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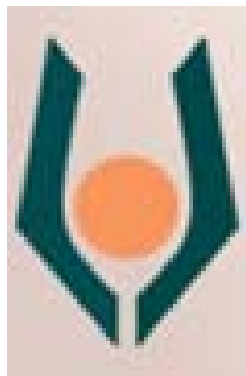
Master's join postgraduate study programme

Enterprise Risk Management (ERM)

Master Thesis

Online Banking: Factors That Affect or Influence Internet

Banking, Consumer Perceived Risk and Attitude



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May 2020

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This master thesis is submitted for the partial fulfillment of
the requirements

of the **Master's join postgraduate programme**

“Enterprise Risk Management (ERM)”

Faculty of Economics and Management

of Open University of Cyprus and Hellenic Open University

May 2020

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Summary

Our world is daily swelled in continuously changing data and the development of technology seems to be endless. Internet invented about 1983 and it had a rapid growth especially on the last decade and it affected any type of organisation. This dissertation focuses on the banking sector and especially on the use of online banking through Cypriots and the risks they face, or they are aware of. Risks are faced also by Financial Institutions which provide their customers with online services.

This empirical research is based on Questionnaire-survey that was designed based on previous investigations regarding factors that influence internet banking. The results of scientific studies present that customers under certain conditions are receptive to the adoption of internet banking. Factors such as age and purchase of products through internet affect the usage or the adoption of electronic banking. Other features like education, safety or privacy influence the intention of usage of electronic banking. Finally, features like comfort, convenience, technology familiarity and effort made have significant impact on perceived performance regarding the usage of internet banking.

This study showed that the use of internet banking services in Cyprus is still below the European average but has an upward trend. The findings of this dissertation have practical implications for the banking industry in order to understand the Cypriot customers better and improve their services according to Cypriots characteristics and preferences.

Acknowledgements

The Open University of Cyprus and the postgraduate programme of Enterprise Risk Management (ERM), gave me the opportunity to evolve both professionally and cognitively through the completion of this postgraduate programme as well of this dissertation with a rather modern subject concerning the Banking sector of Cyprus.

The assistance and support of my supervisor professor Dr. Pandelis Ipsilandis were valuable. Dr Ipsilandis, provided me professional guidance regarding the planning, organizing and writing of this dissertation and set the foundations for a complete and promising proposal. The instant responds and relieve of my concerns, the trust in me and the subject of my work reinforced my determination for the best possible integration of this master thesis.

Special thanks to my family and friends for the continuous support and understanding through this journey of my postgraduate programme.

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Chapter 1

Internet Banking: Introduction

Internet has brought an extraordinary revolution to our world. Almost every industry has been affected by rapid technological development so as the banking sector. The competitiveness of the banks constantly forces them to adopt new improved technologies. After the internet explosion banks took advantage of technology and provide electronically banking services to their customers. Transactions of consumers with the banks are not anymore with the traditional way; the whole banking system is now digital, in our computer or mobile screens.

This situation has mainly positive consequences as for consumers as for the banks. Advantages of online banking are obvious to customers who use these services. The users enjoy easy access to their accounts and save time. For example, they could get informed instantly about their balance, instead of waiting in long queues if they physically visited the bank's branch. Furthermore, users gain comfort and save time by paying online their bills or carry out interbank transfers. The use of online services helps the customer to save time and money (Hong et al 2013: 29).

Although all these benefits of online banking like flexibility, quick and easy transactions any time or so on, however some people do not show acceptance to the internet banking. Main concern is about security. As Hong et al, (2013: 29) state security in internet transactions is a concern to customers where financial information is involved. The phenomenon of an online fraud or other kind of security risks do scare many consumers from taking advantage of internet banking. There are concerns about privacy or security of transactions or of their

personal data which will be appeared online. A consumer has the right to control his or her personal data in internet banking (Roberts, 2009: 14). Also, people who belongs to a greater age group and are not familiar with technology or internet do not wish to have internet banking or do not find is user friendly enough to enable them of having online banking services. For example, according to the study of Patrick C., H., S., et al, (2014: 57) which analysed data from 200 respondents in Malaysia, indicated that only 31% had interest in internet banking. 66% were worried about security as the cybercrime rate in Malaysia is relatively high. Furthermore, the study present that the lack of computer literacy among Malaysians kept them away from trying internet banking as they majority believed that it could take a long time to understand how it works.

Studies conducted in foreign countries present that the growth rate of internet banking usage differs due to many factors. Thus, this study is important to conduct in Cyprus, in order the differences in the determinants of the Cypriot customers' acceptance of internet banking be identified and be compared with what is happening in other countries. The major factors that influence Cypriots' adoption will be assessed.

In 21st century, all types of business run with uncertainties and risks in every dimension of their operations. In every industry, every risk has consequences that could be negative or positive. Every type of organization faces several types of risk, especially financial institutions. Perceived risk in the field of e-banking is defined by Featherman and Pavlou (2003: 453) as the potential for loss in the pursuit of a desired outcome of using e-banking services. Kamel and Hassan (2003: 19) add that consumers' perceptions of the relatively high risk is associated with performing financial transactions over the internet and it might hinder internet banking adoption.

Organizations that operate in the banking sector are possible to face both financial and non-financial risks. Both risks# do significantly threat the safely development and the profits of the business. Especially in banking risks, the knowledge of its risks is very important because uncertainty is part of the financial activity of the industry and risks constantly present in banking activities. The risks in the banking sector must be viewed as a complex of events

with negative consequences for the bank (Sirbulescu 2016: 230). Banking risks are hard to be defined and assessed due to their range. Authors and surveys regarding banking risks characterize the banking risk with two main features that cause the complex situation of understanding this kind of risks. The causes of instability of these risks and the objectives of banking companies that affect the assessment of each risk. Sirbulescu (2016: 230-231) refers that banking risk has two components, which are uncertainty regarding the production of a future event and the exposure to a probable loss.

The difference between the above-mentioned two categories of risks is that non-financial risks can be described as the risk as to whether the owner of the organization would be able to run the business or not according to the operations of the company, whilst financial risk has to do with the financial state of the company. According to Wyatt (2008: 221) financial information on intangibles is likely to be relevant for valuing the firm, however it is less likely to be reliable, especially in the earlier stages of the investment. Non-financial information is likely to be value-relevant if it is sufficiently salient to the firm's economic reality and precisely measured to be informative about the earnings effects of the firm's interaction with its environment. In the specialized literature the financial risk represents the most important banking risks because it correlates the management decisions against risks. An improper management could cause bank failures.

1.1 Non-Financial Risk

In the management world there are various strategies from which banks management must decide and focus on obtaining their strategic goals in the long run. These strategies may include focus on core business activities and the strengths of the industry, focus on geographic areas or customers with specific characteristics, change in the initial target market segment and expansion in scale. Unfortunately, a wrong strategy may lead to losses, or may cause the collision of the organization. Under the given circumstances there is always the risk of not choosing the optimal strategy.

The researcher concluded to the basic strategies and analysis from banks management. The company vision and mission should be first considered for a careful selection of strategic alliances. Moreover, diversified financial companies that will prove their customers that they could be time and money saving by bringing more or all their financial services business to them, will be the winners (Anesti, D., 2004: 44-45). Banks should take advantage of innovative technologies to guarantee the safety of transactions. Emphasizing on security and gaining trust from consumers will benefit the bank with the loyalty of its consumers. Furthermore, financial institutions should spend on advertising the internet banking and educate the public on how to use safely new technology. Public should be informed about ways of cheating on them to be prepared. This could increase their level of confidence and improve their relationships among them.

In the banking sector there is an increased competition which threaten the attractiveness of the industry. However, that cause pressure on banks to act proactively and formulate successful strategies to compete effectively, that according to Scholes and Johnson (2002), facilitate proactive response to anticipated and actual changes in the competitive environment. There are many challenges in implementing the optimal banking strategy. These challenges could be the complexity in needs of customers, changes in laws or policies of the government, loss of skilled employees to competitors, rise in the cost of borrowing or loss of intellectual property (Kungu et al, 2014: 336).

Since non-financial risk has to do with the operations of the organization, it relates to some other types of possible risks like market risk, operational risk, reputational risk, and systemic risk. Banks must manage many kinds of operations in order to have profits and maintenance of the internal processes for these operations are an extremely difficult task. Operational risk summarizes the uncertainties and hazards in the process of a bank's everyday activities. Operational risk mainly arises because of two factors. The first is the hiring of the wrong people and the second is the breakdown of the information technology systems (Juneja 2020: 1). For example, Barings bank, which was one of the most prestigious banks in the United Kingdom, bankrupted due to a failure to implement appropriate internal controls. The head of derivatives in Singapore, Nick Leeson made unauthorized speculative

trades that the bank ceased to exist. As a result, all the departments are subject to operational risk, with no exception.

Reputational risk needs to be managed with extremely proactive processes as a wrong strategy from the bank or improper management decisions may affect its reputation and bring loss of clientele and money. The bank's reputation is responsible for the attraction or the avoidance of customers, and it is probably the most valuable and also fragile asset that a bank has. Reputation is the key of developing any company and any bad reputation could harm the business and has negative impact on the bank.

Measures to minimize the reputational risk, is that banks have specialized persons in reputational risk management acting forecasting and evaluate the reputational risks and do ideal processes for every risk to avoid or at least minimize their impact. Banks could also save their reputations by ensuring the non-participation in any unfair or manipulative business practices. This way could cause a stellar reputation and their public prestige would be evaluated as a friendly and honest bank. For example, Citibank lost reputation when it became known that the bank tended to resort to market manipulation. That caused the removal of many prospective customer's deposits and Citibank suffered from monetary loss as a result of its affected reputation.

1.2 Financial Risk

Financial risk includes credit, market, and liquidity risk. Especially in the banking sector financial risks are usually related to loans, stocks, and interest rates. The biggest source of income for a financial institution is from the repayments of loans given. Credit risk is when consumers are unable to pay back their loans at all or they have delayed payments. To minimize or to avoid this kind of risk, the bank's credit risk management could create certain strict criteria before providing a client with a loan. The bank could conduct a thorough check and sanctions loans only to individuals and businesses that are not likely to run out of income over the period of the loan (Juneja 2020: 1).

Furthermore, the bank could have the liquidity risk. This describes the situation that the bank could not be able to meet its obligations if the depositors come in asking to withdraw their money (Juneja 2020: 1). Banks can give loans from the amount of clients' deposits. Only a very small proportion of them is held back for withdrawals. If a client is unable to pay back his loan, then bank is in great risk of not being able to respond at a client's request to withdraw his money from his deposit. If all the depositors came in the institution to withdraw their money all at once, the bank would not have that amount of money available to be given as cash and could not meet its obligation. This situation is called a bank run (Merwan, 1989: 6). According to Merwan, (1989: 7) a bank run also can be averted by suspending convertibility if aggregate consumption demand is uncertain, but optimal risk sharing cannot be achieved because some agents are prevented from withdrawing in the period they most want to consume.

Banks, are protected from bank run because the Central Bank is supporting the financial institutions and if a bank is closely to face a bank run then the Central Bank will provide the specific institution with their resources, so the reputation of the bank and their clients' trust will not be damaged. As Juneja (2020: 1) states many modern day banks have faced bank runs; however none of them have become indolent due to a bank run post the establishment of central banks For example, in U.S. banks there is the policy that banks keep only a percentage of customers deposits in cash stocked in vaults and ATMs, while some assets are invested. A bank run is possible to happen to a specific financial institution or to a national level due to economic decline. For example, the global financial crisis that brought the collapse of Lehman Brothers in 2008 cause eventually the collapse of the whole investment banking sector.

In U.S. banks, they have the FDIC (Federal Deposit Insurance Corporation) which is an independent federal agency which insures deposits in these banks and thrifts in the event of bank failure. According to literature, some experts argue that the presence of FDIC does not eliminate all the risks from the bank failures as banks may keep the minimal required from FDIC cash reserved and may have more liabilities than they claim and this could cause conditions for eventual insolvency (Pritchard, 2020: 1). It is an insurance for consumers that

they are protected from monetary losses if a bank fails. FDIC could cover in some cases more than \$250000. FDIC covers the customers of failed bank, and could continue to deposit money, make electronic transfers, or write checks although their bank has failed. Their account balance would have been the one it was while their bank was open. For example, in order to manage the above risks, banks categorize and prioritize them.

Risk levels vary between bank's customers due to the difference of social classes. Banks must keep pleased every customer. For example, some people who belong to high society may have insured their money to be protected against risks while other may not. The relatively highly intelligent animals, the human beings, are expected to make rational choices that vary according to the levels of uncertainty in order to avoid losses and generate maximum gains (Friedman & Savage, 1948: 284).

There is a special importance in the process of managing the risks, all the factors must be well assessed by identifying, analyzing and classifying them. They must appreciate the banking risks to be able to control, remove, avoid and finance them. Especially in the banking sector, risks could occur or generate implications that threatens the banking performance. The management of the bank must assess various risks that may be generated. Unfortunately, a wrong strategy could cause the collapse of an industry. For example, Washington Mutual bank failure, which its strategy was to make too many subprime mortgages to unqualified buyers. The financial crisis of 2008 affected the area of subprime lending, and the bank was not able to absorb losses and meet demands when consumers stopped paying back their loans. For example, there is the risk of losing capital, or liquidity risk.

The risk of losing capital happens when a client is unable to pay back his or hers loan and affects the bank's ability to pay. The management should calculate a decrease rate of risks which limits, depending on the bank's own funds and the maximum loan that could be given to a customer. There is also the risk of lack of liquidity which represents the ability to convert immediately or at least almost immediately without losses or the material guaranteed. According to Sirbulescu (2016: 231) liquidity represents the ability of the bank to make

transactions or payment or give cash to customers when they ask for. The management must identify the risk in order to find the most effective measures for the elimination of it.

After the risk assessment a risk management plan is created, and this management decides the actions taken with aim that these risks should be eliminated and not to threat anymore the organization. Every risk has two main components: uncertainty and exposure to loss. In the risk management plan, there are many factors to be considered before deciding the measures and the strategy a bank will follow. The management has the task to define an overall strategy on lending activity and find points of convergence to ensure adequate liquidity. According to the US economists, the risks from unexpected events belongs to the five following categories: risk of system, price risks, credit risk, operating risk and risk from regulations. According to Sirbulescu (2016: 234), risk of system caused by an improper decrease of money offer and price risk which refers to a possible rise of interest rates while the bank has assets with a maturity longer than for liabilities. Credit risk is because of the non-repayment of loans. Operating risk refers to some ineffective operations and the risk from regulations is about unexpected changes on the regulation of the banking sector that prevent banks to act safely and effectively. There is a mathematical formula by these economists which is calculate the risk indicator by: $RI=PC/VR$, where RI is the risk indicator, PC: primary capital and VR: the value of risky assets. According to this calculation, the level of the risk could be appreciated by the management and decide how to overcome.

1.3 Literature Review

The internet is gaining more and more popularity as a delivery channel in the banking sector, as it renders location and time irrelevant and empowers customers with greater control of their accounts. Banks are also benefited as they achieve cost and efficiency gains in many operational areas.

Several studies were conducted regarding internet banking adoption of customers in other countries (Papazoglou et al, 2018 [Greece-Chalkida]; Mandilas et al, (2009) [Greece]; Maenpaa et al, 2008 [Finland]; Husejinovic et al, 2019 [Bosnia Herzegovina]; Mitrescu et al,

2016 [Romania], Samundeswari, R., 2019 [Malaysia], Gerrard et al, 2003 [Singapore]). These empirical studies conducted to understand specific factors or individual features that affect the perception or the adoption of internet banking of customers. Samundeswari R., (2019: 127), find that young people have a more positive attitude or intention of using internet banking than other age groups.

Karjaluoto et al, (2002: 265), indicate that household income and educational level of persons were found to significantly affect the adoption of internet banking. Maenpaa et al, (2008: 27), conclude that demographic variables such as gender, age, qualification and education are important features that play a positive role in the adoption of banking technology hence the adoption of internet banking as well.

Trust was examined by Papazoglou et al, (2018: 12), and future commitment of the customers to online banking depends on perceived trust. Policy makers should emphasize on usefulness of the designed banking website and the usage of tools (Qayyum et al, 2012: 34 & Maenpaa et al, 2008: 17 & Mandilas et al, 2009: 17). Furthermore, Maenpaa et al, (2008: 15), assumes that perceived difficulty in using computers or in general the non-familiarity of persons with technology and the lack of personal services were found to be main barriers in adoption of internet banking and affect their intention to use it.

Gerrard et al, (2006: 165), identify eight factors that explain the attitude of non-users of internet banking. In order of frequency, the factors are perceptions about risks; the need; inaccessibility; lack of knowledge; inertia; human touch; pricing and IT fatigue. Security and privacy are also considered to be major factors inhibiting wider adoption, as according to Rayport et al, (2004: 47-52) the main privacy issues are the security and privacy of sensitive consumer information related to online sales and services transactions, the collection and use of consumer data and statistics and the protection of a consumer's right to privacy. Users seem to value their time, cost and convenience whereas non-users are much more service conscious. According to Karjaluoto et al, (2002: 265), the lack of personal service in e-banking was found to be among the main barriers of internet banking adoption.

1.4 Definition of E-Banking

E-Banking¹ is a definition referred to all the services that banks provide through the internet; meaning that the physical appearance of the client in the bank is not necessary. In general, there are many people that confuse terms like E-Banking, Internet Banking or Mobile Banking. Internet Banking, as well as Mobile Banking are subcategories of E-Banking. These subcategories are distinguished by the channel used from a client.

Internet Banking refers to the use of banking services through internet. The consumer has full access to the banking system and could use services like he was physically in any store of the bank. Mobile Banking refers to the banking activities that a client could do via a mobile phone and is currently available via SMS technology or by downloading your bank's application. The first applications of mobile banking were based in Finland by Merita Nordbanken (currently Nordea) enabling customers to make bill payments and request account balances through mobile phones (Laukkanen et al, 2005). Today the customer can check the balance and the history of transactions of their accounts, pay bills and so on.

1.4.1 The history of banking services via internet

Internet Banking depends on the accessibility to the Internet which has invaded in our daily life and does exist in almost every home. Before internet, the only distant human communication achieved was by using telephones. It all started in the early days of the Cold War. Eisenhower's America was stunned by the launch of the Russian Sputnik satellite (Bryant, 2001: 1). According to Bryant (2001: 1), in the late of 50s Eisenhower created the ARPA organization (Advanced Research Projects Agency) -and later NASA- in USA which aimed to gain more technological superiority over the Soviet Union. The organization started a research about networks and in 1969 created the ARPAnet which was the forerunner for Internet. In 1972 the first email was sent. Bryant states: "The computer remained huge and cumbersome until work by Bill Gates, and later Steve Wozniak of Apple, led to widespread

¹ Other identical meanings in public bibliography are web banking or online banking

ownership of personal computers in businesses and in the home.” However, the internet was still owned and used only by United States’ government. In 1992 George Bush changed the facts and allowed it to be used for private and business purposes. As Heart, F.,(1978: 2) states, the ARPA theme is that the promise offered by the computer as a communication medium between people, dwarfs into relative insignificance the historical beginnings of the computer as an arithmetic engine. In the early 1990’s, Tim Beners-Lee created HTML (Hypertext Markup Language). In 1993 a simple network was developed into a worldwide network, and more specific in the World Wide Web (commonly known as web) which contributed in a wider and easier navigation in Internet.

The World-Wide Web, the excessive request of Internet access for private individuals, as well as the increasing user-friendliness of the software necessary to master the Internet protocols contributed to the meteoric rise of network use in the 1990s. (Laursen, 1997: 1). In 1994, Netscape Navigator has been designed and was the first browser of the internet which made possible surfing in the Internet anywhere if there was a computer.

In 1981 four of New York’s city major banks provided home – banking or PC Banking access available to their customers. PC banking and internet PC banking are two different forms of banking. They differ from technological approach. For example, although not yet widespread devices other than PCs, could be used for internet banking such as “palmtop” (hand-held) personal computers, kiosks and web television. It is also possible that there are differences in the types of risk exposures relate to these forms of remote and PC banking. (Egland et al, 1998: 25). Customers needed to buy a specialized software from the bank. Through this home-banking software, banks gave access to their clients to do the basic banking services. Two years later, in 1983, Bank of Scotland, offered to its clients an internet service called Homelink, through people could pay bills or transfer money. Some years later, in 1994 Stanford Federal Credit Union became the first financial institution in America that offered customers access to their accounts online. Home – Banking lasted for some years only, because in the middle of 1990 Internet Banking and E-banking Commerce gained much more popularity due to the spread of Internet.

Web Banking in 1995 and 2002

Metric	May of 1995	May of 2002
Financial Institutions with Web Banking Worldwide	1	6.000
Financial Institutions with Websites Worldwide	50	14.000
Total online banking households Worldwide	5 million	100 million
Total online banking households in the U.S.	300.000	28 million
Monthly bank and credit card Web traffic in the U.S.	100.000	50 million
Monthly credit card apps submitted via Web in the U.S.	0	1,5 million

Table 1. 7,5 years of web banking

Source: Anesti D., (2004: 113) Online banking report: Internet strategies for Financial Institutions (2002)

Specifically, according to the table 1, on May of 1996 there was only one financial institution worldwide with web banking while in May of 2002 there were about 6 thousand financial institutions offering web banking. Moreover, in May of 1995, there were 5 million households worldwide that have online banking, instead in May of 2002 there are 100 million. Also, in 2006 an overwhelming 80% of banks in the U.S. were providing internet banking services. In 2001 Greek e-banking users were not over 150000, however in 2004 the users were 500000, in 2006 they were 800000, in 2007, 996500 and in 2008 it was estimated to be 1500000 (Mandilas et al 2009: 16).

In Greece, Internet Banking was emerged in February of 1998 -when only about internet users in Greece were only 100000 people - by Egnatia Bank which provided the service WebTeller through customers had the possibility of doing their banking transactions through Internet (Pouloudi N., 2002). The first online bank in the U.S. appeared in 1996 was NetBank under the name Atlanta Internet Bank, and then followed in 1997 the WingSpan (Furst et al, 2002). According to Furst, Lang and Nolle, (2002), in 2001, online financial

services like Juniper.com and E*Trade.com entered the online banking and well established as brick-and-mortar banks like Citibank and Wells Fargo moved into offering internet banking services to their existing customers in 2001. The Internet-only banks found it very difficult and unprofitable to attain customers because the marketing costs were higher than initially anticipated. Also, customers were unwilling to abandon the traditional branch (Sarel et al, 2003).

According to Patrick et al, (2014), in Malaysia, in June, 2000 the May bank Berhad was the first bank which obtained a license and implemented internet banking and then appeared more banks which have also lunched internet banking services in order to compete. According to Qayyum et al (2012: 14), in Sweden, online banking began in 1995 from “sparkbanken Finn” which sold banking services online; however, internet banking became known when SEB bank introduced it to private customers in December of 1996. In the late of 90s, all the large banks in Sweden invested money to adapt and develop internet banking services.

Chapter 2

Management of E-Banking

Banks have specialized management regarding Internet Banking. Client Management and Portfolio management handle data and information of the clients and in cooperation with the legal and IT department of the bank, clients' data are protected, transactions are done properly, and the navigation is secure.

2.1 Business Models

Financial Institutions that provide services through internet follow one of the next two general business models with aim to increase customer attraction.

2.1.1 Model Click & Mortar or Brick & Click

This model is adapted by financial institutions that have an established physical presence branch network and have included Internet Banking as an alternative way of providing their products and services. Internet Banking does not substitute the already existed physical presence of branch network. Hence, the customers of the bank could combine their ability of visiting the branch of their bank for doing specific processes or using the internet for other services. Despite the fact that brick and mortar branches are the main banking distribution channels, people have started to prefer the e-banking to carry out their transaction by themselves, without the need to visit a bank branch (Mandilas et al, 2009: 16). Guerrero et al., (2007) emphasize on e-banks are considered to become the favourable, alternative, distribution channel as it offers financial services with privacy, security, convenience and

quality information of financial products without any limit about time or place, and in better prices.

In some cases, banks that follow the Click & Mortar or Brick & Click business model, can create a brand-new named online bank, for their services in the Internet; especially for marketing reasons. For example, in Cyprus, the Astrobank Limited, which previously was known as Piraeus Bank, which was established in Cyprus in November 2007, has the web bank named WinBank. WinBank operates by its own name, but it belongs to Astrobank.

2.1.2 Model Virtual or Digital Bank

For about 500 years retail banks have worked based on physical distribution. The last years this traditional model has been challenged to move towards electronic distribution. This model refers to financial institutions that only exist through internet; they do not have physical presence branches. According to Skinner (2014), customers feel more protected in going to branches as KYC rules require showing your ID for regulatory purposes and money laundering rules. A huge challenge for a Digital Bank is the attraction of new customers to join with proof of identity without present it physically. The measure they usually take is asking from the customer to scan and send by email a photo of their identity or passport if it is acceptable by each country's laws (Skinner 2014). These banks only advertise their services or products through internet and their operating costs are minimized compared to other banks with branches. Low operating costs enables them to provide their services with minimized costs or providing attractive rates. Examples of worldwide, Internet only Banks are Ally Bank, Revolut, Minzo and E-TRADE Bank.

2.2 Kind of services provided

According to Skinner, (2004), electronic banking is seen as one of the most successful business-to-consumer applications in electronic commerce. According to previous studies, the most consumer-valued aspects in the e-banking are lower fees, time saving, location-free access to the services, easy to use (Karjaluoto et al, 2002: 266), better service quality, anytime availability (Litller et al, 2006).

The consumers perception and preferences of service quality have a significant impact to the success of a bank. The good reputation of a bank could cause an increase to their clientele. Many banks have adopted online financial services and it has facilitated the daily life of customers but has also many advantages and for the bank. But in order to be achieved the provision of these online services a strong technological and legal background was demanded by the financial institution which demanded significant time and cost.

There are services that present information that customers could find with a visit in a branch of the bank, like online forms or presentation of current rates of the bank. Customers could connect to their bank portal through internet and can check their movements to their accounts or their balances, after authenticating their details with a customer username and a password. Then, consumers have the facility of creating and annulling deposits or have an instant information of currency exchange or bank's interest rates.

Customers access to their accounts and do online transactions or transferring their money from one account to another. The customers can pay online even if they want to order goods online or even if they want to pay bills or local taxes and duties. Customers have the facility of receiving a message in their mobile phone when their payment is done. Furthermore, whenever they want, if they only have access to internet could have a history of the transactions of their accounts or a statement. A very important and helpful tool is the availability of instant online customer service via email or phone.

E-banking services also provide a webmail or a chat where the instant discussion with customers is achieved. Furthermore, some banks provide an online application where customers that are interested in getting a loan from the bank could calculate their loan instalment according to current rates and the duration of years that will be needed to repay the loan. Hence, if the customers are interested could do an online application for a loan and a banker will contact them for further information.

2.2.1 Online Banking Services: Benefits for Customers

Customers have many advantages from using internet banking, but they must use it wisely and be precautious. The main advantage for the client is the comfort. Customers have easy accessibility to the bank anytime – except if the site is not working due to maintenance – and anywhere they are.

The consumer has access to the online banking system every single day, without considering the working hours of the bank and saves time and energy as he does not have to get to a bank and wait in a queue until he is served by an employee. Just with a click in the bank's portal and then the financial services appear in digital way in the screen of the computer. In the online sites of banks there is ergonomic menu leading every client directly to the operation they wanted to perform. This ergonomic and user-friendly menu makes it easy to navigate in the site, for every costumer even if is not very familiar with technologies.

Transactions have security conditions as customers need to put a username and a specific password in order to have access to the details of his accounts. Customers should act with suspicion against potential electronic frauds so they could take advantage of internet banking and save time and energy. Moreover, the repayment of a credit card or the payment of a bill lasts only some seconds whereas doing these activities even with using ATMs it would demand more time.

Furthermore, some banks have recently announced that deposits or transfers of money from one account to another will be charged with an extra proportionated cost according to the amount of money that they want to deposit or transfer. Hence, the customers will not have to worry about these extra costs if they use the online way. E-Banking is an integral part of Electronic Commerce which contains all transactions that are done through internet (Huff et al, 2000). Internet invention was a key driver in promoting e-commerce in the banking sector.

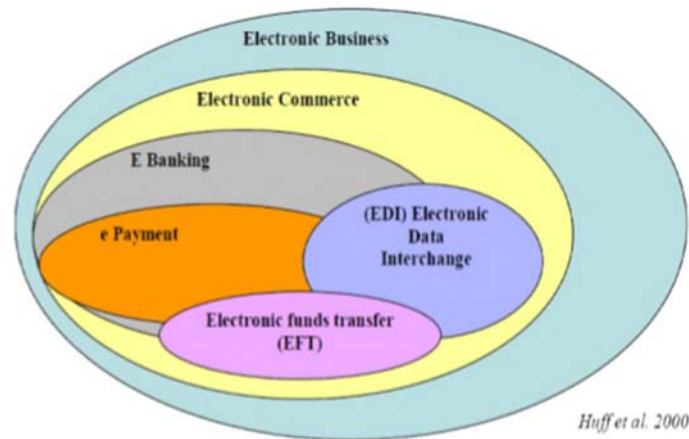


Figure 1. Division of Electronic Services

Source: “The role of continuous trust in information systems continuance” Huff et al, (2000)

E-banking is the major parts of e-commerce. The source from Huff et al, presents some of internet services, and indicates that e-banking supports electronic commerce and therefore businesses that use internet to advertise their products and maximum their gains. Adoption of e-commerce of banking and finance sector enabled them to virtualize and advertise their services and products. Banks were motivated to adopt e-commerce due to their competitive market. It forced them to move aggressively in seeking alliances and establishing joint ventures to maintain their claim to this part of the e-commerce infrastructure. (Samudswari R., 2019).

The globalisation or the expansion of e-commerce probably could have not been achieved without the help of internet banking. People can decide the product they want to buy, after visiting websites of business or by use of their social media and compare prices, quality and the time it will take to arrive to them, and order it and pay it through their internet card or visa/pay pal.

Through internet are done transactions of business to business (or B2B) or business to consumers (or B2C), like purchasing and payment of products. E-banking is an integral part of e-commerce because banks are involved too, to business transactions. The internet banks

are used also as gateways offering identification and authorization services to several third-party service providers (Samudewari R., 2019).

The researcher concludes that internet banking not only simplified the life of the users, but also, helps the economy of a country, and the survival of businesses which accept electronic modes of payments. The physical presence of seller or buyer are not needed, as the transactions are done and paid through internet sources. These transactions are done with particular benefits for both sides of buyers or sellers, like instant paying and absence of geographical or time limit to do the transaction. Moreover, banks are also benefited because they exploit their existing technology and the adequately handle of the demand of these services could cause a growth in their clientele and influence the usage rates of internet banks.

2.2.2 Internet Banking: Disadvantages for Customers

Internet Banking is a time-consuming process. When a person request for internet banking must wait several days until the username and the password is given so he could activate the services of Internet Banking. Another disadvantage that customers may face is the additional costs for subscription, although in most of the banks in Cyprus, this service is provided it for free. Moreover, if the bank faces an unexpected system problem may cause unavailability of internet services for some time, which may cause problems to customers.

Customers' familiarity with technology affects the internet banking. For example, if a customer has inadequate knowledge of technology finds the internet banking very complex (Litler 2006). Furthermore, this customer will have lack of awareness about electronic services or security risk. This user could probably be an easy target of fraudsters.

Also, due to the loss of personal relationship, if the customer has a problem or a request, he needs to make a call to the call centre of the bank and probably wait on hold until they could answer him. Moreover, not every person is Internet-friendly so some people may do not know how to navigate in the online banking system due to their lack of knowledge.

2.3 Security in Online Banking

As the members and followers of internet banking do increase with great rhythms a strict and a costly security procedure was needed to log in safe to his account and secure the users' authenticity. Online banking experience must secure the safe environment in which users are conducting transactions. Every bank has protection strategies as a response to technological improvement that could cause new threats. A proper security system should be able to prevent the illegal or inappropriate use of its data and to deter cyber-criminals and hackers (Rayport and Jaworski, 2004: 54).

Some users mistrust the internet banking because of electronic frauds that are happening. Due to the high levels and standards of security of the banks, cyber attackers have invented newer techniques against the consumers, so the fraudsters could acquire the usernames and the passwords for the online banking system of consumers with aim to have access to their accounts and do banking frauds.

In order to achieve this, they make misleading calls, send misleading emails, creating fake sites (Spoofing) and transmit viruses. With these methods they sometimes achieve their goal and consumers are in an unfavourable position and need to take measures for overcoming the problem. A solution to prevent this problem is that users of Internet Banking be aware of these threats and be warned by their banks when they request for being a user of Internet Banking. Also, Banks, could inform their clients that their sites or emails include digital certificates and do not access any site that does not has them.

The banks should ensure that have experienced IT professionals as employees that work constantly to stay up to date if any new online threats arise and take advantage of the advanced technology provided by the bank and the established procedures to protect bank's clients' data and financial assets. Furthermore, banks offer many different types of protection, like privacy, digital certificates, identity verification and setting a specific time which after this time passes the account gets locked out and session time out.

2.3.1 Security with Digital Certificates

There is always the risk of people - who are not very familiar or confident with using internet - and especially internet banking - of visiting a fake website instead of the authentic one. The banks use extended validity certificates to their sites or emails, so internet banking users to be ensured for the authenticity of the site or the email.

2.3.2 Privacy

The main privacy issues are the security and privacy of sensitive consumer information related to online sales and services transactions, the collection and use of consumer data and statistics and the protection of a consumer's right to privacy (Rayport and Jaworski, 2004: 58).

Clients personal and financial information should be safely saved as well as all the messages or the history with internet banking platform of the bank and this information is encrypted using specific algorithms. Hence, the confidentiality of the data is ensured by the banks' perception. The customer must put a mobile phone or an email so the exchange of emails and documents are done secured and in case of emergency the bank could contact to this data.

2.3.3 Identity verification

For a user to verify his identity are required two steps. The first one is to put his secretly username and password credentials. Then, electronically is generated a unique at a time personal identification number (PIN) so users are authenticated in that remote environment. The second step prevents the case of unauthorized access in an account due to the disclosing of username and password.

2.3.4 Account locked out for ensuring security

Additional to the other measures, banks set automatically locked of an account if the username or the password is wrongly entered three or four times consecutively. Reactivation of the account is done after communication with the company. Furthermore,

banks have set a mechanism of understanding the inactivity for a specific time and after this the internet banking session is timed out. This measure prevents the case of leaving the computer or mobile phone unattended and somebody else take it and check for this information. The specific time of inactivity depends to the branch of bank.

2.4 E-Banking: Benefits for the Banks

Banks gain economic benefits by transferring customers into internet banking users. Laukkanen (2005) adds that mobile services offer potential for multiple service functions that can increase the customer-perceived value for increasing the number of new and existing customers.

The operating cost is significantly reduced because an amount of transactions done by clients in a bank's branch is now done online. The more users of internet banking a bank has, the less the average cost per transaction, as the same banking infrastructure and technological services are used. Financial institutions could integrate effectively and position their online products and services in a coordinated way and not as separate capabilities. (Anesti, D., 2004: 54). Thus, the possibilities of increasing their customers and their gains are also increased.

A good promotion for internet banking from the bank, could cause the reduce of the work of the employees or even the use of less workers. Furthermore, there is no geographical restriction for users of Internet Banking, as people could use it in any place, they are; hence the banks' clientele could increase.

2.5 E-Banking: Disadvantages for the Banks

Due to the competition in retail banks, the e-banking services must be continuously improved. The main disadvantage for the bank is the electronic frauds that have been mentioned before. The bank must ensure that assets, accounts, and personal data of their clients are protected from hackers and cyber attackers. Also, many clients that are electronic frauds victims due to their fault, blame or connect the specific bank; hence the reputation of the bank may be affected. Furthermore, for a bank, to adapt the internet banking in first place

there will be a significant initial installation cost. A specific technological equipment must be bought including hardware and software and the employees must be also trained to these new technological services. This cost is expected to be depreciate in the long-term and then the bank will profit from this activity.

2.5.1 Post Covid-19 Perspectives

Coronavirus -or else COVID-19- appeared in December 2019, in China, and shocked the world community by its spreading worldwide. COVID-19 was categorized by the World Health Organization (WHO) as a pandemic and the number of infected people or the death cases rise sharply without knowledge of particular recovery medication regarding this pandemic. This globalization of COVID-19 pandemic affected negatively many sectors of a country and especially all the economies in the world, throwing many into recession and possibly economic depression. The sector which is inextricably linked with the impact of this virus is the banking sector. In order to survive with the current conditions, it must adjust and take advantage of technology which nowadays, fortunately, is very developed.

Many measures have been taken from the Republic of Cyprus, which were announced in discourses of the president of Cyprus, Mr Anastasiades Nikos or from ministers. Among others, were the suspension of payment of the VAT in the framework of the support programme to address the effects of the virus COVID-19 or the special sick leave allowance. There were also the Special Leave of Absence which applied to parents with children up to 15 years old and a Business Suspension Plan that was about those businesses or self-employees that has been decided to suspend their operations and for businesses that continued to operate but suffer a turnover of more than 25%. This Business Suspension Plan is in place to avoid layoffs and affected employees will receive unemployment benefit for as long as the business is suspended. The government would pay the affected employees with the 60% of their annual salary, with maximum benefit of €900. Also, for the students who were abroad, the republic of Cyprus, benefited them with €750 since they could not repatriate.

The lockdown of the country as well as all these measures brought Cyprus to tackling the COVID-19 and achieving good results with lower infections or deaths every day. Although, the crisis that brought the coronavirus, cause the economy of the country to be affected significantly. Since, Cyprus has not yet got through this, the researcher cannot comment critically to the quality of the management or the strategies chosen of the government.

Instead, since the dissertation refers to internet banking, the researcher will analyse the difference in internet banking noted worldwide during the lockdown due to coronavirus. However, since the first case of coronavirus infection was reported in December 2019, only few scholarly researches could be found on the economics of the outbreak. Regarding the chapter of Coronavirus, the researcher does not aim to produce any quantitative estimations of the future impacts, rather it aims to deliver a comprehensive overview on the observed impact it had already on internet banking usage, and how internet banking helped the survival of economy.

COVID-19's worldwide fatality rate as of 30 March 2020, stands at 4,69%, while 172.435 have so far recovered (Suborna, B., 2020: 4). COVID-19 causes fever, cough, breathing problem and in severe cases pneumonia or acute respiratory syndrome, heart failure and subsequent death. Many countries race against time to develop a vaccine or a drug that will cure coronavirus. This virus has already arrived across 200 countries and territories where China -where it started the spread of the virus-, U.S.A. and Europe appear to be the biggest victims.

Although it might seem too early to discuss about the effect on the economy of COVID-19, it remains pertinent due to the ravage it is causing through direct and indirect economic impacts across counties. Apparently, the outbreak brought a non-globalization process because countries have lockdown their borders preventing the export or import of goods, capital or humans, and businesses or production has been shut down -at least temporarily.

According to Suborna, B., (2020: 2), in addition to dire health consequences, the COVID-19 outbreak is producing massive and far-reaching economic cost burdens for all nations including China, the US, Japan, Germany, Britain, France, and Italy - the G7 countries.

COVID-19 estimate reduction in economic growth, coming as a result of reduced labour supply, higher production cost, higher temporary inflation, and reduced social consumption (Suborna, B., 2020: 6). Under these circumstances an increase in the unemployment is expected because a possible scenario is that firms would be forced to lay off some workers to survive and remain financially feasible.

Many firms have reduced or shut down production and sales in China. For example, the global fashion brand H&M announced closure of 45 stores in China while other major brands such as Gap, Ralph Lauren, Nike and Adidas also publicly announced their store closures in central China. Not only fashion brands but large multinationals in the automobiles and transport industries such as Toyota, and Volkswagen also announced closing down their production facility in China (The Manufacturer, 2020; Leijen, 2020).

2.5.2 Internet Banking and COVID-19

Since the lockdown in Cyprus, people should stay home and get out of their homes for only particular reasons. Employees started working from home - if their job could be done so - and be eliminated without regularly seeing their friends or siblings as Cypriots were used to. For this specific period of time, enterprises should take care of the distance between employees or clients as the Republic of Cyprus announced a minimum distance to be kept in order to not transmit the virus. Also, banks announced that would serve clients for only particular services that cannot be done online. For example, the withdrawal of money could be done by ATMs and bills could be paid online hence people should not go into any bank for this service. Also, customers could be informed of the balance or the history of transactions of their accounts either by ATM using their debit card or using online banking.

Internet banking users had the facility that did not put themselves into risk because they took advantage of the online services. There was a significant number of people that during

the lockdown and to protect themselves applied and adopted internet banking. Moreover, banks in Cyprus, advertised it and promoted it especially as a measure against mass gathering.

In India, internet banking transactions grew 10,8% during the COVID-19 days (Vashti 2020: 6). In Cyprus, in the Bank of Cyprus, which is one of the biggest banks in Cyprus, there was a decreased entrance of customers up to 50% and an equivalent increase in ATM's queues. Comparing with a year ago, there is noted 30% increase in electronic transactions. Similar situation is noted in Hellenic Bank, where the electronic transactions are showed to follow an uptrend, but this does not compensate the decrease in physical presence of customers.

According to a survey of Pulse RC which conducted in Greece, it showed that electronic purchases over doubled during quarantine and enterprises that did not have entered before in the electronic commerce, this period they attempted to in order to survive. Also, 88% of Greeks uses frequently (sometimes per week to every day) internet banking and 2% use it sometimes per month. The survey indicates that electronic commerce presents an increase trend in Greece.

Enterprises should have understood from the COVID-19 pandemic situation, the significance of adapting new technologies. Enterprises should invest in digitalising their firms and get to be e-shops as well, in order to create a useful tool to help them survive in this crisis. The survey of Pulse RC indicated that 46% of Greeks have done electronic purchases from shops during quarantine. Three out of four prefer to purchase from Greek shops and 16% have no preference between Greek shops or shops abroad while 6% prefer to purchase online from shops in other countries. 70% trust online purchases and 76% are satisfied to very satisfied with the quantity and the quality of the products or the prices or services.

This pandemic situation is worsening each county's situation and weakening the economy of the country. Most of the enterprises and businesses are seriously hampered and are struggling to get through this situation. However, the significance of adopting internet banking from the perception of customers was noted as well as the provision of electronic

commerce of businesses. Customers who used internet banking services, protect themselves with an easier social distancing while others run to apply for online banking or put themselves in danger of being transmitted of coronavirus. Quarantine and isolation were a difficult and an unexpected situation for all Cypriots; although holders of debit cards or users of online banking were having more facilities. Enterprises should adapt to new technology demands as the enterprises that were proactive by also using an e-shop, could at least have an income and deal with customers purchases according to their stocks, instead of other.

Chapter 3

Use of Internet Banking

In a world moving rapidly online and becoming more and more internet - dependent the need of online services is essential in almost every kind of enterprise. Nowadays, online banking has become so widespread that most of the Cypriot customers take it for granted that their bank accounts do include free online banking. Although, some Cypriots do hesitate using internet banking and prefer the traditional way to do transactions or other services with the bank due to the risks – or their lack of knowledge of using of these services. A main aim of this research is to reveal the acceptance of the internet banking among Cypriots consumers and how it is perceived by them. The research will focus on different factors that may lead to uncertainty or denial of using e-banking such as educational level, age etc. Furthermore, based on Scientific Statistics based on the use of internet banking in Cyprus and in general in Europe, we will analyse the results, do a comparison and present them in graphs.

New Technologies affect the banking system as it usually gives alternative ways of an easier and less costly banking system. There are many banking transactions that could be done in distance; without the face-to-face of client and banker but with using another way. For example, a client can have instant information 24/7 about their account's details like balance or history of payments or deposits. Customers enjoy saving time and comfort instead of waiting in long queues in order to be served. In addition, many transactions could be carried out online, like paying bills, transfer money to other banks' accounts do investments and so on.

Online banking transactions are a subcategory of the distant banking transactions. There are transactions that could be done using the Automated Teller Machine – known as ATM - whereas customers could complete basic transactions when they insert their bank card in it. There is also the telephone banking, that an employee of the bank communicated with the client in order to do some transactions. This method is almost disappeared due to many cases of frauds happened (Egland et al, 1998: 25). There is also, the internet banking and the mobile banking where clients could get informed about any transactions done from their account or check for any details or movements of their accounts in anytime and anywhere, they are.

For about the last twenty years, Banks in Cyprus have adapted the Internet Banking. Based on a statistic by Eurostat in 2018, about the use of internet banking by Europeans for the year of 2017, it seems that about 51% of adult Europeans use internet banking. It is important to be referred that in 2007 it was about the half percentage of it, as it was only 25%. The findings of this statistics are that 68% of people among 25 to 34 years old use this facility. There is a correlation of using internet banking and the education level of the user as only 24% of those with low education use e-banking instead of 77% of those with high education who use this service.

The findings of this statistic indicate that citizens from Denmark (90%) and Netherlands (89%) commonly use this service and then citizens of other Nordic countries follow with Finland (87%) and Sweden (86%).

The lowest percentages according to the use of internet banking were in Bulgaria and Romania which their shares were under 10%. Unfortunately, Greece and Cyprus follow them with Greece having 25% and Cyprus 28% of those between ages 16 and 74 who use internet banking. According to Mitrescu et al, (2016), internet banking in Romania is set on an upward trend and this brings out two main problems for banks. The first is the need to adapt their operations to the new requirements of their clients providing secure and fast internet transactions respecting the privacy rights of their clients. The second is the need to reduce the personal and on-field presence and replace it with a more active online presence.

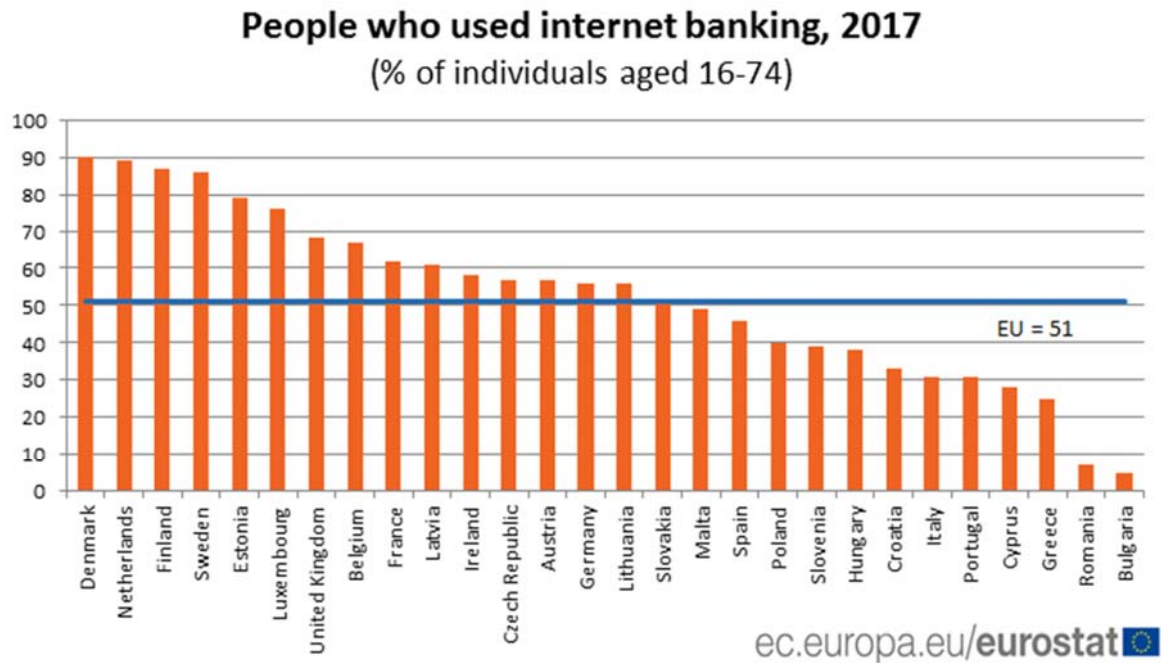


Figure 2. People who used internet banking, 2017

Source: Eurostat (<https://ec.europa.eu/eurostat/>)

From the same resource, the findings for adult users of internet banking in Cyprus are 33% whilst the Greece's percentage is 27 for the year 2018. For 2018, the average of Europeans between ages of 16 and 74 who are users of internet banking was 54%.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Belgium	35	39	46	51	54	56	58	61	62	64	67	69	71
Bulgaria	2	2	2	2	3	4	5	5	5	4	5	7	9
Czechia	12	14	18	23	30	35	41	46	48	51	57	62	68
Denmark	57	61	66	71	75	79	82	84	85	88	90	89	91
Germany (until 1990 former f	35	38	41	43	45	45	47	49	51	53	56	59	61
Greece	4	5	5	6	9	9	11	13	14	19	25	27	31
Spain	16	19	23	26	27	31	33	37	39	43	46	49	55
France	34	40	43	50	51	54	58	58	58	59	62	63	66
Italy	12	13	16	18	20	21	22	26	28	29	31	34	36
Cyprus	12	11	15	17	20	21	23	24	26	28	28	33	41
Latvia	28	39	42	47	53	47	55	57	64	62 ⁽¹⁾	61	66	72
Netherlands	65	69	73	77	79	80	82	83	85	85	89	89	91
Portugal	12	14	17	19	22	25	23	25	28	29	31	39	42
Romania	2	2	2	3	4	3	4	4 ⁽¹⁾	5	5	7	7	8
Finland	66	72	72	76	79	82	84	86	86	86	87	89	91
Sweden	57	65	71	75	78	79	82	82	80	83 ⁽¹⁾	86	84	84
United Kingdom	32	38	45	45	45	52	54	57	58	64	68	74	78

Table 2. Internet banking usage among different countries for the years 2007-2019
(% of individuals aged 16-74)

Source: Eurostat (<https://ec.europa.eu/eurostat/>)

Regarding Cyprus, we notice that since 2009 where our percentage was in 15, we have almost tripled in ten years. That indicates that internet banking is getting spread in Cyprus, but we are still beyond the average percentage of the European Unions.

	2004	2005	2006
Greece	1	1	2
Cyprus	4	6	6
Finland	50	56	63
United Kingdom	22	27	28

Table 3. Internet banking usage among different countries for the years 2004-2006
(% of individuals aged 16-74)

Source: Eurostat (<https://ec.europa.eu/eurostat/>)

Table 3, indicates the very early beginning of using internet banking which it was in 2004; where only 4% of Cypriots used it; whilst in Finland and United Kingdom, which are very familiar internet banking users, their percentages were 50% and 22% respectively. In 2019; according to table 3, the percentage came up to 41%; whilst other countries like Finland or United Kingdom are up to a percentage of 91% and 78% respectively.

Globally, the number of internet banking users has grown steadily, from a total of 34.4 million users in 2000 to 122.3 million users in 2004, the most users being in the Western Europe (International Data Corporation, 2005). The researcher impressed with Finland's records and especially with the contrast in users in 2004 and 2019, since in 2004 the percentage of users of internet banking in age groups of 16-74 has been 50% and in 15 years there was a progress of uprating this percentage to 91%. This indicates that in Finland's banks or governments handle this situation with great management strategy and nowadays almost 9 to 10 individuals of ages 16-74 use internet banking. Cypriot banks should learn from the strategy of Finland and the measures that were taken and provide more information, advertisement and promotion regarding Internet Banking in Cyprus.

Several ideas for marketing in Finland of internet banking and for developing internet banking websites are provided by the survey of Maenpaa et al, (2008: 17). In order to attempt to attract more consumers to internet banking, banks can appeal to status and ego-gratification quite effectively. In the banks' websites, the designing of tools of personal finances management and auxiliary features is recommended as it was proved to be valued dimensions for users.

3.1 Causes of Limited Spread of E-Banking in Cyprus

During last years, banks in Cyprus have upgraded their operations into an innovative banking experience and moved towards universal banking along with the increase of usage of technology and particular internet. Internet banking provides comfort in our routine life; in fact it simplified out lives and provide convenience. This wide range of services which are being provided online offer to user's efficiency and time saving methods (Samundeswari R., 2019: 129).

The main cause of this slowly familiarization of Cypriots with Internet Banking may be that new technologies come to our countries after many years of existence to other countries. Financial Institutions in Cyprus have to face and overcome that Cypriots seem to be non-

Internet Banking friendly yet because they are suspicious about the risks and the threats that are hidden. Financial Institutions in Cyprus could motivate Cypriots with internet banking like the Financial Institutions in other countries which in order to promote e-banking they offer motivation like lower rates for services or products through internet or even promoting new services through only the internet banking.

Furthermore, not all aged Cypriot citizens are familiar with internet and since cybercriminals are constantly looking for ways to make money at our expense they are afraid. There are individuals that fall prey to frauds that involve various forms of social engineering techniques; where the information required is garnered from a person rather than breaking into a system (Cyber Scams Awareness Campaign by Europol).

3.2 Proactive Security Measures

As a measure of increasing the use of internet banking, the Association of Cyprus Banks wishes to arouse the interest of Cypriots to add it to their daily life by promoting the advices of Cyber Scam Awareness Campaign of Europol – EBF. In their site, they have the most common online financial cyber scams and advices of how to avoid them. Some easy advices to users are checking their accounts systematically and report any suspicious activity to the bank, access using secure connections to only secure websites and keep their personal information secret and safe. Users must know that no bank will ever ask them for sensitive information such as their online account credentials over a message on the phone or an email. If an offer appears that seems to be too good to be true, then probably it is fake and immediately close the advertisement. Moreover, if the user believes he falsely accessed a scammed website and provided it with his account data must contact the bank immediately. Furthermore, Police often announces frauds that other users fell prey and a user should check them to have them in mind or report any suspected fraud.

The most common social engineering attacks targeting bank customers are bank phishing emails which look almost identical to the types of an accurate bank may send even replicating the logos. To get through this situation, the software must be updated, with

antivirus system installed and check the emails thoroughly. Check thoroughly for any inconsistencies or something that does not make sense and seems suspicious. Never reply or click on any link or download any attachments; we could only inform our banks and tell them the email we received it from.

One more common attack is Bank vishing calls. It is called vishing because it is a combination of the words voice and phishing. Cyber attackers try through the phone to trick the victim by giving him personal information and details of his accounts. The Association of Cyprus Banks advise us to write down the caller's number and ask him whether we could call back later and then check for validation through internet if the specific telephone number belongs to our bank.

Bank smishing² is a common threat for internet banking. It is a combination of the words SMS and phishing. Fraudsters act as a trustworthy source that attempt to acquire personal or financial information by text message. Probably the SMS received by the user will refer with a sense of urgency to click on a link to a website to verify or reactivate your account. The user should not do rush moves or click on any links, images or attachments because they may get viruses. The bank will never send an email asking for PIN or other security credentials.

Cypriots must feel confidentiality with his privacy and secure of his personal data and information. An authorization of using his personal data and an authentication check after any move in his account is increasing the feeling of security of the user.

² Smishing is a security attack in which a user is tricked to download onto his mobile phone viruses or other malware.

3.3 Trust in the banking system

Based on existing research, many users have stated their mistrust against banks or in general the whole banking system. The aspect of trust, for safe transactions via e-banking, significantly affects user's decision for adoption of e-banking services (Guerrero et al., 2007). There is the interpersonal trust; which is the reliance on another party under conditions of dependence and risks (Currall & Judge, 1995). Since, risk is the possibility that hazards and activities may arise and may negatively affect the individual (Schneider 1998), the individual's trust depends on the nature of the negative consequence. Risk avoidance behavior may arise in such high – consequence systems like online banking since some people may prefer reducing risk than get to a new financial online system that do not know exactly how to use it. The adoption of online banking is a form of trusting behavior because since a consumer use it; is taking risk since he puts himself in a possible vulnerable situation.

If a consumer trusts the financial institution is more likely to alleviate his or hers concerns regarding possible negative consequences in online banking. According, to Steward, there are two factors to be trusted regarding Internet transactions: the firm of financial institution that provides online banking and the channel. Hence the adoption of online banking will be influenced by the users' trust in these both factors. The perceived risk is a result of the evaluation of possible gains or potential losses and if the level of perceived risk is greater than the level of trust in the two mentioned above factors, the consumer will not engage in the trusting behavior and start the use of online banking.

According to 2018 Edelman Trust Barometer a total of 20 out of 28 markets covered in this survey are distrusted; meaning that the average trust in governments or non – governmental organizations, businesses and the media in those markets is below 50%. Organizations and especially financial institutions should recognize that trust is critical to sustaining consumer loyalty and gaining consumers who are loyal to their brand instead of any other similar provided in the competitive marketplace. Trust and Risk are inextricably intertwined (Brachio, 2019). Trust is the willingness to assume risk; while trusting behaviour is the assumption of risk (Mayer, 1995).

Another aim of this research is to analyze the factors that influence the level of consumers' trust in e-banking and how this cause the adoption of e-banking. Granovetter stated in 1973, that building trust may be based on informal channels of communication which are primary means of disseminating market information when services are difficult to be evaluated. Furthermore, in our society we may trust an organization because of the spread of mouth to mouth experiences. This is called World of Mouth Referrals. There are many approaches that individuals have relevant to our research. There is the Economics-based approach when the consumer does trust choices based on rational decisions and evaluates benefits or negative consequences (Williamson, 1993: 455). There is also the Institution-based trust which means that the individual believes to the structural assurances and the dynamic relations of institutions and organizations resulting a successful future endeavor (Peng et al. 2009).

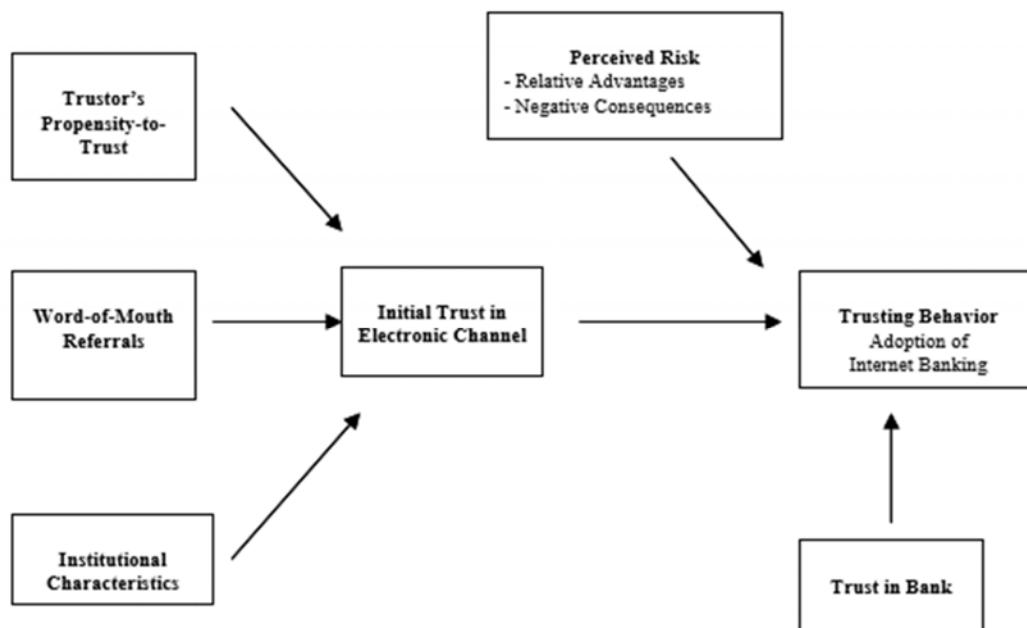


Figure 3. Cycle of Trust and Internet Banking

Source: “Initial Trust, Perceived Risk, and the Adoption of Internet Banking”, Kim K., & Prabhakar b., (2000: 540)

In the specialized literature regarding internet banking, trust was one of the most regularly element in implementation of banking negotiation for the customers. In the figure 3, there is presented the way trust -in various fields- affects the adoption of internet banking. Institution-based trust researchers maintain that trust reflects the perception of security about a situation because of guarantees, or other impersonal structures (Kim et al, 2000: 538).

According to Kim et al, (2000: 539) survey, there are two objects to be trusted in internet transactions: the e-channel and the bank that offers the internet banking services. There is also, an important distinction between trust and trusting behavior in relation to risk. The main difference between these two factors is the “willingness” to assume risk and actually “assuming” risk. No one takes risks in the willingness to be vulnerable (i.e. trust), but risk is inherent in the behavioral manifestation of the willingness to be vulnerable (Mayer et al, 1995).

Chapter 4

Methodology

The choice of the right research methodology is significant because it affects the validity and the reliance of our results and objective conclusions. The researcher implemented a primary research aiming at valid and objective results. The questionnaires help collect quantitative results and enable the researcher to get a full picture of the usage, experience, and perceptions of Cypriots amongst internet banking.

4.1 Aims and Research Questions

The current research is a descriptive, explanatory research as it examines various sectors and aims to identify characteristics, patterns, and correlations among internet banking. This study is based on the deductive approach as conclusions are drawn from logic and not by experimentation or experience and are guided from theories and general concepts. The aim of the research is to analyse the consumer perception among online banking in Cyprus, the extent of the usage and examine the consumer perceived risk and their attitude and awareness against potential threats.

Many researchers have examined the factors that affect the adoption of e-banking. The research's main aim is to analyse the perceptual differences in the attitude of the internet banking users and the non-users. Beyond of all the benefits of internet banking, is also, a valuable factor that could help the growth of an economy. As a result, this research could be the beginning of further research which will help assess and find ways to expand the usage and awareness regarding internet banking among Cypriots.

According to the literature review, there are some conclusions for other countries' users, and will be examined if they apply to Cyprus users as well and then be a comparison. There were formulated specific research questions and correlations that research aim to analyse. The factor of age was analysed aiming to have some conclusions about the correlation between age and being a user or age and the frequency of visiting the bank's branch. Also, another scientific aim of the research is to examine the factors that influence Cypriots in adopting online banking and measure their satisfaction according to their experience. Furthermore, the research aims to observe the chapter of risks in online banking and analyse the Cypriot's attitude and conceptual behaviour against them. Another researcher's goal is to examine the rates of cyber online banking attacks victims and correlate them with age or educational level. Are Cypriots willing to recommend online banking to others or their experience or their relatives' experience cause them to low level of satisfaction? Moreover, is there a restrained attitude of Cypriots against risks of online banking or they could be more cautious or more informed and could avoid being a victim of cyber attackers?

The main purpose of this study is to identify and analyse the most important factors that can influence Cypriots customers to adopt internet banking, and based on the works of Mandilas, A., (2009) and Samundeswari, R., (2019) there will be a comparison of the attitude of Cypriots against internet banking with the attitude of people from other countries like Greece, Finland, Malaysia and so on. The researcher focused on the adoption of internet banking by taking into account customer point of view.

4.2 Research Instruments:

After the determination of the aim of the research and the research scientific questions, the methodology technique of collection data needed to be determined. In order to examine which factors are important for the adoption of internet banking the researcher designed a questionnaire to collect data.

The questionnaire was designed with a set of standardized questions about the purpose of the thesis aiming to gather information from respondents. Questionnaires help collect quantitative results and enable the researcher to get a full picture of the online banking familiarity of Cypriots. There are two types of questionnaires: open and pre-coded. Pre-coded questionnaires contain multiple choice questions or tick boxed whereas open questionnaires have open question with space for the respondents to give their opinions in their own words. Fisher, (2007), recommends for quantitative researches the usage of a pre-coded questionnaire thus the quantification of the research material and the comparison among views and experiences of respondents could be done easy. Although, since the research aims to observe views and experience of Cypriots and compare them with the standpoints of other countries, based on literature; therefore, the researcher designed the particular questionnaire using both types of questions; open and closed questions to collect data. Then the process of preparation of questionnaires was accomplished.

4.2.1 Questionnaire Characteristics

The questionnaire was designed to be attractive with logical and sequential structure for the respondents and it included both closed and opened questions. There is a section about the demographic characteristics and three more sections about their knowledge and experience on online banking. In these sections are referred risks; factors that may lead to do not adopt e-banking and problems faced by the users of online banking. There were dichotomous questions³, multiple choice and rating scales in the questionnaire. For the rating scale questions the researcher used a scale varying from strongly disagree to strongly agree to evaluate the services, policies, or options.

The questionnaire was consisted of four sections. The first one is about demographic characteristics of the sample's individuals. Demographic characteristics such as age, gender, educational level, and occupation indicate the personal profile of the respondent (Maenpaa

³ Dichotomous questions are questions which can have only two possible answers, like Yes/No or Agree/Disagree

et al., 2008: 27); which according to Littler et al (2006: 440) it affects the intention of consumers to adopt the Internet services and more specifically the e-banking.

The second section of the questionnaire was about the online characteristics of respondents such as having internet access to their home or their work. They were asked to respond with what device do they mostly access to the internet, the main use of the internet they do and if they were internet banking users. Then, respondents who do not use e-banking were asked about the reasons that chose not to, and their intention of being a new online banking user was evaluated. For the users of internet banking, their online banking experience was measured. For measuring this characteristic were examined facts that influenced them becoming online banking users and were asked to note since when they use it, the frequency, and the time they spend connected for the implementation of a service per week.

The third section of the questionnaire was about the quality of their online banking experience. They were asked to answer the main reasons that typically visit a bank branch and which of these services they prefer to do online. Furthermore, they were asked to evaluate five main dimensions of e-banking transactions, according to their experience. These five dimensions are security, trust, convenience, status, and exploration. In the literature is presented a variety of factors that do affect the satisfaction of consumers. Comparing various studies, and since this study has as a main topic the internet banking, these five dimensions were chosen to be examined.

Security is the customers' perception of the degree of protection against threats such as economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service, and/or fraud, waste and abuse (Kalakota & Whinston, 1997). Consumers are willing to use Internet if only they believe they are protected and are not in any threat.

Trust in online banking sector is a psychological state that derives willingness of customers to perform online banking transactions, expecting to be benefitted in many aspects. The

dimension of convenience or usefulness that users of e-banking gain is examined and analyzed in the questionnaire.

Status measures the advance in the level on self-image resulting of being an internet banking user (Gerrand & Cunningham, 2003: 21). According to Shing et al, (2007: 340), there is the perception that using e-banking adds prestige and gives a modern impression of themselves to other people.

Exploration is about getting informed about consumer activities in the banking sector and reading reviews or daily news regarding banks. Maenpaa et al, (2008: 10) state that it would be useful to exchange opinions with other people in discussion groups about banking topics regarding e-banking or just surf in the bank's website to reveal all the kind of banking services that are offered.

The fourth section of the questionnaire refers to the satisfaction that users of e-banking feel according to their online banking experience. They were asked to rank statements that have to do with satisfaction of online banking, with a scale from one to five, whereas one equals to strongly disagree and 5 to strongly agree.

4.2.2 Sampling Strategy

The researcher foreseen the length of the questionnaire; so, it would not tire the respondent. The maximum needed time to complete it was estimated to be approximately 15 minutes and the questions were on point with aim to get answers that would clarify our results. The questions were clearly written so misunderstandings would be avoided. The response to the questionnaire was voluntary and anonymous. The way the questionnaire was carried out – as google form – ensured that no specific person could be identified, so no personal data issues arise.

4.2.3 Sample

The sample could be described as heterogenous as people who responded the questionnaire were not having a specific similar characteristic except that they all were from Cyprus. The size of the sample the researcher could achieved was sixty-eight people.

4.3 Data Collection

The pre-coded questionnaire was designed and distributed in the non-occupied cities in Cyprus. The distribution was carried out by sharing via email to my fellow students and colleagues and friends of mine or my siblings or friends, and by social media (Facebook, Messenger, Viber). The researcher gone out of cafes or different stores or outside some bank's branches and distributed some questionnaires person to person and persons that they were willing to help the survey, completed it in the presence of the researcher. The sample of this survey was drawn from individual residents and enterprises or business firms in Cyprus.

From the total questionnaires sent via email, the 37% of them were responded. Moreover, when the researcher went out of banks or cafes to give questionnaires by hand, the rate of response was about 12%. However, it was that period when Covid-19 virus was shown up in Cyprus, and people wanted to keep distance and follow personal security measures and the researcher believes that this affected their attitude against responding to the questionnaires. The distribution of questionnaires began the February of 2020 and the receiving of completed questionnaires was stopped mid of April 2020, and only the collection of completed, on time and accurate questionnaires used and then the researcher analysed the data and information.

Questionnaires are always an economic and quick way to gather information in a specific frame of reference and offer anonymity to the responders (Fisher 2007). The research examined many parts of online banking. Always regarding the number of respondents, we analysed the percentage of users of e-banking, the years they know or use and the services they do prefer in online banking. Security in online banking is also very important, therefore we checked the respondents whether they are aware of potential threats of their security

while using online banking. Moreover, the research emphasized to the educational level and the age of users and examined the reasons that a member prefers to use it and the reasons that some people prefer to avoid the use of online banking.

Chapter 5

Research Results Analysis

The implementation of research methodology was done to the best possible extent aiming the most accurate results for the researcher based on the research purpose and the individual's goals of the dissertation.

The purpose of the questionnaire was to collect information and then classify and examine responses according to online banking and its risks. The purpose of this study is to examine the intention of non-users to use the online banking, the factors that influence the use of online banking and the measures that banks could take in order to increase the security or improving the banking experience for the online users. The questionnaire is anonymous. The results of the research were used exclusively for educational and scientific purposes. The share of questionnaires were about two and a half months and since then the answered questionnaires were seventy-four.

5.1 Demographic characteristics

In the first sector of the questionnaire the demographic characteristics were examined. Out of seventy-four questionnaires, only 3 of them were Greeks and 2 of them were from Netherlands. As it was very small sample to analyze the consumers perception of online banking to these countries, the researcher worked with the rest sixty-eight answered questionnaires that were from Cypriots.

All the questionnaires were checked for their responsiveness and the logic structure on the responds for the best validity of the results. One of them got rejected from the researcher as its answers were not based on logic or truth. Sixty-eight questionnaires were considered after eliminating uncompleted questionnaires, missing data and outliers.

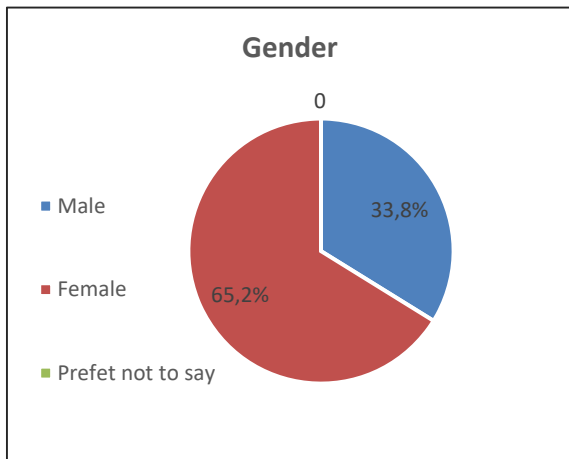


Figure 4. Gender of Respondents

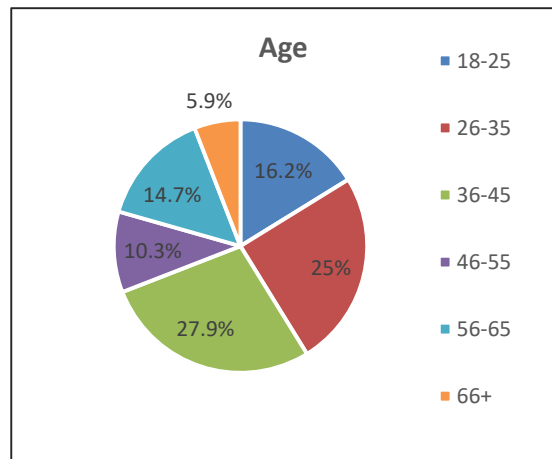


Figure 5. Age of Respondents

65,2% of the respondents were women whilst 33,8% men, all of them from Cyprus. 16,2% belong to age group of 18 to 25, 25% of them are aged between 26-35, 27,9% of them are between 36-45, 10,3% of respondents are from ages between 46-55, 14,7% between 56-65 and 5,9% are 66 years old or more.

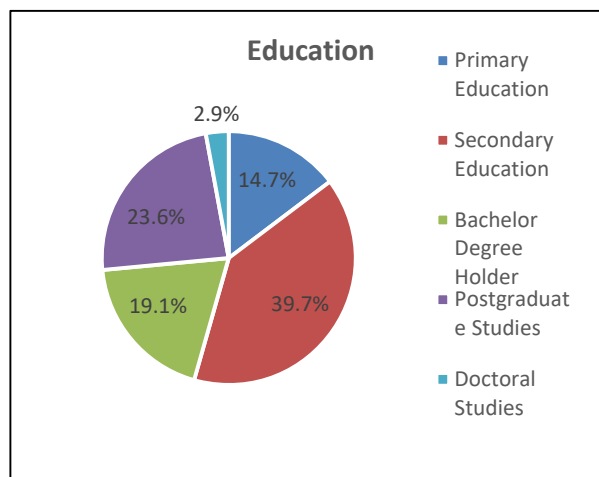


Figure 6. Educational Level of Respondents

Regarding their educational level, 14,7% are primary level educated and 39,7% of respondents are secondary level educated. 19,1% of them have bachelor's degree from College or University, 23,6% of respondents have completed Postgraduate studies and 2 respondents have Doctoral (PhD) education.

5.2 Banking Characteristics of respondents

In the second sector of the questionnaire respondents were kindly asked to answer about banking characteristics to create the profile of them. The familiarity of customers was examined. Familiarity as regards the internet terms means high level of experience in using computers and new technological methods that as Karjaluo et al, (2002: 268) argue, influence positively the attitude of the consumer about usage of electronic banking.

All of sixty-eight respondents do have internet access at home or at work. The most of them, at a percentage of 89,7%, access to the internet through mobile or smartphone and 76,5% of them also use the laptop. The respondents mainly use the internet for surfing in the social media, email, online shopping, and banking.

The questionnaire indicated that the main services that respondents visit the bank are for deposit of money (75%) and pay bills (47%). The answers of monthly visits to ATM or to the bank branch are analysed and presented in figure 7 and 8.

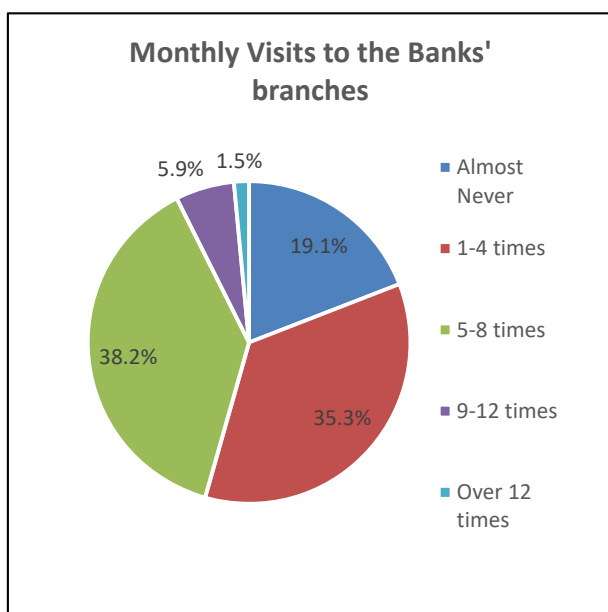


Figure 7. Monthly Visits to Banks' branches

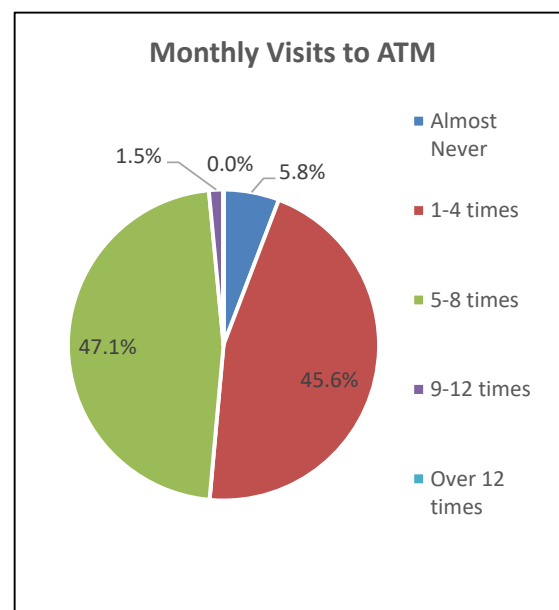


Figure 8. Monthly Visits to ATM

Out of sixty-eight respondents the 17,65% of them, do not use internet banking to any of their accounts to any of the banks they are connected to. From this percentage of not having online banking, the 16,7% of them belongs to age group of 18-25, 8,3% belong to age group 36-45, 25% of them belong to age group 46-55, 33,3% of them are aged between 56-65 and 16,7% of them belong to 66+. The findings of the questionnaire indicate that all the respondents who belong to age group of 26-35 years old do use online banking services.

A conclusion is that as the age increases the results show that it also increases the amount of people who prefer the traditional ways of banking instead of replacing some services with online banking methods.

Respondents who do not use online banking services did have the option to note down why they do not. One of them responded that is a student who live with her parents and she did not feel the excessive need of having her own online banking services, at least for now. Another one, responded that he just turned eighteen and is willing to proceed to having his own account and use online services, but until now he was under aged. The one who is aged

36-45 noted that works in a bank so he has daily access to his account and services. From the rest nine respondents who do not have internet banking and have age between 46 years old or above they concern about security and prefer to wait, get reviews from their siblings of how it works and then they may rethink it.

Mobile banking was examined as well. Out of 56 respondents who are users of online banking. 48 of them, a percentage of 85,7% use mobile banking and they get instantly informed about their account wherever they are. The 93,8% of the mobile banking users, have connected their mobile number with the bank and when a transaction is done through their account, they get informed by an SMS. These users stated to feel more secure with this measure.

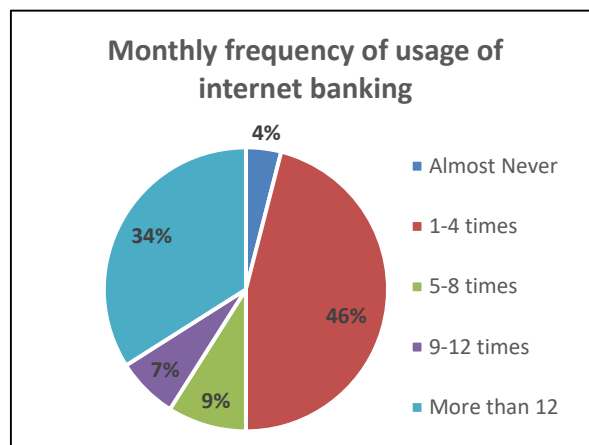


Figure 9. Monthly Frequency of usage of internet

The frequency of the usage of internet banking was analyzed and it is presented in the figure 9. Of the 56 respondents who are users of internet banking, 4% barely use it, 46% use it 1 to 4 times per month, 9% of them use it 5 to 8 times, 7% use it 9-12 times and there is 34% of the respondents that use it more than 12 times per month.

The researcher concludes that the majority of Cypriot internet banking users, use it 1 to 4 times per month. Very close is the percentage of users that use the internet banking services for more than twelve times per month. There is a very low percentage of respondents that almost never use internet banking. A particular similarity of these two respondents is that

their age is 56+ and maybe this is caused to familiarity with technology which is a factor that according to Littler (2016: 439) affects significantly the usage of internet banking.

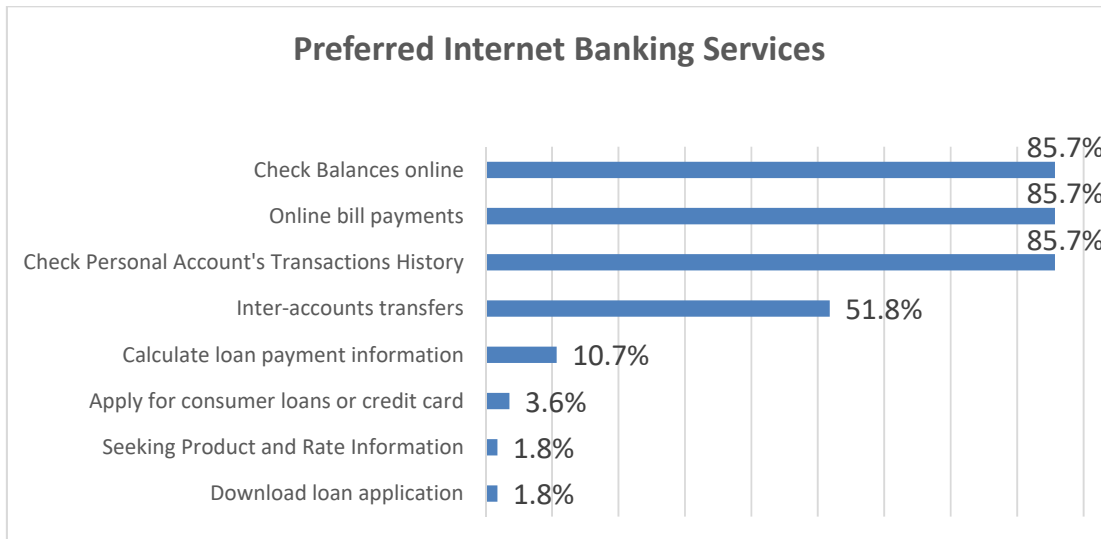


Figure 10. Preferred Internet Banking Services

According to the above Pivot table, the most preferred internet banking services are the online check of balances or the history of transactions of an account and the payment of bills through internet instead of visiting the bank's branch. About half of the users usually do inter-accounts transfers and about 10% calculate loan payment information.

Small interest is indicated in downloading loan applications, seeking product and rate information, or applying online for loans or credit cards. The researcher concludes that when a consumer wants to apply for a loan prefers the face-to-face conversation instead of applying online. There is indicated a hesitation regarding finding information about loans online; people seem to trust the traditional way that requires a meeting with a banker to discuss the finance requirements of the client and according to his needs, his income and some other variables be decided and agreed upon going to a process of loan.

5.3 Internet banking Experience

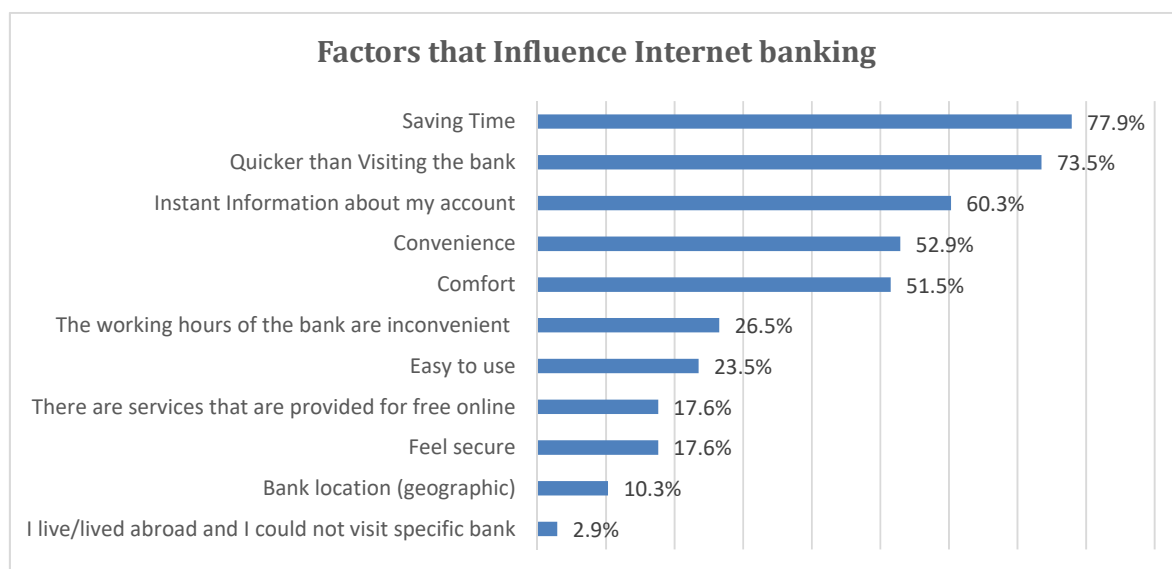


Figure 11. Factors that influence Internet banking

In the third section of the questionnaire, the factors that influence people to join internet banking were examined. As the figure 11 indicates, 77,9% prefer using online banking services because they save time that way and 73,5% because it is a quicker method than visiting the branch of their banks. 60,3% are satisfy about having instant information about their account's details and 26,5% find more convenient the use of internet banking services because there is no time restriction of entering into your internet bank account; instead of the time restriction that working hours of the bank provide.

In general, the factors of comfort and convenience influence the adoption of internet banking, by 51,5% and 52,9% correspondingly.

This study focused on the adoption of internet banking by considering customer point of view. However, some questions aimed to examine, if banks informed about risks, and typical

ways of cyber-attack regarding internet banking, and how this affected the customer's attitude.

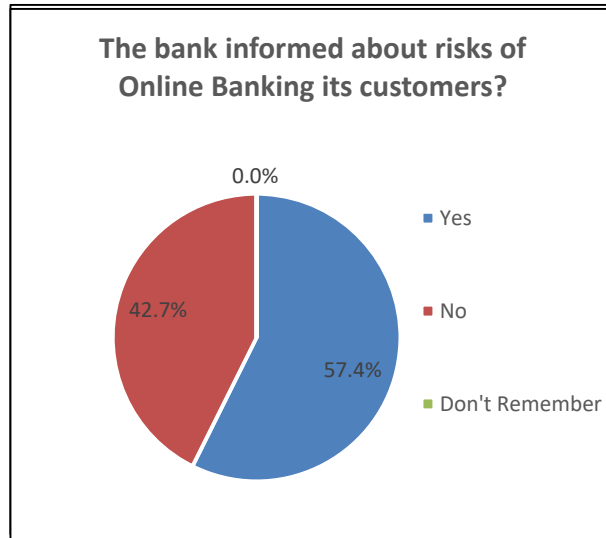


Figure 12. The bank provided information about risks of Online banking?

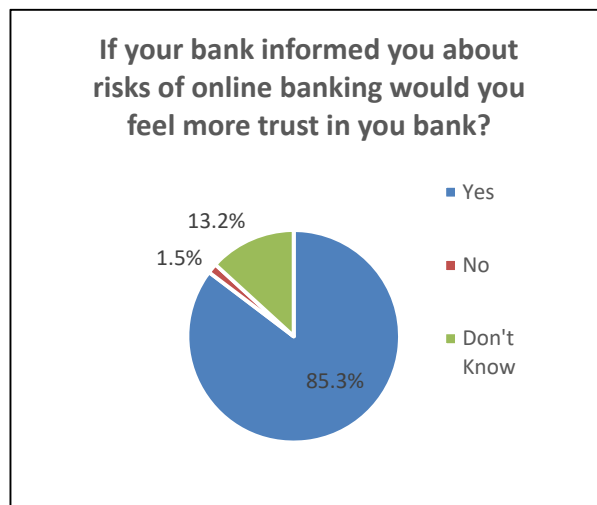


Figure 13. If the bank provided information about risks of Online banking influence more trust?

The respondents' views were almost divided in the question whether banks provided information to customer's about risks of online banking. 57,4% responded that they got informed about risks and 42,7% they did not. As the researcher concludes according figure 13, most of the respondents, in particular 85,3%, would value it positive if the bank voluntarily informed about internet banking risks or advised them with security measures

against these threats. This move from the bank, would be characterised as a strategic move, because it would influence the consumers' feeling of trust against banks.

A significant question that derives from this attitude of Cypriot users is whether these consumers searched by themselves in the literature available, like bank websites, newspaper news and so on, about risks and security measures against electronic attacks. For example, in the question whether they reuse the same password for internet banking to other cases 16,1% respondents said that they do so, while 83,9% answered that they do not.

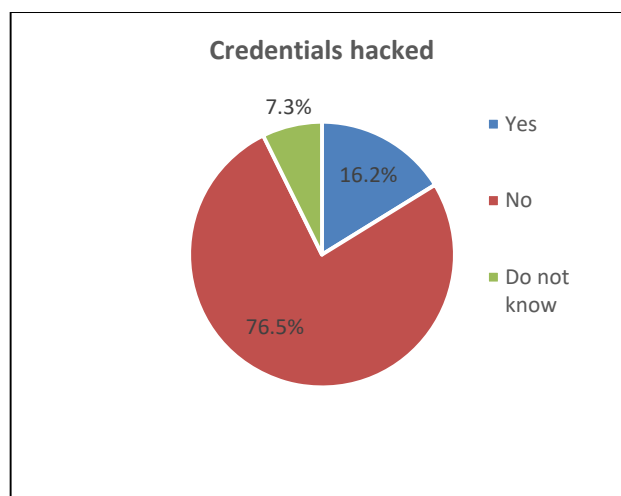


Figure 14. Credentials hacked

Respondents asked to reply to the dichotomous question about if ever happened to them or anyone from their familiar environment to have his/hers credentials hacked, and 76,5% replied with no, 16,2% replied with yes and 7,3% replied that they do not know.

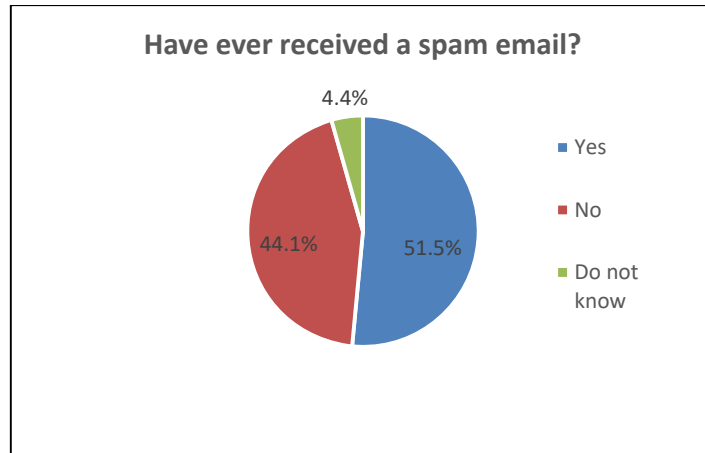


Figure 15. Have ever received a spam email?

As indicated in figure 15, 51,5% stated that they received a spam email which it seemed to be sent from their banks, 44,1% that they did not received such an email and 4,4% do not know.

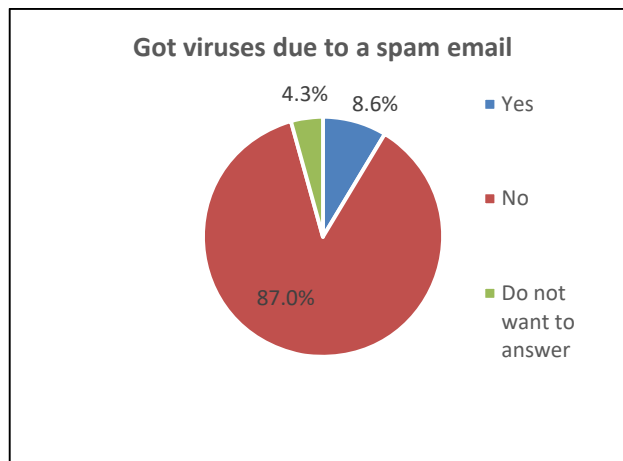


Figure 16. Have ever got viruses due to a spam email?

Surprisingly, 8,6% respondents, who received such a spam email, have at least once, clicked on some websites written on this email or somehow, they got viruses. 5,4% have at least once, noticed something suspicious while they were banking online and reported it to their banks.

The researcher concludes that Cypriots need to be more aware and informed about risks, probably in general, internet risks as almost one per five Cypriots seem to reuse the same credentials of their internet banking in other cases as well. Hacking of these credentials could cause significant problems to all users, especially to them who do reuse it. Moreover, almost one to ten who received a spam email that seem to be from their banks, have at least once clicked on some fake websites on it or got viruses. In general, Cypriots, need to be more suspicious and informed about risks and security measures. Banks should be emerged, and see their responsibility of informing their clients, but also, Cypriots, should try to be informed about these risks and how to protect from them.

In the fourth section, respondents were asked to rank statements that have to do with satisfaction of online banking, with a scale from one to five, whereas one equals to strongly disagree and 5 to strongly agree. 48,5% of respondents reacted that the banks working hours are very inconvenient for them; while 7,4% strongly disagree and 29,4% are neutral regarding to this statement.

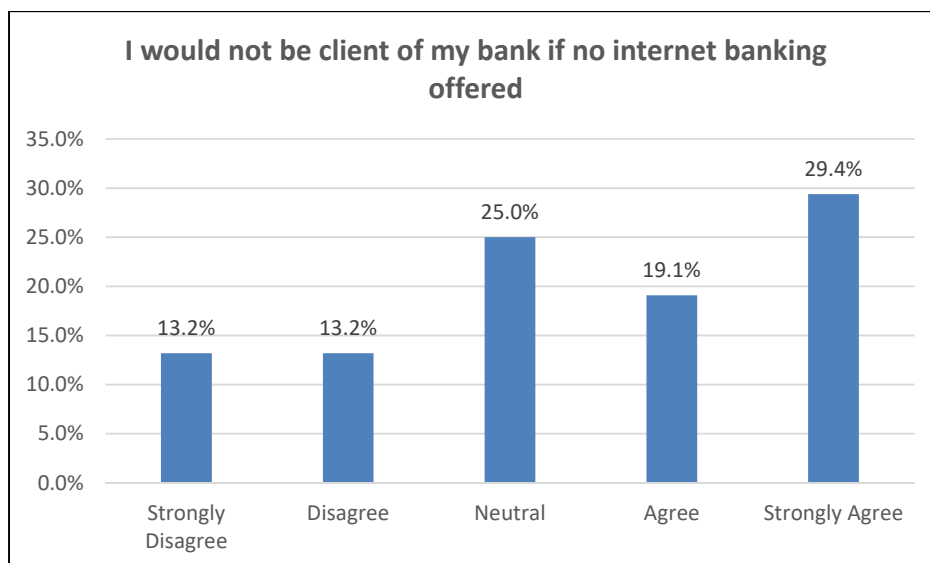


Figure 17. “I would not be client of the bank if no internet banking offered”

A significant result of this survey is that a total of 48,5% of respondents would not be clients of their bank if there was not the ability of online banking. Although, 25% are neutral to this statement whilst 26,5% disagree or strongly disagree. In the next year, 47,1% of

respondents, agree of having internet bank account in the next 12 months; instead of 25% who are neutral and the rest who disagree with the statement. This result indicates that almost half of the respondents, value positive the internet banking.

Security is a significant factor regarding internet banking as for consumers as for the banks. As Rayport et al, (2004: 147), state, a proper security system should be able to prevent the illegal or inappropriate use of its data and to deter cyber-criminals and hackers.

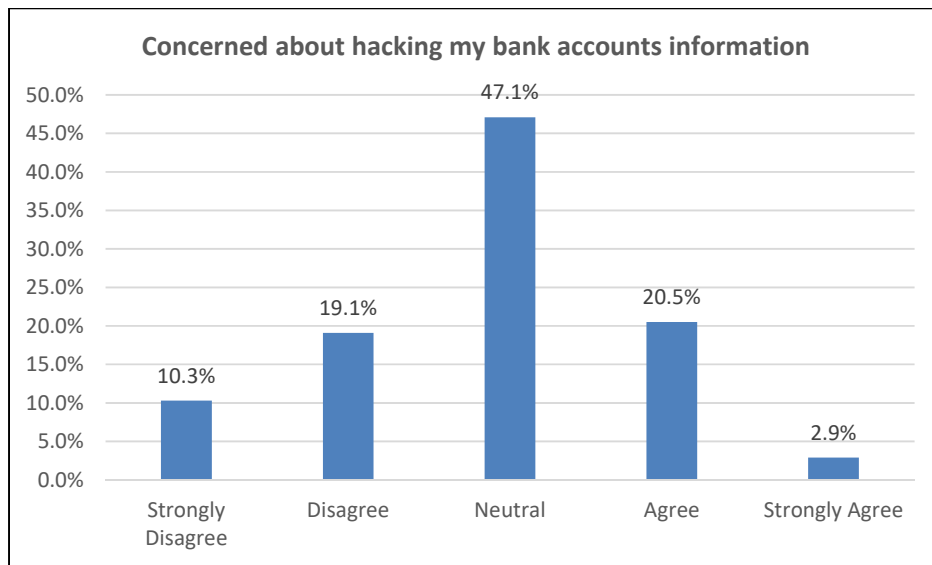


Figure 18. “I am concerned about hacking my bank accounts information”

47,1% of respondents are neutral regarding the statement of being concerned about hacking their bank accounts info, whilst 29,4% and 23,5% agree and disagree, respectively. Also high was the percentage of neutral responds, (32,4%) regarding the statement of feeling unsafe of online banking because consumers prefer the personal contact with a bank employee to help solving a transaction problem; whilst there was a disagree percentage up to 58,8%. This statement got a very small percentage of positive responds up to 8,8%.

A significant note from the researcher is that out of 6 respondents who do agree with this statement, 3 of them aged 66+, one of them belongs to ages between 56-65 and two belong to age group of 18-25. Also, from this statement, the 5 out of 6 people, have a maximum secondary educational level.

51,5% of respondents are neutral regarding the statement of feeling that they will have no assistance if they need help while using online banking; whilst 5,9% agree and 42,6% disagree or strongly disagree with this statement. There was not any respond of strongly agree with this statement.

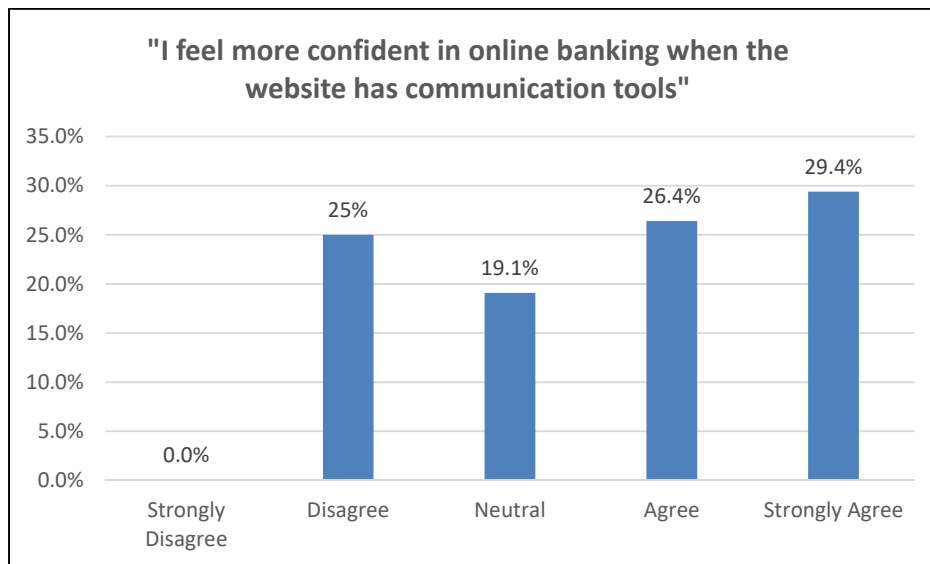


Figure 19. "I feel more confident in online banking when the website has communication tools"

Next, respondents were asked to rate the statement: "I feel more confident in online banking when the website has communication tools, such as chat box, and so on". The quarter of respondents disagree, 19,1% do not have a preference on existing or not such tools whereas 55,8% agree or strongly agree with this statement.

The 69,1% of researcher's sample argued that they check their accounts' balance through online banking systematically; whilst 16,2% were neutral and 14,7% they do not do it systematically. Moreover, an overwhelming percentage of 75% of users of internet banking use internet banking services while they are at work and 83,9% use these services in non-working hours of banks. High levels of internet usage at work are seen to positively influence e-banking registration (Papazoglou et al., 2018: 19).

Chapter 6

Conclusions

This survey was carried out in order to enhance our knowledge about the most important factors regarding the adoption of internet banking, as referred in literature review, and analyse the perceived risks and attitude of Cypriot users. After reviewing different articles regarding this theme, the most viewed factors are familiarity, security, trust, service quality, convenience, privacy, risks, comfort and so on. On the basis of these factors, a questionnaire was designed, and the survey was conducted in Cyprus to collect primary data.

As a conclusion, internet banking users believe that internet banking has simplified their lives due to comfort and convenience it provides. The factor of information quality seemed to be very important as users perform internet banking easily if the services are simple, easy and understandable. Integrated services provide usefulness to customers as they can track their financial information at one place. The main internet banking services that Cypriots prefer are online check of accounts' balances or the history of transactions of an account and the online payment of bills instead of visiting the bank's branch. Also, another widespread internet banking service is the inter-accounts transfers.

Age is a significant factor for the online banking adoption as the majority of older people seem to prefer the traditional ways of banking instead of replacing some services with online banking methods. Familiarity with technology and the influence for internet banking seem

to be negatively associated with age as expected. Mandilas et al, (2009: 24) did a survey regarding Greek users of internet banking and as a result was that for Greek customers, the level of their familiarity depends on gender and education. For users of internet banking in Finland – which country is very internet banking friendly according to Eurostat 2019 – Maenpaa et al, (2008: 13) conducted a survey that showed that for novice users, the usage of internet banking bears an impression of modern consumer and distinguishes them from consumers using traditional branch bank services. This indicates that Finns dare more than Cypriots or Greeks to adopt internet banking for adding prestige to their self-image, even if their skills with technology are not expert.

However, when a Cypriot consumer - regardless of age - wants to apply for a loan prefers the face-to-face conversation instead of applying online. According to the researchers' analysis, there is a hesitation regarding finding information about loans online since Cypriots seem to trust the traditional way that requires a meeting with a banker to discuss the finance requirements of the client and according to his needs, his income and some other variables be decided and agreed upon going to a process of loan.

Furthermore, the researcher could conclude that educational level affects the influence on internet banking usage. Educational level and familiarity with internet are correlated (Maenpaa et al, 2008: 16) and this cause the affection of adopting internet banking. A significant percentage of consumers whose maximum educational level was secondary education, prefer the personal contact with a bank employee to help solving a transaction problem. Probably their educational level affects their familiarity with technology and hesitate to replace personal contact with bankers with usage of online banking services.

The researcher, also, concludes that Cypriots regardless educational level or age, need to be more aware and informed about risks, and in general, internet risks. Cypriots internet banking users need to be more suspicious and informed about risks and security measures. This study presents that trust in banks firms and technology have effect on the adoption and the willingness of internet banking. The survey results showed that trust is based on the actions of the bank. Banks could be emerged and take over their responsibility to inform

their clients about risks and how to be protected from them. Also, their internet banking website should be easy to use and user-friendly so it could help in the adoption of internet banking of users who are not very technology familiar. A website, that is poor designed without tools for help creates more difficulty in the usage of it, and it is against perceived ease of use belief and the most customers would avoid it. Users in Sweden, Finland and Greece are also with this attitude regarding the designing and the usage of tools in internet banking websites (Qayyum et al, 2012: 34 & Maenpaa et al, 2008: 18 & Mandilas et al, 2009: 18). Although, Maenpaa et al, (2008: 18), conducted conclusion that auxiliary features and tools are needed for novice users, whereas for expert users are unnecessary.

6.1 Limitations of research

During this research, the researcher understands its limitations and is in a position at the end of the research to point to directions for further research. The entire range of factors that affect or influence the adoption of internet banking could be unlimited; hence according to literature the most basic and major factors were examined and analysed.

This survey has several limitations in terms of content, sample, duration, presentation, and processing. The scope of the dissertation was limited to Cyprus and strict time management was needed for this research. The sample of this survey was drawn from individual residents and enterprises or business firms in Cyprus. The sample size of the study was limited despite the researcher's efforts to spread the sharing of questionnaires. There was an age limitation as the respondents should be adults as according to the General Data Protection Regulation (GDPR) regarding banking, only adults could request for online banking. Moreover, there was a small percentage of 8,3% of respondents of the questionnaire that belonged to age groups of 36-45. Due to this small portion, the researcher could not have specific conclusions or tensions to be noted about this age group. Also, 16,7% of respondents are older than 65 years old and specific characteristics or some tensions of them regarding internet banking that were concluded could not reflect the whole population with this age in Cyprus.

The researcher shared questionnaires via email or social media and gone out of bank's branches and different stores and distributed some questionnaires person to person. However, there was a small percentage of persons that they were willing to help the survey by completing it in the presence of the researcher. This specific timeframe given to these people could be considered as a limitation as well. A limitation of the research was that even though the researcher went out of bank's branches, the questionnaires were not distributed to employees of the bank that were working to the internet banking management team.

Moreover, interacting with customers of a bank was a big challenge to the researcher as many times the clients were not willing to spare their valuable time. However, it was that period when Covid-19 virus was appeared in Cyprus, and people wanted to keep distance and follow personal security measures and the researcher assumes that this affected their attitude against responding to the questionnaires.

6.2 Directions for further Research

With respect to the current study, the researcher presents a few issues for concern. The factor quality, which the researcher tried to analyse regarding Cypriot internet banking users, is introduced in previous literature with many classifications. Also, for further research would be important to have open and explanatory interviews that emphasize to the issues of the study. A more extensive study with interviews about probably even more dimensions or attributes of internet banking in the context of consumer expertise would clarify the attitude of Cypriots.

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