysis: Pearson new international edition*, Person, Malaysia.
- Harrison, R., Flood, D. and Duce, D. (2013), "Usability of mobile applications: literature review and rationale for a new usability model", *Journal of Interaction Science*, Vol. 1 No. 1, pp. 1-16.
- Hatcher, L. (1994), *A step-by-step approach to using the SAS system for factor analysis and structural equation modeling*, SAS Institute, Cary.
- Hauff, J.C. (2014), "Consumer trust in banking relationships in Europe", *International Journal of Bank Marketing*, Vol. 32 No. 5, pp. 494-514.
- Hauff, J.C. (2019), "Reasons to switch: empowered vs less powerful bank customers", *International Journal of Bank Marketing*, p. IJBM-08-2018-0231.
- Hausknecht, D.R. (1990), "Measurement scales in consumer satisfaction/dissatisfaction", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, Vol.3 No.1, pp.1-11.
- Hayton, J.C., Allen, D.G. and Scarpello, V. (2004), "Factor retention decisions in exploratory factor analysis: a tutorial on parallel analysis", *Organizational Research Methods*, Vol. 7 No. 2, pp. 191-205.
- Heaney, J. (2007), "Generations X and Y's internet banking usage in Australia", *Journal of Financial Services Marketing*, Vol. 11 No. 3, pp. 196-210.
- Helgesen, Ø. (2006), "Are loyal customers profitable? Customer satisfaction, customer (action) loyalty and customer profitability at the individual level", *Journal of Marketing Management*, Vol. 22 No. 3/4, pp. 245-266.
- Hennig-Thurau, T., Langer, M.F. and Hansen, U. (2001), "Modeling and managing student loyalty", *Journal of Service Research*, Vol. 3 No. 4, pp. 331-344.
- Hoaglin, D.C. and Iglewicz, B. (1987), "Fine-tuning some resistant rules for outlier labeling", *Journal of the American Statistical Association*, Vol. 82 No. 400, pp. 1147-1149.
- Hoaglin, D.C., Iglewicz, B. and Tukey, J.W. (1986), "Performance of some resistant rules for outlier labeling", *Journal of the American Statistical Association*, Vol. 81 No. 396, pp. 991-999.

- Hoehle, H., Scornavacca, E. and Huff, S. (2012), "Three decades of research on consumer adoption and utilization of electronic banking channels: a literature analysis", *Decision Support Systems*, Vol. 54 No. 1, pp. 122-132.
- Hoehle, H. and Venkatesh, V. (2015), "Mobile application usability: conceptualization and instrument development", *MIS Quarterly*, Vol. 39 No. 2, pp. 1-12.
- Hooghe, M. (2004), "Political socialization and the future of politics", *Acta Politica*, Vol. 39 No. 4, pp. 331-341.
- Hu, L.T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling: a Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.
- Huang, E.Y., Lin, S.W. and Fan, Y.C. (2015), "M-S-QUAL: mobile service quality measurement", *Electronic Commerce Research and Applications*, Vol. 14 No. 2, pp. 126- 142.
- Humbani, M. and Wiese, M. (2019), "An integrated framework for the adoption and continuance intention to use mobile payment apps", *International Journal of Bank Marketing*, Vol. 37 No. 2, pp. 646-664.
- Hussain, A., Abubakar, H.I. and Hashim, N.B. (2014), "Evaluating mobile banking application: usability dimensions and measurements", *Proceedings of the 6th International Conference on Information Technology and Multimedia, IEEE*, pp. 136-140.
- Ibrahim, H., Mohd Taufik, N.K., Mohd Adzmir, A.S. and Saharuddin, H. (2016), "Customer satisfaction on reliability and responsiveness of self service technology for retail banking services", *Procedia Economics and Finance*, Vol. 37, pp. 13-20.
- ING International Survey. (2018), "Mobile banking 2018", available at: https://www.economics.com/ing_international_surveys/mobile-banking-2018 (accessed 10 March, 2019).
- International Finance Corporation. (2014), "Mobile financial services its role in banks and in the market", available at: https://www.ifc.org/wps/wcm/connect/5e24430042b925809415bc0dc33b630b/M-Banking_Workshop_Presentation_Jan28-2014_ENG.pdf?MOD=AJPERES (accessed 3 June 2019).
- International Organization for Standardization. (1998), "ISO 9241-11:1998(en), ergonomic requirements for office work with visual display terminals (VDTs) — Part 11: guidance on usability", available at: <https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:ed-1:v1:en> (accessed 11 April 2017).
- Jacobson, R. and Aaker, D.A. (1987), "The strategic role of product quality", *Journal of Marketing*, Vol. 51 No. 4, p. 31-44.
- Jacoby, J. and Chestnut, R. (1978), *Brand loyalty: measurement and management*, Wiley, New York.
- Javabdeh, T. and Ahmad, N. (2014), "Developing customer positive word-of-mouth and loyalty in mobile banking services by considering the role of trust and security", *Journal of Information Systems Research and Innovation*, Vol. 8, pp. 35-45.
- Johansson, L.G. (2016), *Philosophy of science for scientists*, Springer International Publishing, Cham.

- Jöreskog, K.G. and Sörbom, D. (1993), *LISREL 8: structural equation modelling with the SIMPLIS command language*, Scientific Software International.
- Jun, M. and Palacios, S. (2016), "Examining the key dimensions of mobile banking service quality: an exploratory study", *International Journal of Bank Marketing*, Vol. 34 No. 3, pp. 307-326.
- Kaabachi, S., Ben Mrad, S. and O'Leary, B. (2019), "Consumer's initial trust formation in IOB's acceptance", *International Journal of Bank Marketing*, Vol. 37 No. 2, pp. 507-530.
- Kaiser, H.F. (1974), "An index of factorial simplicity", *Psychometrika*, Vol. 39 No. 1, pp. 31- 36.
- Kandampully, J., Zhang, T. (Christina) and Bilgihan, A. (2015), "Customer loyalty: a review and future directions with a special focus on the hospitality industry", *International Journal of Contemporary Hospitality Management*, Vol. 27 No. 3, pp. 379-414.
- Kang, H., Lee, M.J. and Lee, J.K. (2012), "Are you still with us? A study of the post-adoption determinants of sustained use of mobile-banking services", *Journal of Organizational Computing and Electronic Commerce*, Vol. 22 No. 2, pp. 132-159.
- Kim, J. and Moon, J.Y. (1998), "Designing towards emotional usability in customer interfaces—trustworthiness of cyber-banking system interfaces", *Interacting with Computers*, Vol. 10 No. 1, pp. 1-29.
- Koenig-Lewis, N., Palmer, A. and Moll, A. (2010), "Predicting young consumers' take up of mobile banking services", *Marketing Intelligence & Planning*, Vol. 28 No. 5, pp. 410- 432.
- Kumar, A. and Lim, H. (2008), "Age differences in mobile service perceptions: comparison of Generation Y and baby boomers", *Journal of Service Research*, Vol. 22 No. 7, pp. 568- 577.
- Kumar, M., Tat Kee, F. and Taap Manshor, A. (2009), "Determining the relative importance of critical factors in delivering service quality of banks", *Managing Service Quality: an International Journal*, Vol. 19 No. 2, pp. 211-228.
- Kumar, V.R., Lall, A. and Mane, T. (2017), "Extending the TAM model: intention of management students to use mobile banking: evidence from India", *Global Business Review*, Vol.18 No. 1, pp. 238-249.
- Kuo, Y.F., Wu, C.M. and Deng, W.J. (2009), "The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value- added services", *Computers in Human Behavior*, Vol. 25 No. 4, pp. 887-896.
- Laforet, S. and Li, X. (2005), "Consumers' attitudes towards online and mobile banking in China", *International Journal of Bank Marketing*, Vol. 23 No. 5, pp. 362-380.
- Laukkanen, T. (2007a), "Measuring mobile banking customers' channel attribute preferences in service consumption", *International Journal of Mobile Communications*, Vol. 5 No. 2, pp. 123-138.
- Laukkanen, T. (2007b), "Internet vs mobile banking: comparing customer value perceptions", *Business Process Management Journal*, Vol. 13 No. 6, pp. 788-797.

- Laukkanen, T. and Pasanen, M. (2005), "Characterising the users of mobile banking: a distinct group of online customers", in *University of Kuopio, Finland, ANZMAC 2005 Conference: Electronic Marketing*, pp. 107-112.
- Laukkanen, T. and Pasanen, M. (2008), "Mobile banking innovators and early adopters: how they differ from other online users?", *Journal of Financial Services Marketing*, Vol. 13 No. 2, pp. 86-94.
- Lee, D., Moon, J., Kim, Y.J. and Yi, M.Y. (2015), "Antecedents and consequences of mobile phone usability: linking simplicity and interactivity to satisfaction, trust, and brand loyalty", *Information & Management*, Vol. 52 No. 3, pp. 295-304.
- Lee, E.J., Lee, J. and Eastwood, D. (2003), "A two-step estimation of consumer adoption of technology-based service innovations", *Journal of Consumer Affairs*, Vol. 37 No. 2, pp. 256-282.
- Lee, I. and Shin, Y.J. (2018), "Fintech: ecosystem, business models, investment decisions, and challenges", *Business Horizons*, Vol. 61 No. 1, pp. 35-46.
- Lee, J., Lee, J. and Feick, L. (2001), "The impact of switching costs on the customer satisfaction-loyalty link: mobile phone service in France", *Journal of Services Marketing*, Vol. 15 No. 1, pp. 35-48.
- Lee, K.C. and Chung, N. (2009), "Understanding factors affecting trust in and satisfaction with mobile banking in Korea: a modified DeLone and McLean's model perspective", *Interacting with Computers*, Vol. 21 No. 5-6, pp. 385-392.
- Lee, Y.K., Park, J.H., Chung, N. and Blakeney, A. (2012), "A unified perspective on the factors influencing usage intention toward mobile financial services", *Journal of Business Research*, Vol. 65 No. 11, pp. 1590-1599.
- Lemon, K.N. and Verhoef, P.C. (2016), "Understanding customer experience throughout the customer journey", *Journal of Marketing*, Vol. 80 No. 6, pp. 69-96.
- Leon, S. (2018), "Service mobile apps: a millennial generation perspective", *Industrial Management & Data Systems*, Vol. 118 No. 9, pp. 1837-1860.
- Liébana-Cabanillas, F., Alonso-Dos-Santos, M., Soto-Fuentes, Y. and Valderrama-Palma, V.A. (2017), "Unobserved heterogeneity and the importance of customer loyalty in mobile banking", *Technology Analysis and Strategic Management*, Vol. 29 No. 9, pp. 1015-1032.
- Liljander, V. and Roos, I. (2002), "Customer-relationship levels - from spurious to true relationships", *Journal of Services Marketing*, Vol. 16 No. 7, pp. 593-614.
- Lin, H.F. (2011), "An empirical investigation of mobile banking adoption: the effect of innovation attributes and knowledge-based trust", *International Journal of Information Management*, Vol. 31 No. 3, pp. 252-260.
- Lin, H.H. (2012), "The effect of multi-channel service quality on mobile customer loyalty in an online-and-mobile retail context", *Service Industries Journal*, Vol. 32 No. 11, pp. 1865-1882.
- Lu, M.T., Tzeng, G.H., Cheng, H. and Hsu, C.C. (2015), "Exploring mobile banking services for user behaviour in intention adoption: using new hybrid MADM model", *Service Business*, Vol. 9 No. 3, pp. 541-565.

- Luarn, P. and Lin, H.H. (2005), "Toward an understanding of the behavioural intention to use mobile banking", *Computers in Human Behavior*, Vol. 21 No. 6, pp. 873-891.
- Lusardi, A. (2017), "Lusardi on financial literacy levels: we need robust interventions", available at: <https://www.houseoffinance.se/lusardi-financial-literacy-levels-need-robust-intervention/> (accessed 9 June 2019).
- Malaquias, F. and Hwang, Y. (2018), "An empirical investigation on disclosure about mobile banking on bank websites", *Online Information Review*, Vol. 42 No. 5, pp. 615-629.
- Malaquias, F. and Hwang, Y. (2019), "Mobile banking use: a comparative study with Brazilian and U.S. participants", *International Journal of Information Management*, Vol. 44 No. February, pp. 132-140.
- Mallat, N., Rossi, M. and Tuunainen, V.K. (2004), "Mobile banking services", *Communications of the ACM*, Vol. 47 No. 5, pp. 42-46.
- Manser Payne, E., Peltier, J.W. and Barger, V.A. (2018), "Mobile banking and AI-enabled mobile banking", *Journal of Research in Interactive Marketing*, Vol. 12 No. 3, pp. 328- 346.
- Marimon, F., Petnji Yaya, L.H. and Casadesus Fa, M. (2012), "Impact of e-quality and service recovery on loyalty: a study of e-banking in Spain", *Total Quality Management & Business Excellence*, Vol. 23 No. 7/8, pp. 769-787.
- Masrek, N.M., Omar, N., Ahmad, U. and Khairuddin, A.A.E.I. (2012), "Mobile banking utilizations, satisfaction and loyalty: a case study of Malaysian consumers", *Science Series Data Report*, Vol. 4 No. 12, pp. 20-29.
- McLaughlin, H. (2009), "What's in a name: 'client', 'patient', 'customer', 'consumer', 'expert by experience', 'service user'—what's next?". *The British Journal of Social Work*, Vol 39, No. 6, pp. 1101-1117.
- Mohammadi, H. (2015), "A study of mobile banking loyalty in Iran", *Computers in Human Behavior*, Vol. 44 No. March, pp. 35-47.
- Morris, C. (2008), *Quantitative approaches in business studies*, Pearson Education, Harlow.
- Muñoz-Leiva, F., Climent-Climent, S. and Liébana-Cabanillas, F. (2017), "Determinants of intention to use the mobile banking apps: an extension of the classic TAM model", *Spanish Journal of Marketing*, Vol. 21 No. 1, pp. 25-38.
- Möller, K. and Halinen, A. (2000), "Relationship marketing theory: its roots and direction", *Journal of Marketing Management*, Vol. 16 No. 1-3, pp. 29-54.
- Ngobo, P.V. (2017), "The trajectory of customer loyalty: an empirical test of Dick and Basu's loyalty framework", *Journal of the Academy of Marketing Science*, Vol.45 No. 2, pp. 229- 250.
- Nielsen, J. (2012), "Usability 101: introduction to usability", available at: <https://www.nngroup.com/articles/usability-101-introduction-to-usability/> (accessed 3 June 2019).
- Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.
- Oliva, T.A., Oliver, R.L. and MacMillan, I.C. (1992), "A catastrophe model for developing service satisfaction strategies", *Journal of Marketing*, Vol. 56 No. 3, pp. 83-95.

- Oliver, R.L. (1980), "A cognitive model of the antecedents and consequences of satisfaction decisions", *Journal of Marketing Research*, Vol. 17 No. 4, pp. 460-470.
- Oliver, R.L. (1999), "Whence consumer loyalty?", *Journal of Marketing*, Vol. 63 No. special issue, pp. 33-44.
- Omoregie, O.K., Addae, J.A., Coffie, S., Ampong, G.O.A. and Ofori, K.S. (2019), "Factors influencing consumer loyalty: evidence from the Ghanaian retail banking industry", *International Journal of Bank Marketing*, Vol. 37 No. 3, pp. 798-820.
- Owusu Kwateng, K., Osei Atiemo, K.A. and Appiah, C. (2019), "Acceptance and use of mobile banking: an application of UTAUT2", *Journal of Enterprise Information Management*, Vol. 32 No. 1, pp. 118-151.
- Pallant, J. (2007), *Spss survival manual : a step by step guide to data analysis using spss*, Allen & Unwin.
- Parasuraman, A., Berry, L.L. and Zeithaml, V.A. (1985), "Conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49 No. 4, pp. 41-50.
- Parasuraman, A., Berry, L.L. and Zeithaml, V.A. (1988), "SERVQUAL: a multi item scale for measuring consumer perception of service", *Journal of Retailing*, Vol. 64 No. Spring, pp. 12-40.
- Parasuraman, A., Berry, L.L. and Zeithaml, V.A. (1991), "Refinement and reassessment of the SERVQUAL scale", *Journal of Retailing*, Vol. 67 No. 4, pp. 421-450.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994), "Reassessment of expectations as a comparison standard in measuring service quality: implications for further research", *Journal of Marketing*, Vol. 58 No. 1, pp. 111-124.
- Phillips, L.W., Chang, D.R. and Buzzell, R.D. (1983), "Product quality, cost position and business performance: a test of some key hypotheses", *Journal of Marketing*, Vol. 47 No. 2, pp. 26-43.
- Pohlmann, J.T. (2004), "Use and interpretation of factor analysis in the journal of educational research: 1992-2002", *The Journal of Educational Research*, Vol. 98, No. 1, pp. 14-23.
- Pullman, M.E. and Gross, M.A. (2004), "Ability of experience design elements to elicit emotions and loyalty behaviors", *Decision Sciences*, Vol. 35 No. 3, pp. 551-578.
- Puschmann, T. (2017), "Fintech", *Business and Information Systems Engineering*, Vol. 59 No. 1, pp. 69-76.
- Reichheld, F.F. (1993), "Loyalty-based management.", *Harvard Business Review*, Vol. 71 No. 2, pp. 64-73.
- Reichheld, F.F. and Sasser, W.E. (1990), "Zero defections: quality comes to services", *Harvard Business Review*, Vol. 68 No. 5, pp.105-11.
- Riksbank (2017), "E-Krona", available at: <https://www.riksbank.se/en-gb/payments--cash/e-krona/> (accessed 28 May, 2019).
- Rundle-Thiele, S. (2005), "Elaborating customer loyalty: exploring loyalty to wine retailers", *Journal of Retailing and Consumer Services*, Vol. 12 No. 5, pp. 333-344.

- Rust, R.T. and Zahorik, A.J. (1993), "Customer satisfaction, customer retention, and market share", *Journal of Retailing*, Vol. 69 No. 2, pp. 193-215.
- Sajasalo, P., Auvinen, T., Järvenpää, M., Takala, T. and Sintonen, T. (2019), "The development of mobile banking services in a large: Finnish financial organization", in Shaikh, A.A. and Karjaluoto H. (Eds.), *Marketing and mobile financial services: a global perspective on digital banking consumer behaviour*, Routledge, New York, pp. 73-91.
- Sampaio, C.H., Ladeira, W.J. and Santini, F.D.O. (2017), "Apps for mobile banking and customer satisfaction: a cross-cultural study", *International Journal of Bank Marketing*, Vol. 35 No. 7, pp. 1131-1151.
- Sandberg, J. and Alvesson, M. (2011), "Ways of constructing research questions: gap-spotting or problematization?", *Organization*, Vol. 18 No. 1, pp. 23-44.
- Santouridis, I. and Trivellas, P. (2010), "Investigating the impact of service quality and customer satisfaction on customer loyalty in mobile telephony in Greece", *The TQM Journal*, Vol. 22 No. 3, pp. 330-343.
- Sarantakos, S. (1998), *Social research* (second ed). Palgrave, New York.
- Schreiber, J.B., Nora, A., Stage, F.K., Barlow, E.A. and King, J. (2006), "Reporting structural equation modeling and confirmatory factor analysis results: a review", *Journal of Educational Research*, Vol. 99 No. 6, pp. 323-338.
- Schmidt, P.A. (2019), "The impact of cognitive style, consumer demographics and cultural values on the acceptance of Islamic insurance products among American consumers", *International Journal of Bank Marketing*, Vol. 37 No. 2, pp. 81-104.
- Searle, J.R. (1995), *The construction of social reality*, Simon and Schuster, New York.
- Searle, J. R. (1999), *Mind, language and society: philosophy in the real world*. Basic books.
- Shaikh, A.A. and Karjaluoto, H. (2015), "Mobile banking adoption: a literature review", *Telematics and Informatics*, Vol. 32 No. 1, pp. 129-142.
- Shaikh, A.A. and Karjaluoto, H. (2019), "Mobile financial services", in Shaikh, A.A. and Karjaluoto H. (Eds.), *Marketing and mobile financial services: a global perspective on digital banking consumer behaviour*, Routledge, New York, pp. 1-26.
- Shaikh, A.A., Glavee-Geo, R., Karjaluoto, H. and Hinson, R.E. (2019), "How is the use of mobile money services transforming lives in Ghana?" , in Shaikh, A.A. and Karjaluoto H. (Eds.), *Marketing and mobile financial services: a global perspective on digital banking consumer behaviour*, Routledge, New York, pp. 256-280.
- Shankar, A. and Jebarajakirthy, C. (2019), "The influence of e-banking service quality on customer loyalty", *International Journal of Bank Marketing*, Vol. 37 No. 5, 2019 pp. 1119-1142.
- Shapiro, C. (1983), "Premiums for high quality products as returns to reputations", *Quarterly Journal of Economics*, Vol. 98 No. 4, pp. 659-679.
- Sharma, S.K. and Sharma, M. (2019), "Examining the role of trust and quality dimensions in the actual usage of mobile banking services: an empirical investigation", *International Journal of Information Management*, Vol. 44 No. February, pp. 65-75.

- Ssicentral.com/lisrel. (no date), "The diagnosis and treatment of non-normality", available at: <http://www.ssicentral.com/lisrel/techdocs/Session4.pdf> (accessed 11 January 2019).
- Statista. (2019a), "Share of mobile banking users worldwide from 2010 to 2015", available at: <https://www.statista.com/statistics/779037/share-of-mobile-banking-users/>, (accessed 5 May, 2019).
- Statista. (2019b), "Share of U.S. mobile phone banking users 2016", available at: <https://www.statista.com/statistics/244414/percentage-of-us-mobile-phone-users-who-use-mobile-banking/> (accessed 3 June 2019).
- Strandberg, C., Wahlberg, O. and Öhman, P. (2015), "Effects of commitment on intentional loyalty at the person-to-person and person-to-firm levels", *Journal of Financial Services Marketing*, Vol. 20 No. 3, pp. 191-207.
- Sun, Y., Wang, M. and Wang, N. (2015), "Technology leadership, brand equity, and customer loyalty in mobile banking moderating", *DIGIT 2015 Proceedings, Fort Worth, Texas, pp. 1-13*
- Suoranta, M. and Mattila, M. (2004), "Mobile banking and consumer behaviour: new insights into the diffusion pattern", *Journal of Financial Services Marketing*, Vol. 8 No. 4, pp. 354-366.
- Szűts, I. and Tóth, Z. (2008), "Customer loyalty problems in retail banking", *6th International Conference on Management, Enterprise and Benchmarking, Budapest*, pp. 355-361.
- Söderberg, I.L., Sallis, J.E. and Eriksson, K. (2014), "The dark side of trust and the light side of working alliances in financial services", *International Journal of Bank Marketing*, Vol 32 No.3, pp. 245-263.
- Tam, C. and Oliveira, T. (2017), "Literature review of mobile banking and individual performance", *International Journal of Bank Marketing*, Vol 35 No. 7, pp. 1044-1067.
- Tan, E. and Leby Lau, J. (2016), "Behavioural intention to adopt mobile banking among the millennial generation", *Young Consumers*, Vol. 17 No. 1, pp. 18-31.
- Taylor, E. (2016), "Management mobile payment technologies in retail: a review of potential benefits and risks", *International Journal of Retail & Distribution Management*, Vol. 44 No. 1, pp. 159-177.
- Thakur, R. (2014), "What keeps mobile banking customers loyal?", *International Journal of Bank Marketing*, Vol. 32 No. 7, pp. 628-646.
- The world bank. (2019), "Account ownership at a financial institution or with a mobile-money- service provider, young adults (% of population ages 15-24) | Data", available at: (accessed 3 June 2019).
- Thomas, L.C. (2010), "Consumer finance: challenges for operational research", *Journal of the Operational Research Society*, Vol. 61 No. 1, pp. 41-52.
- Tran, H.T.T. and Corner, J. (2016), "The impact of communication channels on mobile banking adoption", *International Journal of Bank Marketing*, Vol. 34 No. 1, pp. 78-109.
- Tse, D.K. and Wilton, P.C. (1988), "Models of consumer satisfaction formation: an extension", *Journal of Marketing Research*, Vol. 25 No. 2, pp. 204-214.
- Tukey, J.W. and John W. (1977), *Exploratory data analysis*, Addison-Wesley Publishing Company, Massachusetts.

- Uncles, M.D., Dowling, G.R. and Hammond, K. (2003), "Customer loyalty and customer loyalty programs", *Journal of Consumer Marketing*, Vol. 20 No. 4/5, pp. 294-316.
- Vargo, S.L. and Lusch, R.F. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, Vol. 68 No. 1, pp. 1-17.
- Venkatesh, V., Ramesh, V. and Massey, A.P. (2003), "Understanding usability in mobile commerce", *Communications of the ACM*, Vol. 46 No. 12, pp. 53-56.
- Vinciarelli, A. Esposito, A., Andre, E., Bonin, F., Chetouani, M., Cohn, J.F., Cristani, M., Fuhrmann, F., Gilmartin, E., Hammal, Z., Heylen, D., Kaiser, R., Koutsombogera, M., Potamianos, A., Renals, S., Riccardi, G. and Salah, A.A. (2015), "Open challenges in modelling, analysis and synthesis of human behaviour in human-human and human-machine interactions", *Cognitive Computation*, Vol. 7 No. 4, pp. 397-413.
- Westland, J.C. (2015), *Structural equation models*, Springer International Publishing, Cham.
- Wijland, R., Hansen, P. and Gardezi, F. (2016), "Mobile nudging: youth engagement with banking apps", *Journal of Financial Services Marketing*, Vol. 21 No. 1, pp. 51-63.
- Wolf, E.J., Harrington, K.M., Clark, S.L. and Miller, M.W. (2013), "Sample size requirements for structural equation models: an evaluation of power, bias, and solution propriety", *Educational and psychological measurement*, Vol. 73 No.6, pp. 913-934.
- World Economic Forum Annual Meeting. (2018), "Enabling eCommerce: small enterprises, global players", available at: <https://www.weforum.org/events/world-economic-forum-annual-meeting-2018/sessions/enabling-ecommerce-small-enterprises-global-players> (accessed 10 September 2018).
- Worthington, S. and Welch, P. (2011), "Banking without the banks", *International Journal of Bank Marketing*, Vol. 29 No. 2, pp. 190-201.
- Wu, H.C., Cheng, C.C. and Hussein, A.S. (2019), "What drives experiential loyalty towards the banks? The case of Islamic banks in Indonesia", *International Journal of Bank Marketing*, Vol. 37 No. 2, pp. 595-620.
- Xiao, J. (2016), *Handbook of consumer finance research* (second ed). Spinger, Switzerland
- Yang, A.S. (2009), "Exploring adoption difficulties in mobile banking services", *Canadian Journal of Administrative Sciences*, Vol. 13 No. April, pp. 136-149.
- Yang, Z., Jun, M. and Peterson, R.T. (2004), "Measuring customer perceived online service quality: scale development and managerial implications", *International Journal of Operations & Production Management*, Vol. 24 No. 11, pp. 1149-1174.
- Yoon, C. (2010), "Antecedents of customer satisfaction with online banking in China: the effects of experience", *Computers in Human Behavior*, Vol. 26 No. 6, pp. 1296-1304.
- Yousafzai, S.Y. (2012), "A literature review of theoretical models of Internet banking adoption at the individual level", *Journal of Financial Services Marketing*, Vol. 17 No.3, pp.215- 226.

- Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996), "The behavioural consequences of service quality", *Journal of Marketing*, Vol. 60 No. 2, pp. 31-46.
- Zhang, J.Z., Watson, G.F., Palmatier, R.W. and Dant, R.P. (2016), "Dynamic relationship marketing", *Journal of Marketing*, Vol. 80 No. 5, pp. 53-75.
- Zhou, T. (2012), "Understanding users' initial trust in mobile banking: an elaboration likelihood perspective", *Computers in Human Behavior*, Vol. 28 No. 4, pp. 1518-1525.
- Öhman, P. and Yazdanfar, D. (2018a), "Bank lending and housing prices in Sweden", *International Journal of Housing Markets and Analysis*, Vol. 11 No. 3, pp. 498-519.
- Öhman, P. and Yazdanfar, D. (2018b), "Organizational-level profitability determinants in commercial banks: Swedish evidence", *Journal of Economic Studies*, Vol. 45 No. 6, pp. 1175-1191.

Appendix I: The questionnaire of article 1

| | | | | |
|---|--------------------------|---------------------------|---------------------------|-------------------|
| Part I. Background including demographic variables | | | | |
| <i>Age</i> | | | | |
| 18–23 years | | 24–29 years | | |
| <i>Gender</i> | | | | |
| Male | | Female | | Prefer not to say |
| <i>How many MBAs do you use?</i> | | | | |
| 1 | 2 | 3 | 4 or more | |
| <i>How long have you used MBAs?</i> | | | | |
| Less than 1 year | 1 year–less than 2 years | 2 years–less than 3 years | 3 years–less than 4 years | 4 years or more |
| Part II. Loyalty ⁽²⁴⁾ | | | | |
| <i>Antecedents of attitudinal loyalty</i> | | | | |
| <i>Cognitive antecedents</i> | | | | |
| Cog1: When I open the MBA, I always remember how to use it. | | | | |
| Cog2: I am confident using the MBA. | | | | |
| Cog3: I perceive that the MBA reflects my identity. | | | | |
| Cog4: I understand how to use the MBA. | | | | |
| <i>Affective antecedents</i> | | | | |
| Aff1: I am emotionally attached to the MBA. | | | | |
| Aff2: I perceive that the MBA has a good design. | | | | |
| Aff3: I am very pleased with the MBA. | | | | |
| <i>Conative antecedents</i> | | | | |
| Con1A: It would cost me too much to switch to a bank app in another bank. | | | | |
| Con1B: It would take me too long to become familiar with another bank app in another bank. | | | | |
| Con2: The MBA always meet my expectations. | | | | |
| <i>The attitudinal–behavioural duality of loyalty</i> | | | | |
| <i>Attitudinal loyalty</i> | | | | |
| AttLo: I am committed to the MBA. | | | | |
| <i>Behavioural loyalty</i> | | | | |
| BehLo: I carry out all my banking transactions via the MBA. | | | | |
| <i>Consequences of loyalty</i> | | | | |
| WoM: I usually recommend the MBA to my friends. | | | | |
| EWoM: I usually share my experiences of the MBA on social media. | | | | |
| CIS: I usually do not search for information about other bank apps. | | | | |
| RCP: Even if a close friend recommended another bank app, I would continue to use my MBA. | | | | |

(24) Since some respondents use more than one MBA, the original questionnaire asked those to answer Part II based on their experience on the main MBA they use.

Appendix II: The questionnaire of article 2

| Part I. Background including demographic variables | | | | |
|---|---|-----------------------|-----------------------|-----------------|
| Age | | | | |
| 18–23 years | | 24–29 years | | |
| Gender | | | | |
| Male | Female | | Prefer not to say | |
| How many MBAs do you use? | | | | |
| 1 | 2 | 3 | 4 or more | |
| How long have you used MBAs? | | | | |
| Under 1 year | 1 year–under 2 years | 2 years–under 3 years | 3 years–under 4 years | 4 years or more |
| Part II. Usability, responsiveness, reliability, customer satisfaction, and loyalty ⁽²⁵⁾ | | | | |
| Usability | | | | |
| Usa 1 | It was easy to use the MBA when I used it for the first time. | | | |
| Usa 2 | It is easy to find the information I need from the MBA. | | | |
| Usa 3 | It is easy to navigate in the MBA. | | | |
| Usa 4 | It is easy to carry out transactions in the MBA. | | | |
| Usa 5 | Transactions can be carried out quickly in the MBA. | | | |
| Responsiveness | | | | |
| Res 1 | The MBA responds quickly to my questions. | | | |
| Res 2 | The different communication channels in the MBA help me to solve my problems. | | | |
| Res 3 | The MBA provides opportunities to ask for help. | | | |
| Reliability | | | | |
| Rel 1 | It is reliable to transfer money in the MBA. | | | |
| Rel 2 | I can trust that the account information in the MBA is correct. | | | |
| Rel 3 | It is reliable to pay bills in the MBA. | | | |
| Customer satisfaction | | | | |
| Sat 1 | The MBA always meets my expectations. | | | |
| Sat 2 | I am very pleased with the MBA. | | | |
| Loyalty | | | | |
| Loy 1 | I am committed to the MBA. | | | |
| Loy 2 | I carry out all my banking transactions via the MBA. | | | |

(25) Since some respondents use more than one MBA, the original questionnaire asked those to answer Part II based on their experience on the main MBA they use.