

KEY FACTORS THAT AFFECT CONSUMER SATISFACTION IN ONLINE BANKING IN
THE LEBANESE BANKING SECTOR

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Master of Science - Business Strategy

by
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Abstract

Purpose – With the digitalization of services, banks seek to implement online banking in order to shift from traditional banking and provide customers with the needed services without customers having to physically be present in bank branches. This shift would enable banks to have a wider reach, and would contribute to the efficiency of the banking process. The purpose of this study is to identify the factors that impact consumer satisfaction with online banking services, focusing on service quality, web design, and privacy and security.

Design/methodology/approach – This study explores the factors that contribute to consumer satisfaction in online banking platforms, through conducting a quantitative study that collects data through a questionnaire regarding different factors of the online banking platforms. The factors explored in this study are the service quality, the web design, and the privacy and security. As a questionnaire was sent to Lebanese consumers, a sample of 236 respondents was obtained.

Findings – The statistical analysis of the data reveals that service quality, web design, and privacy and security have a significant and positive impact on consumer satisfaction with the online banking platforms in Lebanon.

Research limitations/implications – One of the constraints faced in the research relates to the time constraint for its completion, as the sample size could have been larger otherwise. Adding to that, the study was conducted amidst the Lebanese economic crisis and the Covid-19 pandemic, which could influence the results.

Practical implications – As the study explores the factors that affect consumer satisfaction with online banking platforms, it allows Lebanese banks to identify these factors, and improve their online banking services accordingly. This enables Lebanese banks to become more competitive in the Lebanese banking sector.

Originality/value – The originality of this study is that it explores a specific case study in the banking sector in Lebanon, which was considered one of the most developed sectors in the country. Since there are few researches that study the online banking service of the banking sector, this study provides an insight over the factors that would contribute to the improvement of this service achieving higher consumer satisfaction.

Keywords: Online banking, service quality, web design, privacy and security, consumer satisfaction, Lebanon

Introduction

General Background

With the vast increase in social media use, retail banks have new opportunities to understand the needs and anticipations of their customers. This increase in use of online services, along with the greater user engagement in technology, opens up new means of engaging with customers through the online banking platforms (Hansen, Saridakis, & Benson, 2018). Since social media by nature is interactive, banks have the ability to communicate with their customers effectively, motivating them to use certain services, and educating them about the different banking options available (Durkin, Mulholland, & McCartan, 2015). However, the degree to which social media in general and banking services in particular is used is different depending on the country, and relates to different factors such as the perceived trust, security, and awareness (Shaikh & Karjaluo, 2018). While the increase in social media use player an important role in pushing online banking, other factors, such as the emergence of the Covid 19 pandemic, also played an important role in increasing it.

The Covid 19 pandemic have necessitated many changes in different aspects life. The social distancing measures, along with the imposed lockdowns, have changed the ways people interact together discouraging direct contact to avoid the spread of the virus (Akpan, Udoh, & Adebisi, 2020). It has been observed that shifts in consumer behavior regarding how people interacted with online services changed, part of which was also related to the surge in the use of online banking to avoid having to physically go to branches of the bank in order to complete banking activities (Kim, et al., 2020). Since the readiness of countries

to adopt internet banking greatly depended on the level of trust in such services and the availability of the technological infrastructure to support the shift, there has been a notable difference between countries as to how fast such platforms are being improved. While the shift to online banking might be very smooth in developed countries, developing countries such as Lebanon might not always follow the same model. Developing countries still face many issues when attempting to fully digitalize some of their services due to many barriers, notably the technological infrastructure, internet speeds, and the consumer trust and acceptance of such services (Alalwan, Dwivedi, Rana, & Simintiras, 2016). In order to understand how banks can better launch their online banking services such that consumers can have a better experience using them, banks should understand the factors that contribute to a better consumer satisfaction with the services.

Need for the study

This study will tackle the factors that would improve the internet banking experience for consumers. Providing a better consumer experience through increasing the consumer satisfaction with the online banking services would provide banks with a competitive advantage over other banks in the market, which would translate to better profits on the long run. With the high number of retail banks in the Lebanese market, banks have to find creative ways in order to retain their existing customers while also targeting new customers.

There is a higher need for the study in recent years since Lebanon is experiencing a financial crisis characterized by a dislike to retail banks, and banks should work harder in order not to lose their customers due to the distrust in Lebanese banks. Banks, by providing attractive services and improving the user experience for their customers, could build back

the trust in such difficult times. Adding to that, the covid 19 pandemic has necessitated that banks provide their users with convenient means to complete their banking transactions without having to physically go to the branches. While some retail banks already had online banking platforms, the pandemic had forced them to improve and incorporate even more services so that consumers could have access to their basic banking services. Therefore, this study would provide banks with the much-needed data to mitigate the negative effects of the consumer distrust that came from the economic crisis, and to mitigate the interruption of service that was enforced through the lockdowns that aim to reduce the spread of the corona virus.

Aim of the study and Research Question

This research aims at identifying the extent to which different factors have on the consumer satisfaction of Lebanese consumers towards online banking. To factors that will be analyzed throughout this study are:

- Service Quality
- Web Design
- Privacy and Security

These factors are expected to have a positive effect on the consumer satisfaction in online services, which is also predicted to persist in the context of the banking industry. In order to have a comprehensive study regarding these factors, a quantitative research approach will be used due to its efficient data collection method. Such research method would enable us to gain an insight on how consumers perceive each factor of the online

banking through a questionnaire that will be sent to Lebanese consumers. The study will highlight different aspects such as:

- The identification of different factors affecting consumer satisfaction in online banking
- The classification of the factors by how strong they impact consumer satisfaction
- The effect of the Lebanese economic crisis and the covid 19 pandemic

The **research question** of the study is:

What are the factors that affect the consumer satisfaction with online banking services in the Lebanese banking industry?

Overview of the Chapters

The research will include three main chapters along with the introduction and the conclusion. The three main chapters of the study will be the:

- Literature Review
- Methodology
- Results and Discussion

The literature review, or chapter 1 of the study, presents the mainstream literature related to the topic. It will gather secondary data relevant to the variables from journal articles published in peer reviewed journals. The main topics that will be discussed relate to the consumer interaction, the use of information systems in the banking industry, and the concepts of consumer satisfaction. These three main topics cover the variables of interest, which are the factors that affect the consumer satisfaction in online banking platforms. This chapter will conclude with the research questions and the conceptual model

for the study. As for the methodology, or chapter 2 of the study, it will present the methodology that will be used to assess the hypotheses. It will begin by presenting the hypotheses and provide a method to gather primary data along with the analysis methods that will be used to figure out the relationships the variables have with one another. The quantitative method will be used in this study, and will benefit from data collected from Lebanese consumers that use online banking services, since this method is effective in analyzing consumer behavior and consumer satisfaction factors. Finally, the results and discussion, or chapter 3 of the study, will present the analysis of the data. The results will be then discussed to understand their implications in the Lebanese banking sector context. This chapter will also present the limitations of the study as well as the future researches that are possible after this study.

Chapter 1: Literature Review

This chapter examines the literature regarding online banking and the factors that would affect consumer satisfaction in its context. This chapter will be divided into four sections, the research context, the theoretical overview, the mainstream literature, and the research question and conceptual framework. The research context will present the challenges that the banking sector is facing, as well as the challenges specific to Lebanon. The theoretical overview will explain the concepts of customer interaction, information systems, and customer satisfaction. The mainstream literature will present the previous research done regarding the factors that affect consumer satisfaction in online banking. Finally, the research questions and conceptual framework will present variables and hypotheses.

1.1 Research Context

There are many challenges facing the banking sector nowadays. These challenges will be discussed through two perspectives, the global challenges resulting from the Covid-19 pandemic, and the Lebanese banking crisis that was the result of the accumulation of multiple factors, most importantly the global pandemic and the economic crisis that is currently happening in Lebanon.

1.1.1 Banking Sector and Covid-19 Pandemic

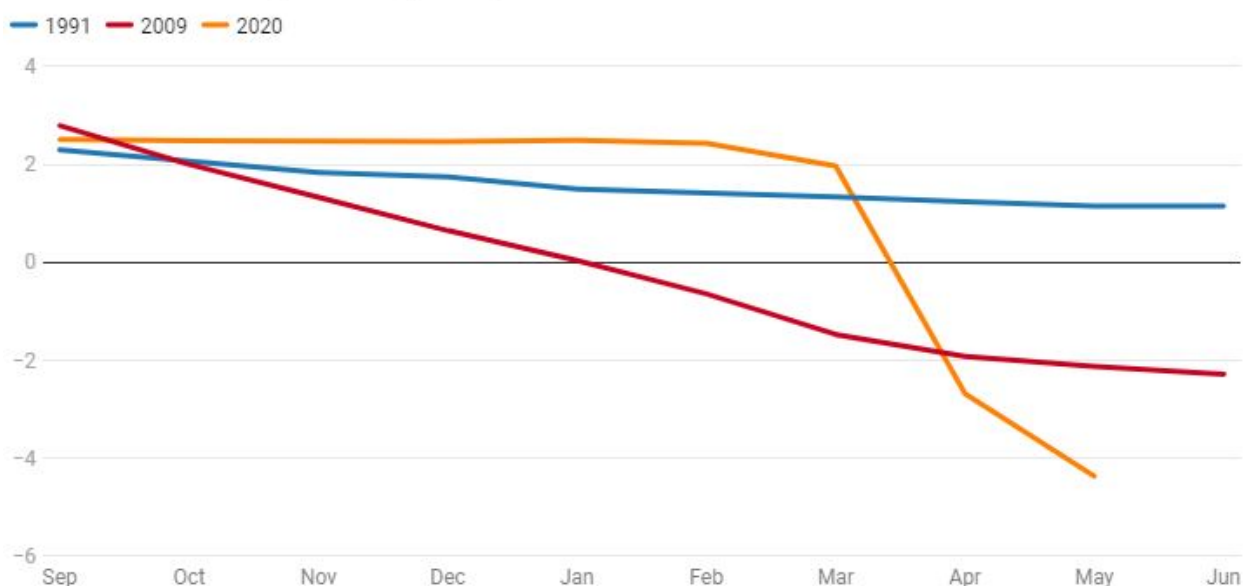
To begin with, the Covid-19 pandemic that spread at an alarming rate worldwide has had numerous repercussions on the financial sector as well as the banking sector. This health crisis created a financial shock whose effect was felt by many countries. For instance, the World Bank estimates that regardless of the slight growth of 0.5% experienced by East Asia and the Pacific, other regions experienced a contraction in GDP growth. For

instance, South Asia experienced a contraction by 2.7%, Sub-Saharan Africa by 2.8%, the MENA region by 4.2%, Europe and Central Asia by 4.7%, and Latin America by 7.2%. Such a contraction is a huge setback for different economies, and amounts to around 5.2% of global GDP contraction as estimated by the World Bank. Adding to that, the contraction is happening at a fast pace compared to previous economic crises (World Bank, 2020).

Figure 1: Global Contraction in Past Recessions vs. Covid-19

The COVID-19 recession has seen the fastest, steepest downgrades in consensus growth projections among all global recessions since 1990

Consensus forecasts of global GDP (percent)



Source: World Bank, 2020

Figure 1 presents a comparison between the global recessions of 1991 and 2009 as compared to the recession caused by Covid-19, showing the difference in contraction rate and the severity of Covid-19 on the financial market (World Bank, 2020). As for the impact of Covid-19 on the banking sector, the “Global banking M&A outlook H2 2020” report compiled by KPMG, 2020, provides a summary of the business aspects that are mostly

affected by the pandemic such as credit and customer relationship management. Credit management challenges include forcing banks to incorporate other risk parameters and possibly shifting into a different source of income, namely the commission-based income, to mitigate the loss of revenue. Also, due to the decrease in loan quality following the economic slowdown, banks have reduced the tolerance thresholds related to loan loss provisions. As for the consumer relationship, the Covid-19 pandemic has shifted the way consumers interact with banks. With fears of viral spread and contamination, many consumers have reduced their visits to banks in the traditional sense, and shifted to other digital options (Latorre, 2020).

1.1.2 Lebanese Banking Sector

The Lebanese banking sector has several challenges caused by the Covid-19 pandemic as well as the economic crisis in the country. The economic crisis that was inevitable due to years of corruption and misuse of public funds was triggered by the October 17, 2019 uprising that forced the banks to close and take drastic measures including prohibiting money withdrawal from banks in foreign currency. At first, in an effort to restrict the outflow of capital, banks tightened the limits on withdrawals to few hundred dollars per month depending on the bank; however, with the start of the Covid-19 pandemic, banks restricted all foreign currency withdrawals from accounts and imposed limits on local currency withdrawal (Geldi, 2021). In order to raise some capital during the economic crisis, some banks have sold foreign assets. These banks include Lebanon's largest banks in terms of assets, BLOM Bank and Bank Audi. Other drastic measures taken by Lebanese banks include the mass layoff of bank employees along with the closure of bank branches. These efforts aim at reducing costs amidst the growing liquidity crisis in

the country. It is estimated that the number of employees to be laid-off by the end of 2021 will reach 5000 employees, which would escalate the economic crisis in the country (Arnold & Francis, 2021). Even though the downsizing is currently occurring, this creates an opportunity to develop the online digital banking at Lebanon since the latter can be an effective way to cut costs if trust is restored within the Lebanese banking system.

1.2 Theoretical Overview

Different theories that explain consumer satisfaction with online banking services will be presented in this section. The three main areas that will be explored are customer interaction, information systems, and consumer satisfaction.

1.2.1 Customer Interaction

Due to the many challenges that banks face, whether worldwide or in the Lebanese context, banks are searching for ways to mitigate the effects of the economic slowdown and retain customers. Banks use customer interaction as a way to attract new customers while retaining their already existing customers. The concept of customer interaction, the customer engagement model, and the concept of customer relationship management will be explored in this section.

1.2.1.1 Defining Customer Interaction

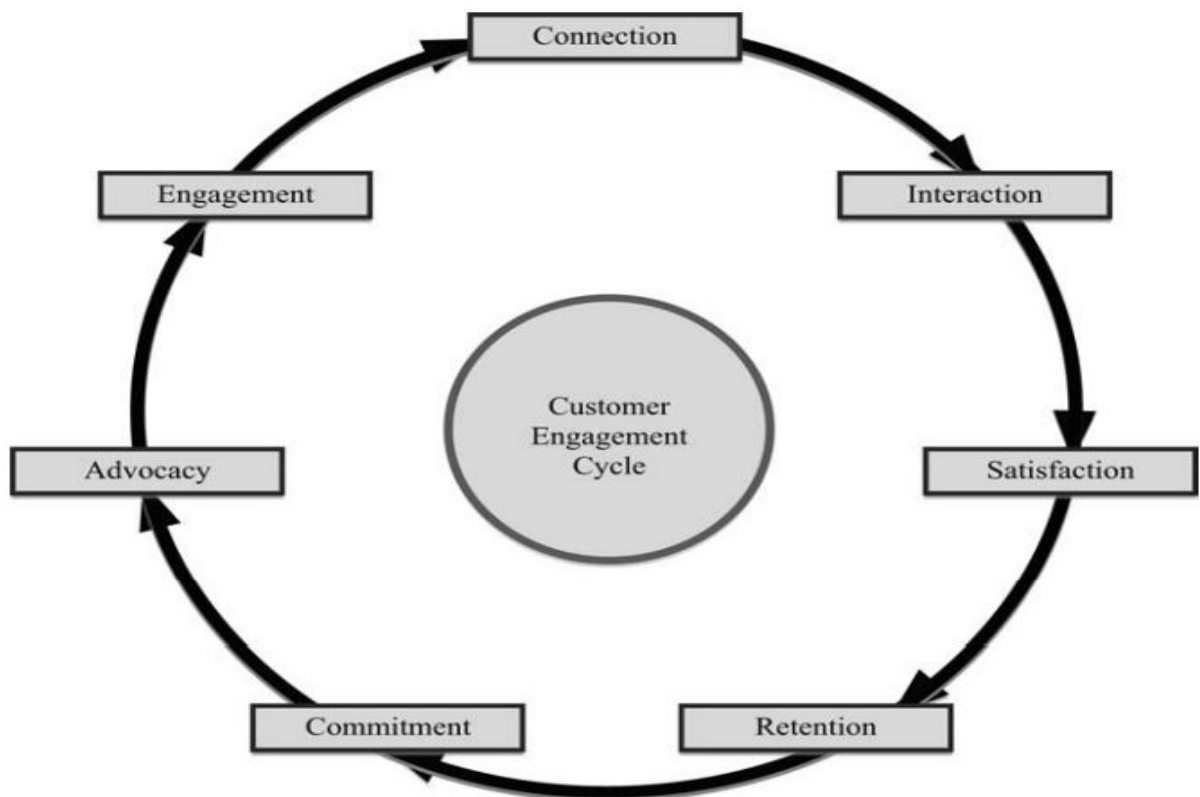
The concept of customer interaction is amongst the most studied topics when it comes to marketing research, and has been discussed from different viewpoints. As described by Hunt (2018) consumer interaction is the process through which the organization and the consumers build relationships through increased brand communication. Consumer interaction helps organizations that aim at strengthening the

bond with the consumers by providing a good user experience. This increases the chances of customer retention, where every interaction that is made between the organization and the consumer provides a change to improve the relationship (Hunt, 2018). Other studies, such as the study conducted by Vargo and Lusch (2006) describe the concept of customer interaction as a process through which the company emphasizes on consumers' needs, and adjusts its product and services according to the preferences of the consumer. The study reiterates the belief that to properly integrate interaction in production, consumer interaction should be a core component. One of the means of consumer interaction is through integrating online services that facilitates the communication between the company and the consumers, as well as conveniently providing services for the consumer (Vargo & Lusch, 2006). Voyles (2007) examined data provided by more than 300 managers in different developed countries such as the United States and European countries, customer interaction was defined as the process through which a bond develops between the consumer and the company over an extended period of time. Another study conducted by Hollebeek (2011) showed that customer interaction can serve as an incentive for customers to have repeated interactions with the brand, developing relationships based on their level of satisfaction with the brand (Hollebeek, 2011). Another definition was presented by Vivek et al. (2012) who describe consumer interaction as a process that can be initiated either by the consumer or by the organization, where different interactions between those two parties evolve to include a relationship that grows on the social level as well as the behavioral level.

1.2.1.2 Customer Engagement Cycle

While the previously cited studies provide practical definitions for the consumer interaction concept, they did not provide a clear framework that would describe the entire dynamics of the concept. Accordingly, Sashi (2012) developed a model that explains the concept of consumer interaction through seven distinct phases making up the entire consumer interaction cycle. This cycle is summarized in the figure below.

Figure 2: Consumer Engagement Cycle



Source: Sashi, 2012

As Figure 2 shows, the proposed model of consumer engagement cycle presented by Sashi (2012) consists of seven cycles, and provides a representation of the steps that

have to be taken in order to have a good relationship with consumers. This relationship will provide the company or the bank with the communication needed in order to improve their products and services and improve the experience of the engaged customers as well as new potential customers.

1.2.1.2.1 Connection

The first step is the connection. It is the basis of the customer interaction given that it has to be present before any interaction with the company. For this connection to take place, it should happen in certain channels, which could be offline, like engaging with salespeople or branches, or online, like engaging on websites or social media. The most notable advantage that online channels provide is the scale at which they operate, enabling the company to reach a large number of customers conveniently and efficiently (Sashi, 2012).

1.2.1.2.2 Interaction

As for interaction, it is the second step in the cycle. This interaction includes the interaction between the customer and the company as well as the interactions between the different customers, all of which play a role in building consumer engagement. This interaction is greatly facilitated by social media platforms, where customers can enjoy interactions without any time and space restrictions. This means that a customer can interact with a certain company through online channels at his or her own convenience. Also, interaction would provide companies with access to consumer review, which would help them adapt their products and services according to the preferences of their customers (Tikkanen et al., 2009).

1.2.1.2.3 Satisfaction

If the connection and interaction between the company and the consumer meets the expectations of the clients, who themselves becomes satisfied with the company, and would tend to keep a connection with it. While satisfaction is an important step towards engagement, it is not enough to build engagement. A study conducted by Firat and Dholakia (2006) shows that companies do not seek consumer satisfaction as an end outcome, but build upon it in order to engage customers and create relationships that would benefit the company on the long run (Firat & Dholakia, 2006). During the purchase process, satisfaction with the interaction between the consumer and the company facilitates the decision to buy, while the lack of satisfaction might terminate the sale. However, satisfaction alone does not translate into repeated purchases.

1.2.1.2.4 Retention

Retention can be achieved through building high positive emotions with the company over extended periods of time. The repeated satisfaction of the consumer that leads to repeated engagements will motivate the consumer to revisit the organization, whether through purchases or repeated engagement on the channels including online channels. The association between satisfaction and retention has been established in many studies, including the study conducted by Gustafsson et al. (2005). The study concluded that as the level of consumer satisfaction increases, consumer retention increases as well (Gustafsson et al., 2005).

1.2.1.2.5 Commitment

The commitment that is built towards a certain company can take two forms, the emotional commitment and the rational commitment. The emotional commitment is a

result of the continuous trust in the rapport between the company and the consumer. On the other hand, the rational commitment is a result of the continued satisfaction with the value and quality of service that is provided by the company. When both factors are included, the customer is said to be committed to the brand (Sashi, 2012).

1.2.1.2.6 Advocacy

In this stage of the consumer engagement cycle as described by Sashi (2012), the customer is already satisfied with the company and is committed to it, ideally through emotional commitment and rational commitment together. At this stage, some customers tend to advocate the brand through word-of-mouth and social media platforms. The advocacy is then reciprocated by the company in a way that companies try to provide their loyal customers with the best products (Nordin, 2009).

1.2.1.2.7 Engagement

Active engagement is the final stage in the consumer engagement cycle. At this stage, consumers and companies have built a strong relationship with each other. At this stage, customers are of great value for companies since they advocate the company within their social circles. When there is strong consumer engagement, consumers can be considered as fans, and would support the company through the successes and failures that might occur (Sashi, 2012).

1.2.1.3 Customer Relationship Management

After discussing the concept of customer interaction and the customer engagement cycle, customer relationship management will be presented as a way to enhance the customer interaction experience. According to Payne and Frow (2005), the use of technology for customer relationship management was first explored in the 90s. The

authors provided a definition for the customer relationship management as the application of a task using digital solutions (Payne & Frow, 2005). Another definition of the concept was presented by Stone and Woodcock (2001) and described it as the collective tools that are used by banks to facilitate the interaction with the customers (Stone & Woodcock, 2001). While there are many definitions for consumer relationship management, all the definitions have certain things in common and converge to the idea of retaining customers and providing a better experience for the existing customers in order to achieve sustainable growth (Tuzhilin, 2012). Other scholars such as Vollmer and Precourt (2008) add that customer relationship management is especially useful in the context of online banking since it presents vital information that banks can use to promote their services, meaning that they are important to increase customer satisfaction and profit (Vollmer & Precourt, 2008). In order to figure out if banks were aware of the importance of proper customer relationship management through online means, Forrester Consulting (2008) conducted a study in which 200 bank executives were surveyed. The study concluded that around 70% of respondents recognize the importance of online means of customer interaction as necessary for growth, with around 40% of them using digital solutions as the primary way to interact with customers (Forrester Consulting, 2008). Since then, these figures have increased showing the importance of proper consumer relationship management in the banking sector (Hamidi & Safareeyeh, 2019).

1.2.1.3.1 Customer Relationship Management in Online Banking

The previous section highlighted the importance of customer relationship management, and showed that the online banking sector has much to gain from proper implementation. That said, banks and customers both profit from the benefits of an

effective consumer relationship management (Reinhold & Alt, 2012). With the emergence of online banking products, banks forfeit some of their control over their customers, and transfer this control to customers themselves. This means that through such communication channels, customers have the ability to interact with the bank as well as with other customers, making information about services available through reviews and impressions, and enabling customers to make informed decisions about the services they choose. This creates a relationship that benefits both the banks and the customers, reaching optimized management through continuous communication and suggestions (Baird & Parasnis, 2011). The purpose of customer relationship management in online banking is thus to create interactions with the consumers that would lead to business relationships (Woodcock, Broomfield, Downer, & Starkey, 2011).

1.2.2 Information Systems

Information systems are the digital structures that are used within organizations in order to provide, organize, and analyze the data in a certain business. Such information systems have key components that interconnect in a flexible way to adapt to the business needs (Khrais, 2019). The components of information systems are:

- Human Resources or People
- Hardware
- Software
- Database
- Network

In order to understand the use of information systems in online banking, a brief overview of information systems will be presented, including the definition, components, and the types of different information systems.

1.2.2.1 Defining Information Systems

There are different definitions for information systems presented by researchers. For instance, Valacich and Schneider (2017) define the concept as the “combination of hardware, software, and telecommunications networks that people build and use to collect, create, and distribute useful data, typically in organizational settings” (Valacich & Schneider, 2017, p. 10). Another proposed definition for the concept is presented by Laudon (2011, p. 4) as the “interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organization” (Laudon, 2011). Both definitions split the concept of information systems into two distinct parts, where they present the components of the information systems at first then clarify the role that these components aim to achieve. In order for organizations such as banks to benefit from a good information system technology, it is important to first understand the components that interact to form the system, as well as the end result that is to be achieved by the system (Bourgeois & Bourgeois, 2014).

1.2.2.2 Components of Information Systems

As previously stated, five key components interact in order to form a successful information system technology that can be used by businesses. The components are the human resources or people, hardware, software, database, and network. All these components are essential for an efficient system.

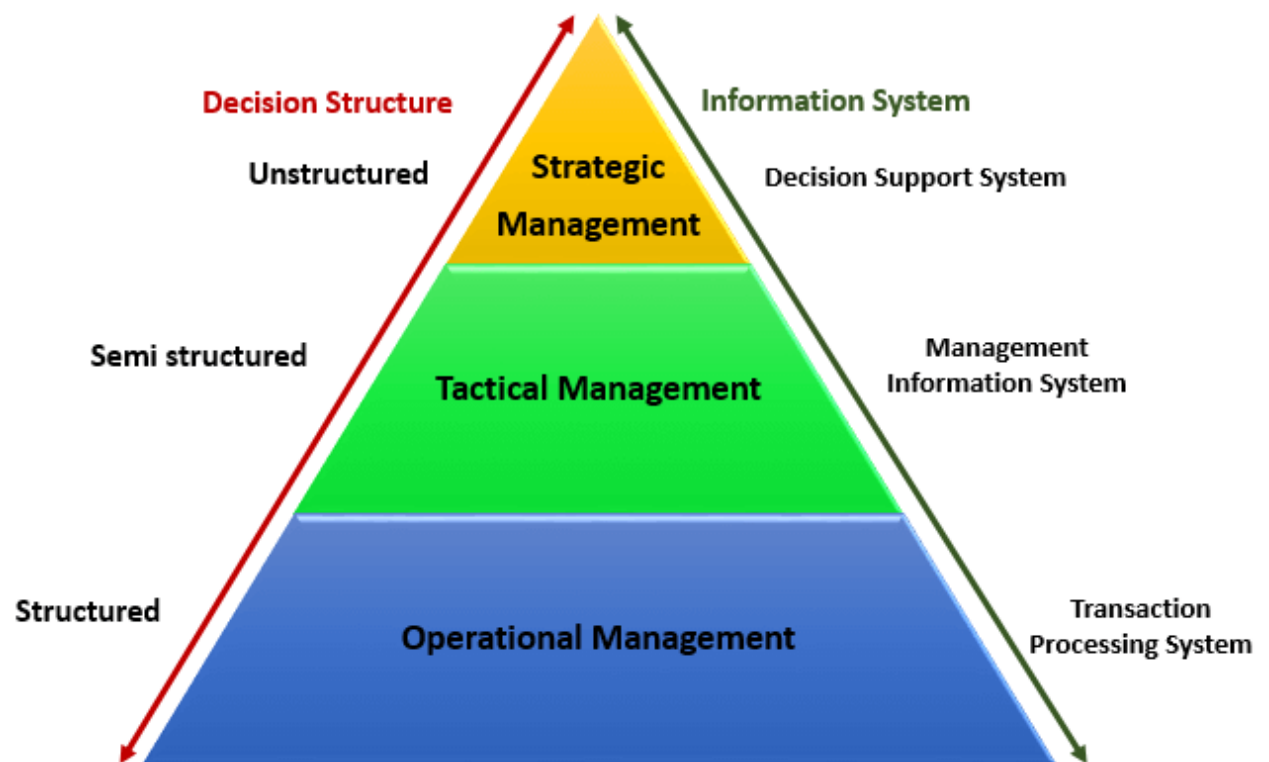
Regarding the human resources or people, it might sometimes be overlooked by companies when installing their information system; however, this component is arguably the most important component, even though it is not part of the technical components of the systems. Human resources are needed to run the information systems and interpret the data in order to optimize the system. To have a functioning and efficient information system, different talents are needed, and they include the customer support workers, the help-desk operators, the analysts, the programmers, and the developers (Bourgeois & Bourgeois, 2014). The hardware component are the physical components of the systems including the processing unit, the hard drives, routers, keyboards, and power supply. These devices enable the system to run, and should always be maintained to keep the system operating and avoid the loss of service (Khrais, 2019). The software component presents the codes that instruct the hardware and can be divided into two types: the operating system software and the application software. In terms of online banking, the operating system software is the software that runs the system and provides the features, while the application software provides the banks and the users with the interface that can be used to access the services (Bourgeois & Bourgeois, 2014). Another component of the information system is the database that holds all the data of the system. This data can be gathered, stored, and retrieved in the database through searches and queries that suits the user's use of it. For instance, users can access their account balances through queries in order to complete certain operations or fulfill transactions. The information that contain the account balance is held in the database, and can only be accessed according to the settings the bank imposes (Gregersen, 2020). The network component links all the previous components together, either through cables or wirelessly. It enables access to the database either through

LAN connection, which is local area connection, or through WAN connection, which is wide area network. All these aspects work together to support the information system, and enable the bank to implement a successful online banking platform with working features (Bourgeois & Bourgeois, 2014).

1.2.2.3 Types of Information Systems

There are different types of operating systems that support different organizational levels. Each level requires different information access in order to complete a specific task.

Figure 3: Types of Information Systems



Source: Rungta, 2021

The first information system type can be found on the operational management level, where most of the processes are already structured, and the system can be used in

order to carry out day-to-day transactions. The implementation of such an information system greatly helps banks in automating the recurrent jobs, and is often used by the tellers. At the operational management level, the decisions are mainly structured, so the tellers are expected to follow the existing rules in order to carry out the transactions. To further explain this, the bank employee can check certain parameters related to the customers in order to find out what the rules allow, and carry out the transactions according to the rules such that his decisions are guided by them (Rungta, 2021).

The next type of information system relates to the tactical management level, is characterized by semi-structural decision-making, and benefits from the information system for management purposes. This information system is typically used by mid-level managers and supervisors to oversee the transactions that happen on the operational management level. In this level, the judgment of the user comes into play, where the manager is expected to understand the predetermined rules of the bank and judge according to the case at hand. For instance, a customer might seek an increase in his or her credit limit. The managers could benefit from the data retrieved from the operational management information system and decide accordingly on whether to grant an increase or not (Rungta, 2021).

Finally, the third type of information system relates to the strategic management level, and it is characterized by unstructured decision structure, and is used as a decision support system. This information system is used by the executives and the senior managers of the bank. At this level, the senior level managers use the information system to apply long-term changes to the bank, so the system does not impose restrictions on this level. As for the decision making process, such senior managers benefit from data from the tactical

management as well as incorporate information from outside the organizations to implement changes that would enhance the overall performance of the bank (Rungta, 2021).

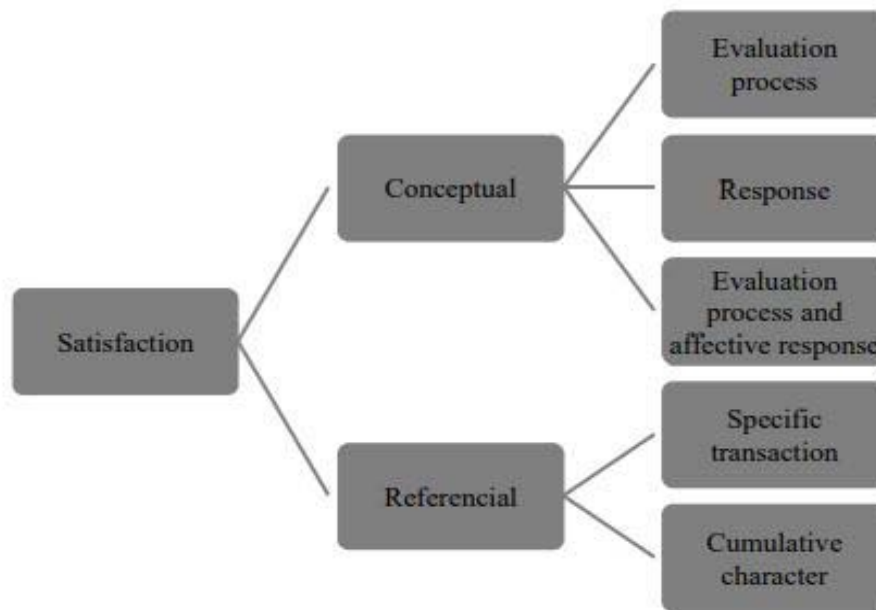
1.2.3 Consumer Satisfaction

Consumer satisfaction is an important indicator of a successful business, which is especially true in the context of the banking industry since it provides banks with a great competitive advantage over its competitors. In such an industry, the banks usually provide very similar services and offer similar national rates, so competing over price or offered products is somehow restricted, making the experience that the customers have with their banks essential to retain customers and attract new customers (Enaworu, Adegboye, & Wara, 2018).

1.2.3.1 Defining Consumer Satisfaction

The concept of consumer satisfaction has been widely studied since its emergence through the works of Cardoza (1965) and Howard and Sheth (1969). Much of the current literature regarding consumer satisfaction refers to these two studies, which are considered pioneering in terms of explaining the concept and its effect on businesses (Campo & Yague, 2009). Two main approaches are used in order to explain consumer satisfaction. The first approach, or the conceptual approach, considers the concept as a set of processes that business can follow to increase satisfaction. The second approach, or the referential approach, considers consumer satisfaction as the effect of the experiences a customer share with the businesses (Giese & Cote, 2000).

Figure 4: Consumer Satisfaction Approaches



Source: Liebana-Cabanillas, Munoz-Leiva, & Rejon-Guardia (2013)

The conceptual approach includes the evaluation process and the response, as well as the two factors combined together. The evaluation process is when the user of the products and services evaluates the benefits of the interaction with the business in terms of anticipations and performance (Giese & Cote, 2000). The response is the effect of the evaluation where the customer compares the efforts done to the rewards obtained, or the anticipations with the performance. The affective response, in contrast, indicates the emotional response that customers experience after engaging with a businesses. These emotions include pleasure, surprise, and dissatisfaction (Liebana-Cabanillas, Munoz-Leiva, & Rejon-Guardia, 2013).

On the other hand, the referential approach includes the specific transaction and the cumulative character. This approach links consumer satisfaction or dissatisfaction directly

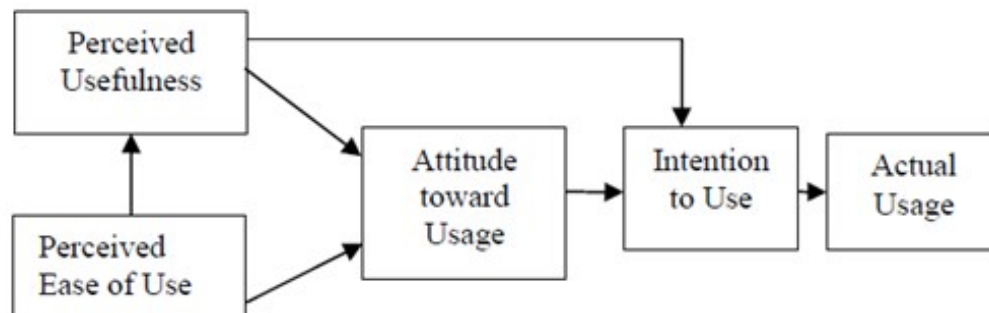
with the outcome of specific interactions. The specific transaction factor can be derived from a certain transaction where the user reflects on the experience directly after it happens. However, the cumulative character describes the overall experience of the customer (Liebana-Cabanillas *et al.*, 2013). The two theories that will be used in order to explain customer satisfaction with online banking are:

- The Technology Acceptance Model
- The DeLone and McLean Information System Success Model

1.2.3.2 Technology Acceptance Model

Proposed by Davis (1985), the Technology Acceptance Model is a model that is considered effective at measuring the degree of adoption of a certain introduced technology in a business (Davis, 1989). This model incorporates the perceived ease of use, the perceived usefulness, and the attitude towards using a technology to predict the system usage.

Figure 5: Original Technology Acceptance Model

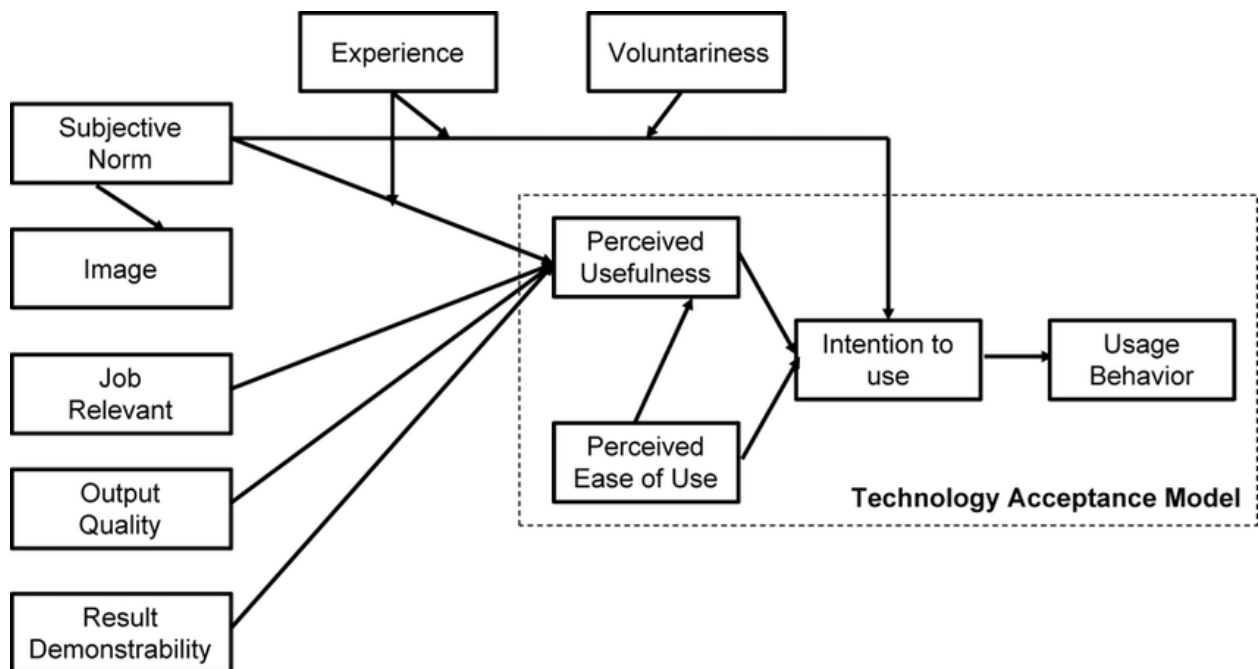


Source: Davis, 1989

Upon revision, the theory was modified multiple times through publications such as that of Legris, Ingham, and Colletette (2003) and Venkatesh and Davis (2000). The most

widely used version of the Technology Acceptance Model is that of Venkatesh and Davis (2000) which omitted the attitude towards usage and incorporated external variables to explain the perceived usefulness and the intention to use. The external variables included were the subjective norm, the image, the job relevance, the output quality, and the result demonstrability. Adding to that, the extended model incorporates the experience and the voluntariness in such a way that experience explains the perceived usefulness and the intention to use, and the voluntariness explains the intention to use (Venkatesh & Davis, 2000).

Figure 6: Modified Technology Acceptance Model



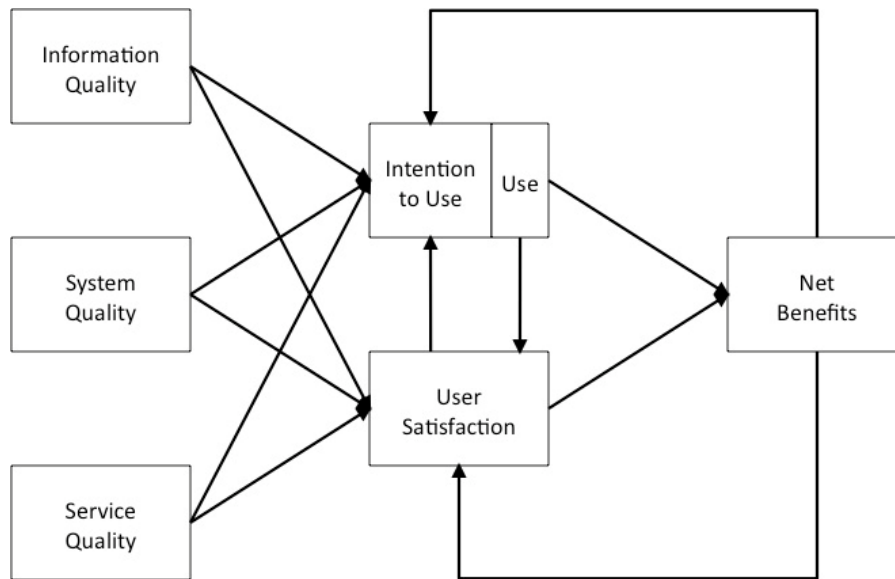
Source: Venkatesh and Davis, 2000

The modified Technology Acceptance Model provided in Figure 5 provides a framework for the model, and has yielded a higher validity and reliability than the original Technology Acceptance Model (Jaradat & Al-Mashaqba, 2014).

1.2.3.3 DeLone and McLean Information System Success Model

The DeLone and McLean Information System Success Model is also a model that can be used to predict the effectiveness of a new information system adoption such as developing and improving the online banking service (DeLone & McLean, 2003). The model links the intention to use and the customer satisfaction and ultimately predicts the benefits of the information system as shown in Figure 6.

Figure 7: DeLone and McLean IS Success Model



Source: Andoh-Baidoo, Villareal, and Liu, 2010

As Figure 6 shows, the factors that are incorporated in the model are the information quality, the system quality, and the service quality. These factors are used to predict the intention to use and the actual usage, as well as the user satisfaction with the information system. The model is used to predict the net benefits of the information system adoption (Andoh-Baidoo, Villarreal, & Liu, 2010).

1.3 Mainstream Literature

Online banking is a service offered by banks to facilitate the banking experience of customers in a way that customers are not forced to physically visit bank branches in order to complete their transactions (Rahi, Ghani, & Ngah, 2019). For banks to successfully implement online banking services, banks need to recognize the factors that make such services attractive for the customers. Past literatures showed that service quality, web design, and privacy and security are three factors that can affect the consumer satisfaction with online banking services (Ling, Fern, Boon, & Huat, 2016; Mutesi, Mutingl, & Ayon, 2016). Dang *et al.* (2020) showed that these factors can be particularly important to build trust towards the online banking platform (Dang, Nguyen, & Pervan, 2020). However, Santa *et al.* (2019) demonstrated that trust in terms of online services is not easy to establish, since it takes time to build but can be lost easily. These results were also obtained by Stouthuysen (2020) showing that banks should not neglect the role of trust in their online services to retain clients (Santa, MacDonald, & Ferrer, 2019; Stouthuysen, 2020).

Other related works include the study by Mbukanma *et al.* (2020) who analyzed the relationship between the knowledge of the client and the rate of usage of an online banking service. Through the literature-dependent analysis, the authors concluded that clients that knew more about the service were more likely to use it more frequently. Their investigation also pointed out to knowledge gap between consumers that banks should aim to reduce to drive traffic for their services (Mbukanma, Chukwuere, & Enwereji, 2020).

Other works include the research done by Sharma and Sharma (2019) that used the Structural Equation Modeling as well as the Neural Network Analysis methods to analyze data from a questionnaire, showing that the intention to use online banking and the

satisfaction with usage contribute to more actual usage of the service. The authors identified different factors that are positively associated with higher intention and satisfaction, including the quality of the information, service, and system, as well as the trust in the online banking service (Sharma & Sharma, 2019).

Adding to that, Casalo *et al.* (2008) showed that consumers are more loyal to banking services that are established and are of good quality. The authors show that past experiences are very important indicators of usage for new services (Casalo, Flavian, & Guinaliu, 2008).

After examining the literature related to the online banking services, different models related to service quality, web design, and privacy and security will be presented to understand how past studies identified those factors.

1.3.1 Service Quality

Service quality is directly related to the user experience in any technological tool, such as online banking. However, service quality can be difficult to measure since it is a subjective construct related to the user perception. For this, there are proposed models that dissect service quality into different attributes in order to estimate it. Such models include the SERVQUAL model, which originally divide service quality into ten attributes, but was later simplified to only include five components (Yuen & Thai, 2015). The attributes of service quality quantified by the SERVQUAL model are:

- Reliability
- Tangibles
- Responsiveness

- Empathy
- Assurance

In the context of the banking industry, studying the service quality is important, and banks seek to enhance their quality to remain competitive and attract new customers (Ali & Raza, 2017). However, critics of the SERVQUAL model claim that it is not suitable for measuring service quality across different industries and given different conditions (Gilmore, 2003). So, other models, including that presented by Kumar *et al.*, 2009, were devised specifically for the banking industry. Kumar *et al.*, 2009, used four dimensions to quantify the service quality, being:

- Tangibility
- Reliability
- Competence
- Convenience

This model can also be used to evaluate the differences in service quality between different banks, and can also handle different types of banks (Kumar, Tat Kee, & Taap Manshor, 2009).

1.3.2 Web Design

Web design relates to the features that the online banking platform provides that are considered attractive for users. Similar to service quality, there are proposed models to measure web design. For instance, Cyr, 2008, proposed a model that included three attributes that measure web design. The attributes considered are:

- Information content

- Navigation design
- Website design

Lee and Koubek, 2010, used a different approach to measure web design in the context of e-commerce and the banking industry. The model proposed by the authors takes into account different attributes for web design. The attributes are:

- Structure
- Layout
- Aesthetics

Another important factor of web design is the usability of the online banking platform. This factor is related to the perceived ease of navigating the platform and the perceived ease of conducting online banking transactions. This factor has been found to relate to the user satisfaction with online platforms in terms of e-commerce and online banking (Flavian, Guinalia, & Gurrea, 2006).

1.3.3 Privacy and Security

As for privacy and security, which are arguably the most important factors when it comes to online banking, and banking in general, they are very important factors for consumer satisfaction with online banking platform. Since online banking deals with sensitive user data and user finances, users expect to have utmost security on the platforms to prevent scams and fraud. When online banking platform have a high level of privacy and security, customer trust increases, contributing to the continuous use of the service (Benamati, Serva, & Fuller, 2010). The risk with online banking is that the transaction happen rapidly without any physical interaction, and fraud in such cases is difficult to

detect and reverse (Cheung & Lee, 2006). Many researches indicated that this factor is the most important determinant of customer satisfaction with online banking (Polasik & Piotr Wisniewski, 2009; Yoon & Steege, 2013).

1.4 Research Question and Conceptual Model

Service quality, web design, and privacy and security are predicted to have a positive effect on the consumer satisfaction in online services, which is also predicted to persist in the context of the banking industry. In order to have a comprehensive study regarding these factors, a quantitative research approach will be used due to its efficient data collection method. Such research method would enable us to gain an insight on how consumers perceive each factor of the online banking through a questionnaire that will be sent to Lebanese consumers. The study will highlight different aspects such as:

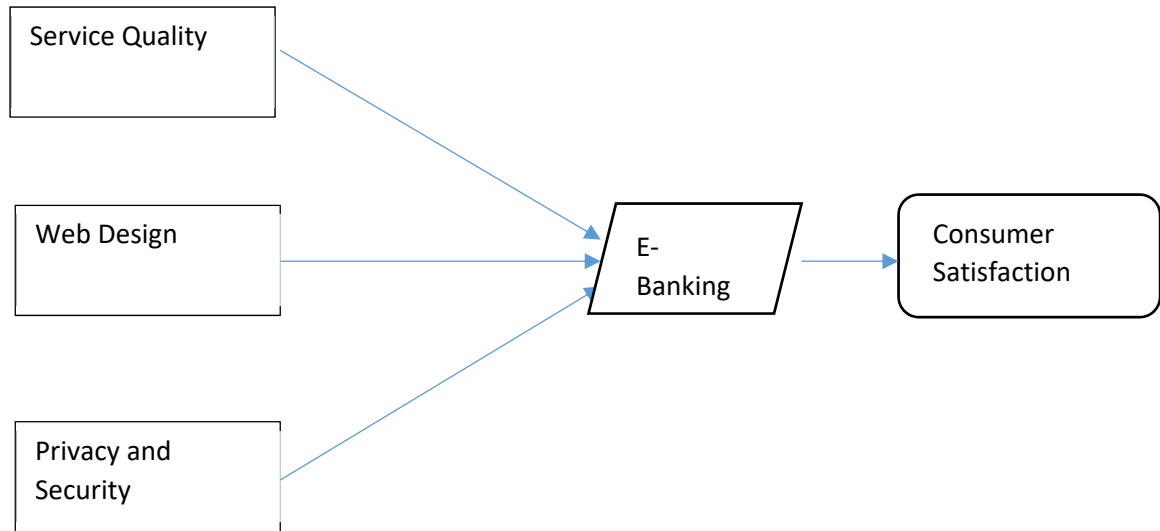
- The identification of different factors affecting consumer satisfaction in online banking
- The classification of the factors by how strong they impact consumer satisfaction

The research question of the study hence is:

What are the factors that affect the consumer satisfaction with online banking services in the Lebanese banking industry?

The following illustration will represent the conceptual framework of the study

Figure 8: Conceptual Framework



Chapter 2: Procedures and Methodology

Introduction

As the primary concern of this study is to identify the factors that affect the consumer satisfaction in online banking, the review of the literature that was conducted in the previous chapter pinpointed three major factors that play an integral role in the customer satisfaction in such online services. These factors were identified to be the service quality, the web design, and the privacy and security. In this thesis, we aim to assess the factors that affect the consumer satisfaction with online banking services in the Lebanese banking industry. The procedures and methodology conducted will be presented in the sections below.

2.1 Hypotheses and Variables

2.1.1 Hypotheses

Based on our research question, three hypotheses are developed:

H1: Service quality has positive effect on consumer satisfaction in online banking services in Lebanon.

H2: Web design affects positively the consumer satisfaction in online banking services in Lebanon.

H3: Privacy and security have positive impact on consumer satisfaction in online banking services in Lebanon.

2.1.2 Selected Variables

After formulating the hypotheses of the study, it is important to identify the variables. The following subsection will present the independent variables as well as the dependent variable of the study.

2.1.2.1 *The Independent Variables*

There are three independent variables for this study, being (1) the service quality, (2) the web design, and (3) the privacy and security. Different indicators were used in this study to measure the independent variables. To measure the service quality in order to analyze the first hypothesis, the indicators were chosen to be:

- Reliability of the online banking service
- Convenience of customer support
- Reputability of the online banking service
- Availability of service updates

To measure the web design variable, the following indicators are chosen:

- Availability of clear interface
- Availability of support information and navigability
- Use of aesthetically pleasing design
- Accessibility of discussion forums

Regarding the third independent variable that relates to the privacy and security, the following indicators were chosen:

- Non-exploitable user information
- Ensuring safety while conducting transaction

- Verification measures
- Availability of notifications for transactions

2.1.2.2 The Dependent Variable

For the three hypotheses presented, the dependent variable was the same, which is the customer satisfaction with the online banking services. To measure this variable, the indicators were chosen to be:

- How pleasant the experience is
- Willingness of users to recommend the service
- The frequency of use
- The value and convenience of the service

2.2 Research Design

This section will explore the methodology used in order to test the presented hypotheses. It includes the data used, the instrumentation, the statistical package used, and the conceptual framework.

2.2.1 Philosophical and Reasoning Approach

In order to conduct the research, the researcher can choose between constructivism and positivism. Constructivism research philosophy is based on the subjective opinions of the author, whereas positivism research philosophy interprets data and concludes accordingly.

This research will utilize the positivism research philosophy, benefiting from the primary and secondary data that will be collected throughout the research. The obtained data will be analyzed in order to draw conclusions regarding the extent to which certain

factors affect the consumer satisfaction with online banking platform in the context of Lebanese banks. The research presents clear hypotheses, which will either be validated or rejected after analyzing the data that will be obtained from Lebanese users of banking services.

As for the reasoning type, again, the researcher has different options. The research could follow a deductive or an inductive reasoning type. The deductive reasoning type assumes certain hypotheses and tries to prove whether they apply or not. The inductive reasoning type does not delve into theory, but rather tries to draw patterns and assumptions from existing phenomena. The deductive reasoning type is suitable for this study since the primary aim is to determine consumer behavior aspects of the Lebanese users of online banking services. So, the research would analyze the data related to the consumer behavior, and draw conclusions that will answer the hypotheses presented.

2.2.2 Research Method

As for the type of analysis, the research could use either a quantitative approach or a qualitative approach. The quantitative approach tries to answer the research question through focused interviews or one-on-one meetings, aiming at getting an in-depth overview of the opinion of experts. As for the qualitative approach, the research gathers data differently, through obtaining data from a large sample using a questionnaire. This is suitable when the research is constraint by time, as it requires little time to gather a large amount of data. Therefore, this thesis will follow a quantitative research in order to get an insight on consumer behavior aspects of the Lebanese consumers efficiently.

2.2.3 Survey Method and Questionnaire Design

As already mentioned, the research strategy will be using a survey that will be disseminated among different Lebanese users of online banking services. A survey, rather than a case study, will be suitable for collecting a very large sample with minimal use of resources like time and money. Regarding time, the survey could be sent to a large number of Lebanese consumers. As for money, the process is inexpensive since it can be done digitally, as the questionnaire could be filled out digitally and sent out using social media platforms to people without having to commute. This is a particularly convenient method since the Covid-19 pandemic has made it very hard to physically collect data, which is something that can be easily avoided through sending the digital questionnaire. The questionnaire contains closed ended questions that cover the data concerning the demographics, as well as questions following the Likert 5-point scale to measure the variables, with answers ranging from strongly disagree to strongly agree. As the study deals with three independent variables and a dependent variable, the questionnaire contains four sections each dedicated to one of the variables. The table below summarizes the questions used to measure the variables. Adding to that, the full questionnaire used will be included in the appendix at the end of the study.

Table 1: Questionnaire Structure

Section	Question	Question	Type of Scale
Demographics	1	Gender	Nominal
	2	Age	Ordinal
	3	Online banking use	Nominal
	4	Mobile banking use	Nominal
	5	Online banking use duration	Ordinal
	6	Mobile banking use duration	Ordinal
Service Quality	7	Reliability of service	Likert
	8	Availability of customer support	Likert
	9	Reputability of service	Likert
	10	Updates of service	Likert
Web Design	11	Clear interface	Likert
	12	Navigability of service	Likert
	13	Aesthetic attractiveness of service	Likert
	14	Discussion features	Likert
Privacy and Security	15	Exploitability of service	Likert
	16	Safety of service	Likert
	17	Verification process	Likert
	18	Notification features	Likert
Customer Satisfaction	19	Pleased with service	Likert
	20	Recommend service for others	Likert
	21	Frequency of use	Likert
	22	Value and convenience of service	Likert

2.3 Data Collection

2.3.1 Population description and sampling technique

Given that this study will follow a quantitative research approach, it will benefit from primary data collected through sending questionnaires to Lebanese consumers. Since the research question deal with the consumer behavior of Lebanese bank customers, the random snowball sampling method will be used. This method consists of sending a questionnaire to random respondents and asking them to snowball the data collection through sending it to their peers. This method presents various advantages, such as creating a chain of referrals that enable the collection from a large sample, being cost-effective, and requiring fewer planning and easy execution. As mentioned in the previous subsection, restrictions imposed by the Covid-19 pandemic necessitated that the study undertakes a sampling technique that could be done remotely, making this technique very suitable for this study. The next chapter will include the descriptive statistics that summarizes the obtained data, showing the demographic characteristics of the sample.

2.3.2 Data Collection Tools and Statistical Package

To complete the study, the questionnaire was created using Google forms software, which provides a link that can be sent through emails or social media websites. The link was copied and sent to the respondents of the study.

After the completion of the data collection, the data was exported as an excel file and inputted in the SPSS statistical software version 26.0 to complete the data analysis. This software was chosen due to its efficient and reliable analysis. Adding to that, SPSS is a very secure software, offering strong data protection and security protocols, which is suitable for the study. As for the questionnaire, it consists of 5 different sections, three of

which representing the independent variables measured through the 5-point Likert scale, and one section representing the dependent variable also measured through the 5-point Likert scale. Adding to that, the demographics section will be explored in order to obtain the descriptive statistics of the study. Regression analysis will be used to identify the relationships between explanatory variables and our main dependent variable.

2.3.3 Sample Description

The population was selected at random from acquaintances, which were motivated to send the questionnaire themselves to their friends. The sampling technique is thus the snowball sampling, where the participants recruit additional participants to fill the questionnaire. This technique is efficient at obtaining large sample sizes in a time-effective way. The sample size was 236 respondents. The sample consists of Lebanese users above the age of 18. In order to have objective results, the sample will be randomly chosen from different geographical regions in Lebanon, since the demographics and the experience of users from different regions might differ.

Conclusion

To sum it up, this chapter introduced the methodology that will be used throughout this research. It presented the formulation of the hypotheses, the different variables used, and the research methodology of the study. The subsequent chapter will present the results of the statistical analysis, showing whether the hypotheses were supported or rejected.

Chapter 3: Results and Analysis

Introduction

This chapter presents the various results obtained by following the methodology presented in the previous chapter. It presents the research framework used, the output of the analysis, which includes the descriptive statistics and the hypotheses testing, and outputs, as well as a discussion of the results. The chapter also includes a conclusion that summarizes the findings of this chapter.

3.1 Research Framework

The research framework that was implemented for this study includes providing an overview of the sample obtained through the descriptive statistics. This section familiarizes the reader with the various characteristics of the sample, including their demographics and history of usage of mobile banking platforms. In order to identify the reliability of the scale used, reliability analysis was done, through using the test of Cronbach's Alpha. This test verifies that the scale that was used is reliable, and identifies whether there are certain factors that should be excluded, as they do not have adequate internal consistency with the other variables. The results of the reliability statistics will be presented in the next section of this chapter. Cronbach's Alpha values higher than 0.6 are considered reliable, and would be accepted values for a highly reliable scale. After checking the reliability of the scale, the inferential statistics were conducted, through a simple linear regression to identify how the different factors of online banking relate to the consumer satisfaction with the online banking service. The tests also include a multiple linear regression analysis, as well as the analysis of coefficients and the scatter plots that show the relationships.

3.2 Output and Analysis

This section includes the results of the analysis of the data. It will first present the descriptive statistics of the responses, followed by the reliability statistics of the scale and the output of the statistical analysis.

3.2.1 Sample Characteristics

The sample obtained by following the survey consisted of 236 respondents. The descriptive statistics summarizing the sample will be provided in the tables and figures below.

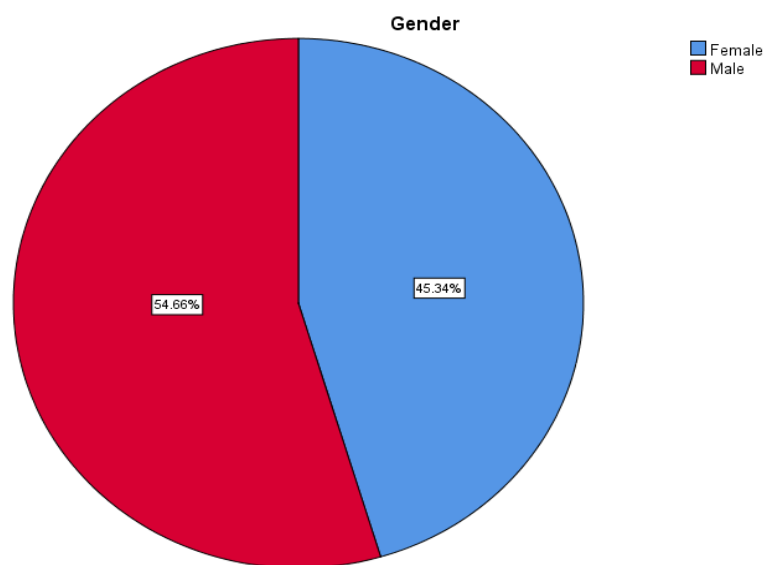
Table 2: Gender of Respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	107	45.3	45.3	45.3
	Male	129	54.7	54.7	100.0
	Total	236	100.0	100.0	

Source: Own Author Elaboration (2022)

Table 2 provides the gender distribution of the sample, where 45.3% consisted of females and 54.7% consisted of males. The pie chart of the gender distribution is provided in Figure 1 below.

Figure 9: Gender of Respondents

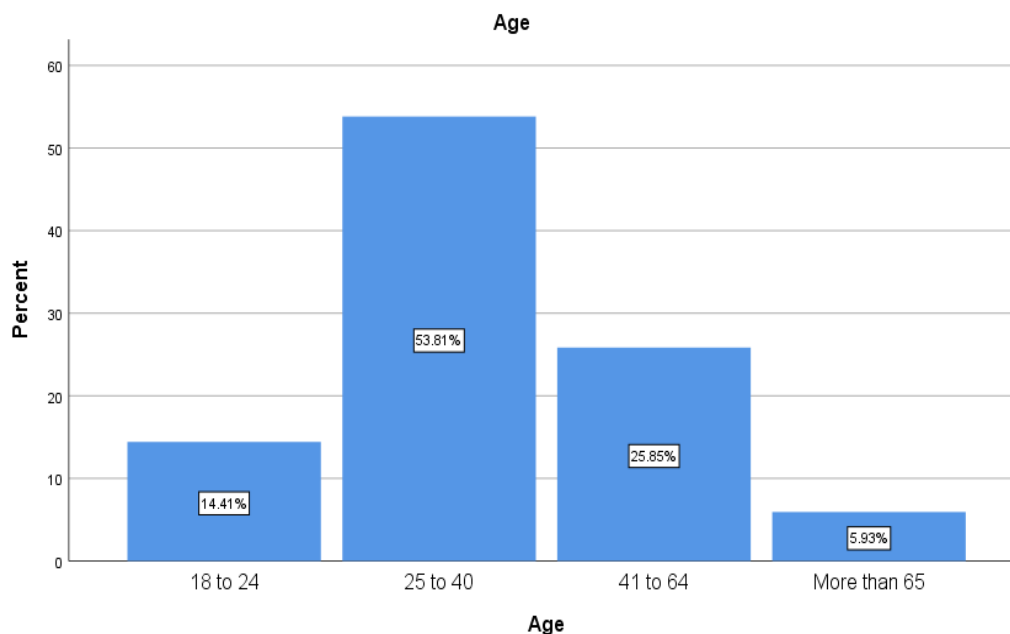
Source: Own Author Elaboration (2022)

Table 3: Age of Respondents

<i>Age</i>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 24	34	14.4	14.4	14.4
	25 to 40	127	53.8	53.8	68.2
	41 to 64	61	25.8	25.8	94.1
	More than 65	14	5.9	5.9	100.0
	Total	236	100.0	100.0	

Source: Own Author Elaboration (2022)

Table 3 provides the age distribution of the sample, where 14.4% of the sample were between the ages of 18 and 24, 53.8% were between the ages of 25 and 40, 25.8% were between the ages of 41 and 64, and 5.9% were aged above 65. The pie chart of the age distribution is provided in the figure below.

Figure 10: Age of Respondents

Source: Own Author Elaboration (2022)

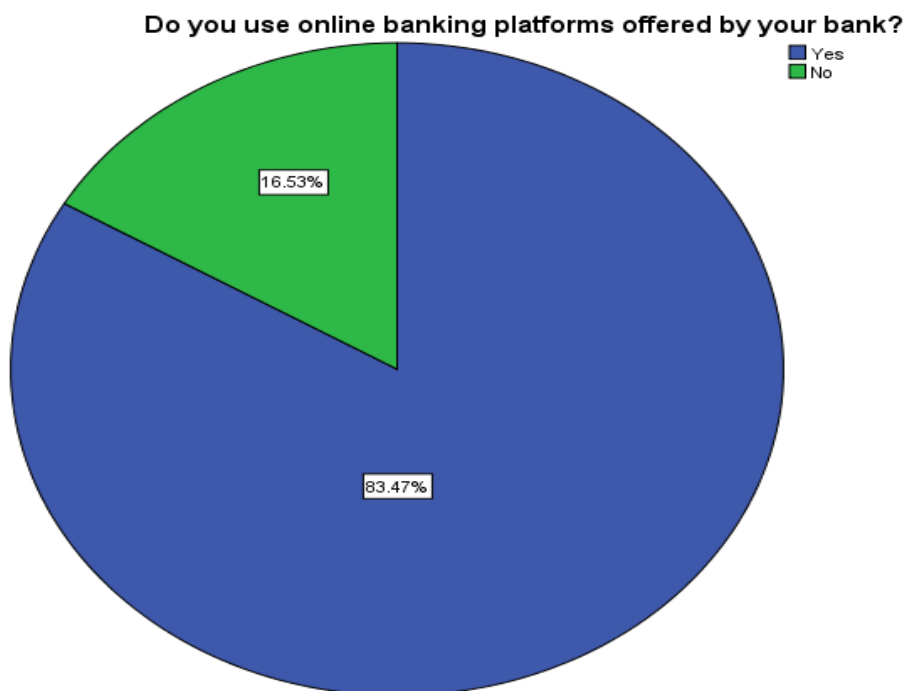
Table 4: Online Banking Usage

Do you use online banking platforms offered by your bank?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	197	83.5	83.5	83.5
	No	39	16.5	16.5	100.0
	Total	236	100.0	100.0	

Source: Own Author Elaboration (2022)

Table 4 shows the online banking usage habits of the sample, where 83.5% were already using the service and 16.5% did not. This shows that the sample is reliable since the large majority of the respondents are indeed using online banking services. The pie chart of the online banking usage is provided in the figure below.

Figure 11: Online Banking Usage

Source: Own Author Elaboration (2022)

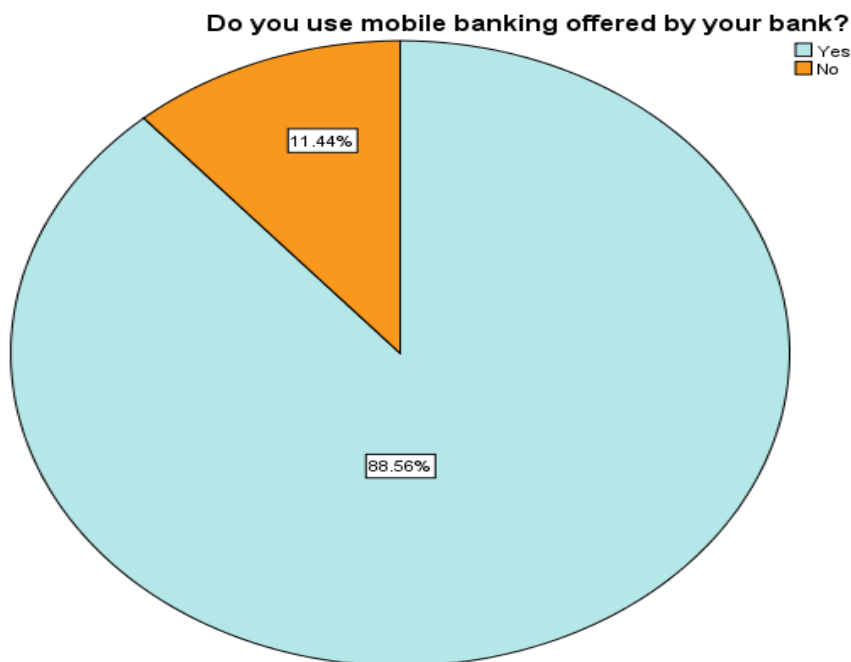
Table 5: Mobile Banking Usage

Do you use mobile banking offered by your bank?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	209	88.6	88.6	88.6
	No	27	11.4	11.4	100.0
Total		236	100.0	100.0	

Source: Own Author Elaboration (2022)

Table 5 shows the mobile banking usage of the sample, where 88.6% of respondents already used mobile banking services and 11.4% did not. Again, this result corroborates with the previous finding in Table 4 and shows that the majority of the respondents are indeed using mobile banking services. The pie chart of the mobile banking distribution is provided in the figure below.

Figure 12: Mobile Banking Usage

Source: Own Author Elaboration (2022)

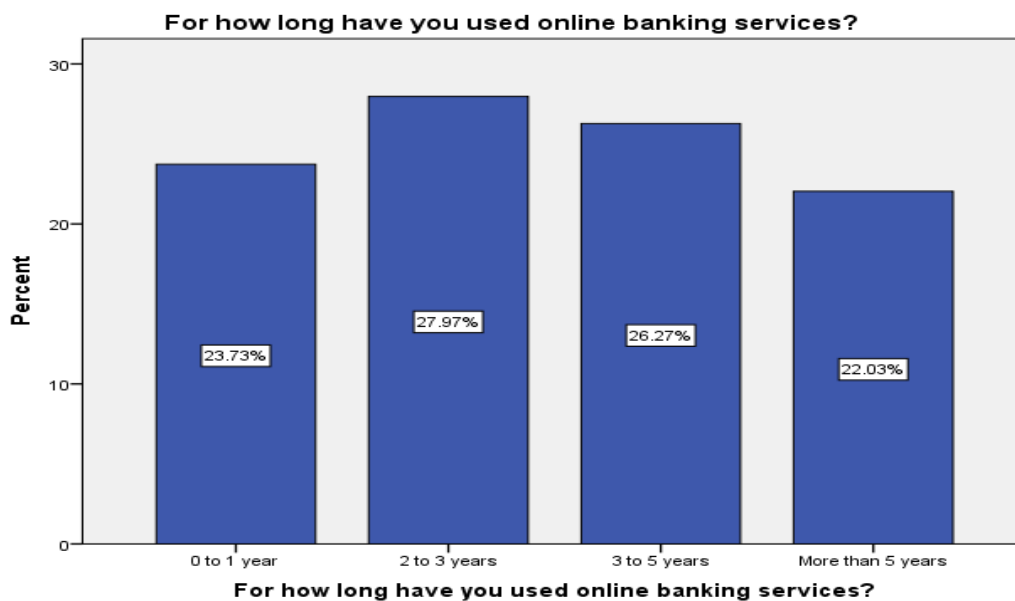
Table 6: Online Banking Usage Duration

For how long have you used online banking services?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 to 1 year	56	23.7	23.7	23.7
	2 to 3 years	66	28.0	28.0	51.7
	3 to 5 years	62	26.3	26.3	78.0
	More than 5 years	52	22.0	22.0	100.0
	Total	236	100.0	100.0	

Source: Own Author Elaboration (2022)

Table 6 shows the duration of online banking usage of the sample, where 23.7% of respondents used the service for less than a year, 28% used the service between 1 year and 2 years, 26.3% used the service for 3 to 5 years, and 22% used the service for more than 5 years. The bar chart of the usage duration is provided in the figure below.

Figure 13: Online Banking Usage Duration

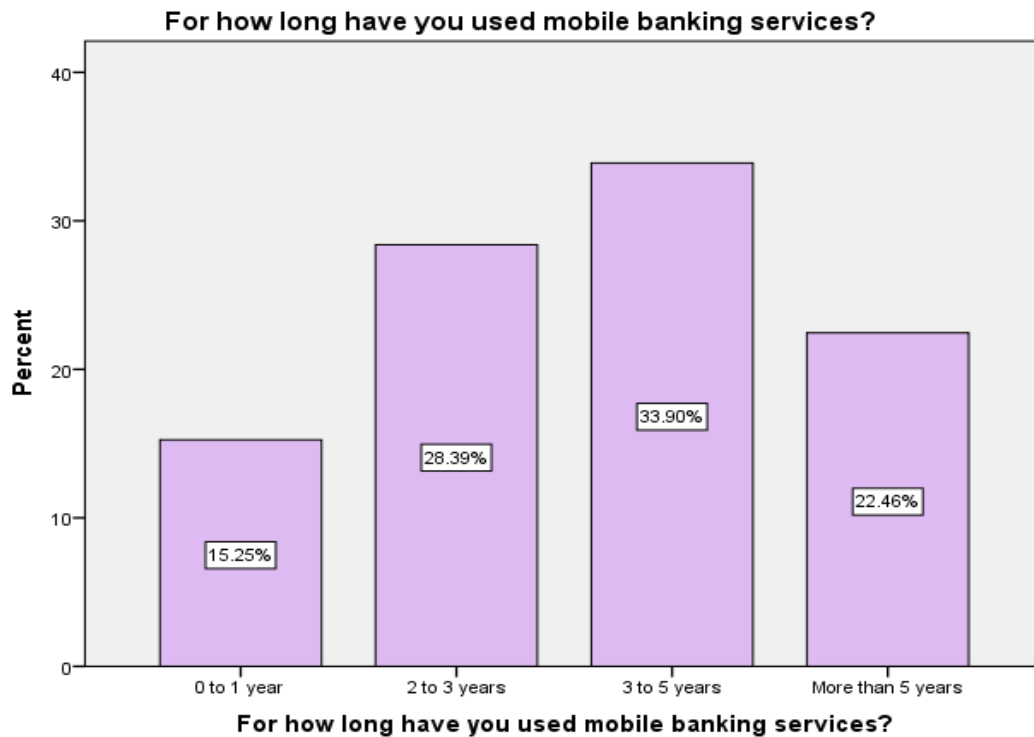
Source: Own Author Elaboration (2022)

Table 7: Mobile Banking Usage Duration

For how long have you used mobile banking services?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 to 1 year	36	15.3	15.3	15.3
2 to 3 years	67	28.4	28.4	43.6
3 to 5 years	80	33.9	33.9	77.5
More than 5 years	53	22.5	22.5	100.0
Total	236	100.0	100.0	

Table 7 shows the mobile banking usage duration of the sample, where 15.3% used the service for less than a year, 28.4% used the service for between 2 and 3 years, 33.9% used the service between 3 to 5 years, and 22.5% used the service for more than 5 years. The bar chart showing the mobile banking usage duration is provided in the figure below.

Figure 14: Mobile Banking Usage Duration

Source: Own Author Elaboration (2022)

3.2.2 Reliability Statistics

In order to ensure that the scale that was used is reliable, tests of reliability are conducted. The test that is used to test the reliability of the scale in this study is the Cronbach's Alpha. Factors with Cronbach's Alpha values lower than 0.6 will be rejected for their lack of reliability in measuring the variable, while factors with Cronbach's Alpha values higher than 0.6 will be considered reliable for the study.

3.2.2.1 Scale: Service quality

The table below provides the reliability statistics of the factor “service quality”.

Table 8: Reliability Statistics for Service Quality

Reliability Statistics

Cronbach's Alpha	N of Items
.859	4

Source: Own Author Elaboration (2022)

Table 9: Item-Total Statistics for Service Quality

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q7	11.06	5.699	.644	.846
Q8	10.93	5.429	.731	.809
Q9	10.90	5.556	.791	.788
Q10	10.87	5.664	.661	.839

Source: Own Author Elaboration (2022)

The service quality factor with four items (or questions) shows a very good internal consistency with a Cronbach alpha of 0.859.

3.2.2.2 Scale: Web design

The table below provides the reliability statistics for the factor “web design”.

Table 10: Reliability Statistics for Web Design

Reliability Statistics

Cronbach's Alpha	N of Items
.818	4

Source: Own Author Elaboration (2022)

Table 11: Item-Total Statistics for Web Design

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q11	10.85	6.493	.623	.779
Q12	10.80	6.214	.704	.744
Q13	10.87	5.848	.740	.723
Q14	11.18	5.962	.527	.837

Source: Own Author Elaboration (2022)

The web design factor with four items shows a very good internal consistency with a Cronbach alpha of 0.818.

3.2.2.3 Scale: Privacy and security

The table below provides the reliability statistics for privacy and security.

Table 12: Reliability Statistics for Privacy and Security

Reliability Statistics	
Cronbach's Alpha	N of Items
.815	4

Source: Own Author Elaboration (2022)

Table 13: Item-Total Statistics for Privacy and Security

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q15	11.57	6.127	.563	.802
Q16	11.27	5.645	.672	.750
Q17	11.23	5.984	.669	.754
Q18	11.22	5.770	.642	.765

The privacy and security factor with four items shows a very good internal consistency with a Cronbach alpha of 0.815.

3.2.2.4 Scale: Satisfaction with online banking

The table below provides the reliability statistics for customer satisfaction with online banking.

Table 14: Reliability Statistics for Customer Satisfaction with Online Banking

Reliability Statistics	
Cronbach's Alpha	N of Items
.905	4

Source: Own Author Elaboration (2022)

Table 15: Item-Total Statistics for Customer Satisfaction with Online Banking

	Item-Total Statistics			
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q19	11.57	6.919	.759	.886
Q20	11.40	6.837	.804	.871
Q21	11.41	6.642	.810	.868
Q22	11.39	6.893	.771	.882

Source: Own Author Elaboration (2022)

The satisfaction with online banking factor with four items shows a very good internal consistency with a Cronbach alpha of 0.905.

3.2.3 Inferential Statistics

3.2.3.1 Simple Linear Regression

A simple linear regression was conducted to test the correlation and coefficients between the dependent variable satisfaction with online banking and each independent variable: service quality, web design and privacy & security. Scale scores were created by summing the items related to each scale.

H1: Service quality has positive effect on consumer satisfaction in online banking services in Lebanon

Table 16: H1 Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation	N
Satisfaction with online banking	15.25	3.429	236
Service quality	14.58	3.080	236

Source: Own Author Elaboration (2022)

The mean score of satisfaction with online banking is 15.25 with a SD of 3.429, while mean score of service quality was 14.58 with a SD of 3.080.

Table 17: H1 Correlations

Correlations

		Satisfaction with online banking	Service quality
Pearson Correlation	Satisfaction with online banking	1.000	.686
	Service quality	.686	1.000
Sig. (1-tailed)	Satisfaction with online banking	.	.000
	Service quality	.000	.
N	Satisfaction with online banking	236	236
	Service quality	236	236

Source: Own Author Elaboration (2022)

The correlation between the two variables was strong positive and significant, $r=0.686$, $\text{sig}<0.05$.

Table 18: H1 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.686 ^a	.470	.468	2.501

a. Predictors: (Constant), Service quality

Source: Own Author Elaboration (2022)

The r-square is 0.470; this means that 47% of satisfaction was explained by service quality.

Table 19: H1 ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1299.291	1	1299.291	207.751	.000 ^b
	Residual	1463.455	234	6.254		
	Total	2762.746	235			

a. Dependent Variable: Satisfaction with online banking

b. Predictors: (Constant), Service quality

Source: Own Author Elaboration (2022)

The ANOVA table shows that there is a significant model, $F(1, 234) = 207.751$, $\text{sig} < 0.05$.

Table 20: H1 Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.120	.789		5.219	.000
	Service quality	.763	.053	.686	14.414	.000

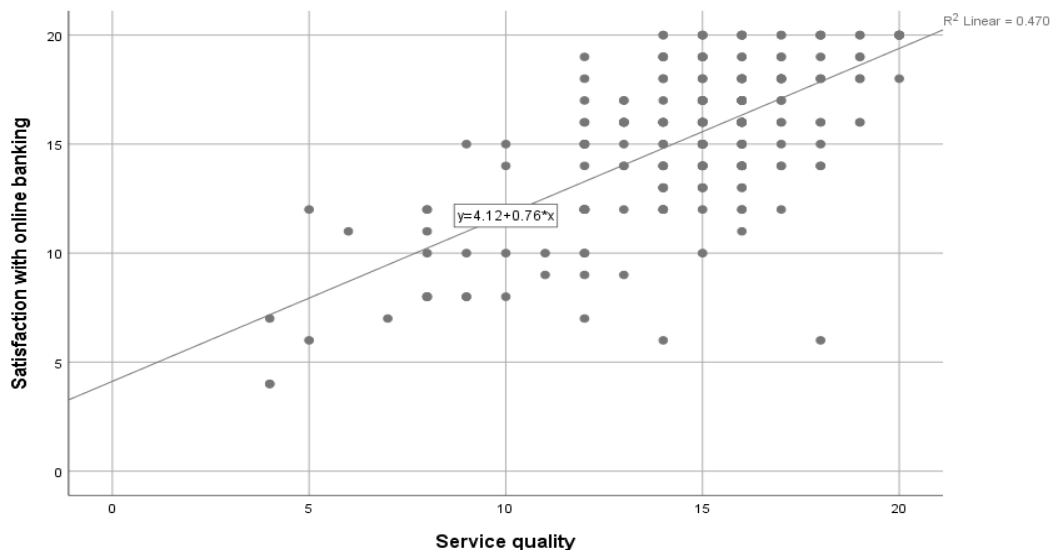
Source: Own Author Elaboration (2022)

Dependent Variable: Satisfaction with online banking

The coefficients table shows that when service quality increase by one unit, satisfaction with online banking increase by 0.763, $\text{sig} < 0.0001$.

$$Y = 4.120 + 0.763 * \text{Service quality}$$

We conclude that high service quality positively correlates to high satisfaction with online banking.

Table 21: H1 Scatter Chart

Source: Own Author Elaboration (2022)

H2: Web design affects positively the consumer satisfaction in online banking services in Lebanon

Table 22: H2 Descriptive Statistics

<i>Descriptive Statistics</i>			
	Mean	Std. Deviation	N
Satisfaction with online banking	15.25	3.429	236
Web design	14.57	3.205	236

Source: Own Author Elaboration (2022)

The mean score of satisfaction with online banking is 15.25 with a SD of 3.429, while mean score of web design was 14.57 with a SD of 3.205.

Table 23: H2 Correlations
Correlations

		Satisfaction with online banking	Web design
Pearson Correlation	Satisfaction with online banking	1.000	.679
	Web design	.679	1.000
Sig. (1-tailed)	Satisfaction with online banking	.	.000
	Web design	.000	.
N	Satisfaction with online banking	236	236
	Web design	236	236

Source: Own Author Elaboration (2022)

The correlation between the two variables was strong positive and significant, $r=0.679$, $sig<0.05$

Table 24: H2 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.679 ^a	.461	.458	2.523

a. Predictors: (Constant), Web design

Source: Own Author Elaboration (2022)

The r-square is 0.461; this means that 46.1% of satisfaction was explained by web design.

Table 25: H2 ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1272.941	1	1272.941	199.938	.000 ^b
	Residual	1489.805	234	6.367		
	Total	2762.746	235			

a. Dependent Variable: Satisfaction with online banking

b. Predictors: (Constant), Web design

Source: Own Author Elaboration (2022)

The ANOVA table shows that there is a significant model, $F(1,234)=199.938$, $sig<0.05$.

Table 26: H2 Coefficients*Coefficients^a*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.675	.766		6.104	.000
	Web design	.726	.051	.679	14.140	.000

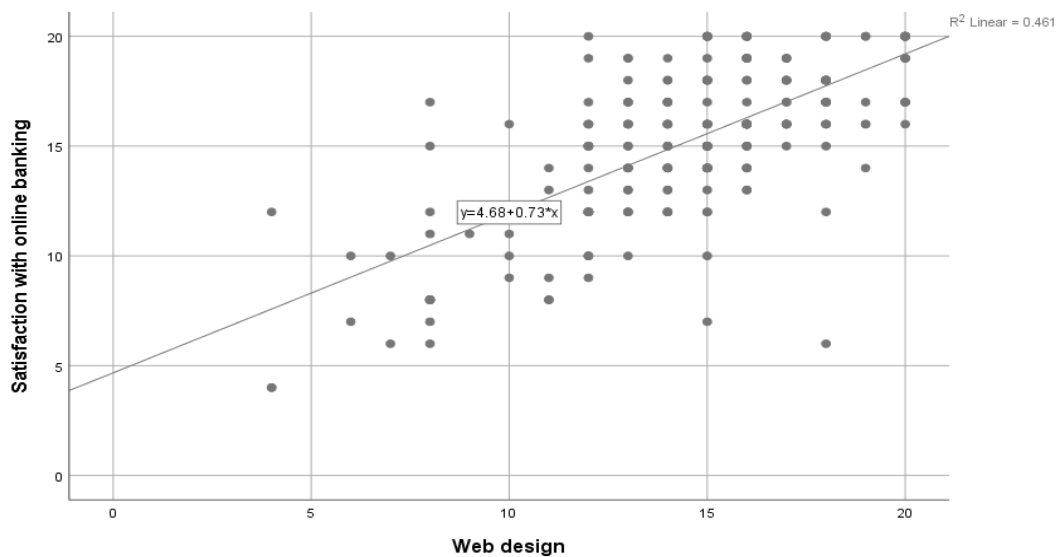
a. Dependent Variable: Satisfaction with online banking

Source: Own Author Elaboration (2022)

The coefficients table shows that when web design increase by one unit, satisfaction with online banking increase by 0.726, sig<0.0001

$$Y=4.675+0.726*\text{web design}$$

We conclude that high web design positively correlates to high satisfaction with online banking.

Table 27: H2 Scatter Plot

Source: Own Author Elaboration (2022)

H3: Privacy & security have positive impact on consumer satisfaction in online banking services in Lebanon

Table 28: H3 Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation	N
Satisfaction with online banking	15.25	3.429	236
Privacy & security	15.10	3.138	236

Source: Own Author Elaboration (2022)

The mean score of satisfaction with online banking is 15.25 with a SD of 3.429, while mean score of privacy and security was 15.10 with a SD of 3.138.

Table 29: H3 Correlations

Correlations

		Satisfaction with online banking	Privacy & security
Pearson Correlation	Satisfaction with online banking	1.000	.723
	Privacy & security	.723	1.000
Sig. (1-tailed)	Satisfaction with online banking	.	.000
	Privacy & security	.000	.
N	Satisfaction with online banking	236	236
	Privacy & security	236	236

Source: Own Author Elaboration (2022)

The correlation between the two variables was strong positive and significant, $r=0.723$, $sig<0.05$.

Table 30: H3 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.723 ^a	.523	.521	2.374

a. Predictors: (Constant), Privacy & security

Source: Own Author Elaboration (2022)

The r-square is 0.523; this means that 52.3% of satisfaction was explained by privacy and security.

Table 31: H3 ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1443.840	1	1443.840	256.166	.000 ^b
	Residual	1318.905	234	5.636		
	Total	2762.746	235			

a. Dependent Variable: Satisfaction with online banking

b. Predictors: (Constant), Privacy & security

Source: Own Author Elaboration (2022)

The ANOVA table shows that there is a significant model, $F(1,234) = 256.166$, $\text{sig} < 0.05$.

Table 32: H3 Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.331	.761		4.377	.000
	Privacy & security	.790	.049	.723	16.005	.000

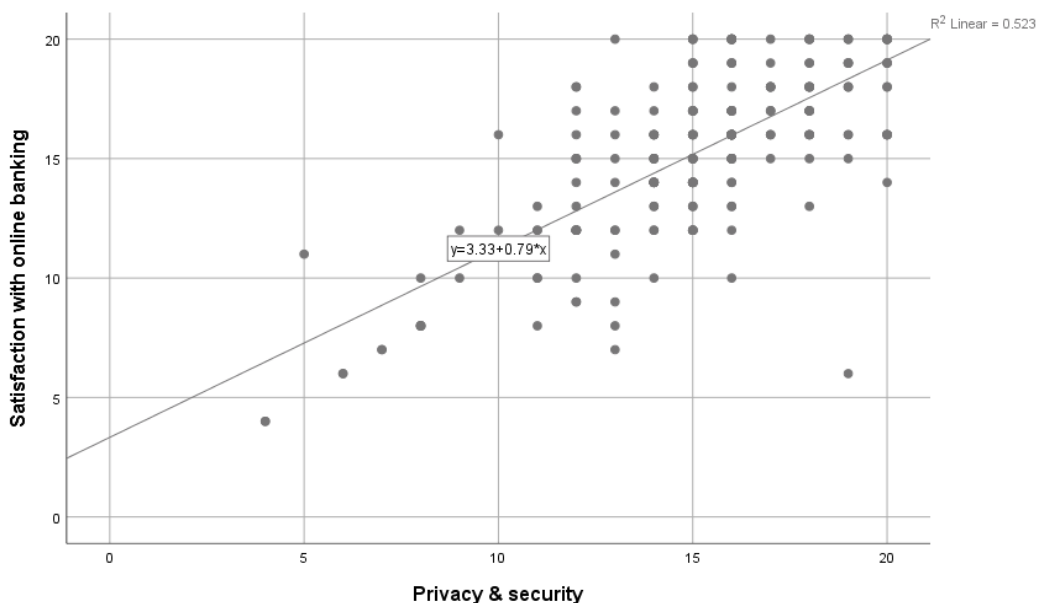
a. Dependent Variable: Satisfaction with online banking

Source: Own Author Elaboration (2022)

The coefficients table shows that when privacy and security increase by one unit, satisfaction with online banking increase by 0.790, $\text{sig} < 0.0001$.

$$Y = 3.331 + 0.790 * \text{privacy \& security}$$

We conclude that high privacy & security positively correlates to high satisfaction with online banking.

Table 33: H3 Scatter Plot

Source: Own Author Elaboration (2022)

3.2.3.2 Multiple Linear Regression

This section provides a multiple linear regression in order to test the correlations of the study.

Table 34: Multiple Linear Regression Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778 ^a	.606	.601	2.167

a. Predictors: (Constant), Privacy & security, Service quality, Web design

Source: Own Author Elaboration (2022)

The r-square is 0.606; this means that 60.6% of satisfaction was explained by independent variables.

Table 35: Multiple Linear Regression ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1673.197	3	557.732	118.759	.000 ^b
	Residual	1089.548	232	4.696		
	Total	2762.746	235			

a. Dependent Variable: Satisfaction with online banking

b. Predictors: (Constant), Privacy & security, Service quality, Web design

Source: Own Author Elaboration (2022)

The ANOVA table shows that there is a significant model, $F(3,232) = 118.759$, $\text{sig} < 0.05$.

Table 36: Multiple Linear Regression Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.253	.756		1.658	.099
	Service quality	.311	.070	.279	4.416	.000
	Web design	.205	.072	.191	2.845	.005
	Privacy & security	.430	.070	.393	6.183	.000

a. Dependent Variable: Satisfaction with online banking

Source: Own Author Elaboration (2022)

The coefficients table shows that when privacy and security increase by one unit, satisfaction with online banking increase by 0.430, $\text{sig} < 0.0001$; when service quality increases by one unit, satisfaction with online banking increase by 0.311 and when web design increases by one unit, satisfaction with online banking increase by 0.205.

$$Y=1.253+0.311*\text{service quality} +0.205*\text{web design} +0.430*\text{privacy\&security}$$

Based on the results presented above, we reject the null hypotheses and we can conclude that all independent variables increase positively and significantly the satisfaction with online banking.

3.3 Discussion

Regarding the results obtained, the statistical analysis shows that there exist a positive and significant relationship between the service quality of the online banking platform and the consumer satisfaction with the online banking platform in Lebanon. This shows that Lebanese banking customers place a high value on the service quality, and are more satisfied with reliable service, which is well built and provides a good customer support service. In terms of practicality, the customer expects a service quality that is good in order to carry on using the online banking platform, since the online banking deals with the bank accounts of the customer, which is a sensitive issue for customers. While different industries might have different results, and customers would not place a very high importance on the service quality in other businesses, the banking industry in Lebanon is expected to have a high service quality in order to attract customers to its online platforms. In case the bank has an unsatisfactory service quality, customers would be less willing to use the platform, and would have to focus on serving customers through conventional banking forgoing the benefits of shifting part of the business online.

Regarding the second factor that affects customer satisfaction with online banking services, results show that web design has also a positive and significant impact in the Lebanese context. This indicates that the Lebanese consumers expects that the online

platforms offered by their banks have a clear and easy-to-use interface, are easily navigable, are aesthetically pleasing, and provide discussion forums for users to share experiences and interact. These features of the online banking platform are shown to affect the way the users perceive these platforms, and would cause an increase in consumer satisfaction while using the platforms. This can be related to the different demographic segments that use the online banking, since adults of different ages are target customers for banks. For the younger users, they would expect the platforms to provide the efficiency comparable to other services they use, while older customers would also value web design since it provides simplicity and is easy to understand.

Regarding the last factor explored, the privacy and security were expected to be among the most important factors for consumers wishing to use online banking services. Indeed, the analysis of the results show that customers perceive the privacy and security of the factors as important factors that influence their trust and satisfaction with the platform. The factors pertaining to privacy and security include the non-exploitable user information, the safety while conducting transactions, the verification measures used, and the availability of a notification system to warn them in case of a possible misuse of fraud. This was a predictable result since using online banking services deals with transfer of money and payments, and customers expect the service to protect them in such cases. When the privacy and security are perceived as low, customers will not engage with the online banking services in fear of breaches and theft. Therefore, as banks improve their privacy and security, customers are more satisfied with the service and are expected to engage more with the service. It is worth noting that among the three factors explored, privacy and

security had the strongest impact on customer satisfaction with online banking platforms, showing that users place a very high focus on it.

Summary

The table below provides a summary of the results obtained by the statistical analysis of the data collected through the survey using the multiple regression analysis. It summarizes the variables, and shows the decision regarding the three hypotheses presented.

Table 37: Summary of Results of Statistical Analysis

Independent variable	Dependent variable	Decision
Service quality	Satisfaction with online banking	Supported
Web design	Satisfaction with online banking	Supported
Privacy & security	Satisfaction with online banking	Supported

Source: Own Author Elaboration (2022)

As per the results obtained through the analysis of the different factors that were included in the questionnaire through its different sections, it was concluded that the service quality, the web design, and the privacy & security each has a significant and positive relationship on the consumer satisfaction with the online banking platforms in Lebanon.

Conclusion

Summary of Findings

In order to assess the factors that affect the consumer satisfaction in online banking services, a questionnaire was sent to Lebanese consumers, including different sections that relate to the online banking platforms. The results of the statistical analysis of the questionnaire supported the proposed hypotheses. The findings show that service quality had a significant and positive relationship with the consumer satisfaction in online banking platforms, which is consistent with the findings presented by Ali and Raza (2017). In addition, web design had a significant and positive relationship with the consumer satisfaction in online banking platforms, which is consistent with the findings presented by Flavian, Guinalia, and Gurrea (2006). Finally, the security and privacy factor had a significant and positive relationship with the consumer satisfaction in online banking platforms, which is consistent with the findings presented by Yoon and Steege (2013).

Limitations

This study should be considered in light of some limitations. For instance, the collected sample, which consisted of 236 respondents, is not representative of the different categories of the Lebanese population. For instance, results could differ by geographical area. The development level of the regions in Lebanon is not uniform across the country, and another approach could be used to analyze the demographic distribution and study each segment separately. Moreover, it should be mentioned that the study is conducted amidst the Lebanese economic crisis that introduced a huge stress on the Lebanese banking system, limiting the banks' ability to invest in their mobile banking platforms. Therefore,

the service quality and the limited functionality offered by the online banking platform might not reflect the state of such systems before the Lebanese financial crisis. Adding to that, the study was conducted amidst the Covid-19 pandemic, which caused a decrease in mobility of the consumers due to imposed mobility restrictions to avoid the spread of the virus. Such restrictions caused the consumers to have a higher reliance on digital services, including digital banking, and might affect the results obtained regarding the consumer satisfaction with online banking platforms.

Theoretical and Managerial Implications

This study provides important theoretical and managerial implications. On the theoretical level, this study provides insight on the consumer relationship management in online banking, by identifying the factors that are important for the success of the systems. It also expands the available knowledge on the topic of consumer satisfaction, by showing the motivators that could influence the satisfaction, and possibly lead to a better customer retention and ultimately customer engagement.

On the managerial level, this study motivates Lebanese banks to invest in the online banking services in a way that would increase their consumer's satisfaction with the platform, by identifying the factors that provide the most benefit to the consumer and updating their online banking systems accordingly. This will allow banks to be more competitive in the market by providing them with a competitive edge over their competitors. This study shows that the most valued feature in online banking systems is privacy and security. This finding would motivate banks to place the highest focus on these issues, and communicate their strategies with customers so that they can have satisfied clients.

Future Perspectives

This study paves the way into future studies that tackle the issues related to the factors that influence consumer satisfaction with online banking services. For instance, this study provides a framework for understanding the consumer satisfaction with such services that could be implemented in any context, and not just the Lebanese context. Adding to that, future researches could tackle the same variables while including the regional context in the country. To further explain, future studies could examine regional differences within the same country, such as the income level or education level, which can be included in the model to identify how the consumer satisfaction varies between the different segments. Finally, future researches could conduct the study in times of stability, or include variables that control for the Lebanese financial crisis and the Covid-19 pandemic in order to obtain more objective results.

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Appendix I – Questionnaire

Dear respondents, my name is Jana Tannous and I am conducting a research regarding the factors that affect the consumer satisfaction with online banking platforms in Lebanon, as part of my Thesis requirements to complete my Master's Degree. This study is being conducted under the supervision of Dr. Sandra Khalil. Please note that filling the questionnaire is voluntary and that the information provided in this questionnaire is strictly confidential and will not be shared with any third-party outside the study.

Respondent Information

1- What is your gender?

Male

Female

2- What is your age?

18 to 24

25 to 40

41 to 64

More than 65

3- Do you use online banking platforms offered by your bank?

Yes

No

4- Do you use mobile banking offered by your bank?

Yes

No

5- For how long have you used online banking services?

0 to 1 years

2 to 3 years

3 to 5 years

More than 5 years

6- For how long have you used mobile banking services?

0 to 1 years

2 to 3 years

3 to 5 years

More than 5 years

Service Quality

7- The online banking service offered by your bank is reliable (users expect the operations to always work on online banking)

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

8- Your bank offers timely customer support to resolve problems that might arise while using online banking

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

9- The online banking service offered by your bank is reputable

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

10- Your bank offers updates and new features for online banking services

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Web design

11- The interface used in the online banking service is clear

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

12- The online banking service can be easily navigated with an ease of accessing information

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

13- The online banking service has aesthetically attractive features that facilitates navigation

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

14- The online banking service allows for discussions between users for sharing product reviews and ideas

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Privacy and Security

15- Your bank does not exploit the information through the online banking service

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

16- It is safe to conduct transactions on the online banking service

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

17- Accessing the online banking service requires extensive verification

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

18- Your bank provides you with notifications whenever a transaction occurs through the online banking service

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Consumer Satisfaction

19- You are pleased with the online banking service offered by your bank

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

20- You often recommend using online banking for your friends

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

21- You frequently use the online banking services for conducting transactions

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

22- You believe that the online banking service provided by your bank provides value and convenience

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Thank you for your time.

Appendix II – IRB Approval



University Institutional Review Board

To: Ms. Jana Tannous

From: Dr. Christine Sabieh, IRB 2021-2023 Chair *Christine Nohie Sabieh*

Date: December 8, 2021

Subject: UIRB Approval - Reference # IRB 202101

IRB Reference #: IRB 202101

Researcher: Jana Tannous

Researcher status: Graduate Student - FBAE

Researcher Faculty Advisers: Dr. Sandra Khalil

Proposed Research Title: Key Factors that Affect Consumer Satisfaction in Online Banking in the Lebanese Banking Sector

IRB decision: Accepted

The University Institutional Review Board (IRB) has reviewed your proposed research. Accordingly, as stated in your proposal and discussed by the committee, the research risks are minimal and the potential benefits to your research topic outweighs the risks. The submitted IRB proposal Appendix 2 & 3, describing your research intention is approved to use human subjects for data collection in this research study.

You are expected to submit a report of research completion to inform the IRB that you have completed your research study. IRB Approval for this study is valid for the one Academic year 2021-2022 only. If your research has not been completed, you must seek IRB approval for time extension by submitting a progress report for continued research reconsideration.

Concern to be answered prior to research implementation: The IRB Committee wants to see proof of consent form collection because none was mentioned.

Should you have any questions, feel free to contact us at csabieh@ndu.edu.lb.

CC. Dr. Sandra Khalil, FBAE