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**Electronic Banking in Cyprus
From Customer's Point of View**

NIKOLETTA HADJIMICHAEL

SUPERVISOR

DR. STELIOS MARKOULIS

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Summary

Electronic banking services are being used with an increasing frequency and are gaining more and more popularity in most countries, including Cyprus. Previous researches have confirmed the importance of such services for both Banks and customers. However, electronic banking is still considered as an alternative channel for banking operations concerning customers, leaving space for improvement on more active users. This study aims to identify and to understand the factors that influence the attitude of bank customers toward electronic banking services and subsequently the adoption and use of such services, throughout their experiences, concerns and needs.

The primary data were collected from questionnaire interview forms, which were randomly distributed to 90 customers of all banks in Cyprus. The main findings of the study are that: we are still at the beginning of the penetration with the main factors of choosing e-banking services the 24h access to accounts, the time saving and the convenience and the main disadvantages of electronic banking, the security issue and the limited services. From the results there is no identification concerning gender and adoption rate, while there is insufficient identification between some specific characteristics of the personality and attitude towards life such as to be risk taker and adoption rate of electronic banking system. On the contrary there is identification between age and adoption rate and between (un)employment and adoption rate of electronic banking system.

Quality service, quick service and security affect customers' decisions, while human contact is considered to be important, reflecting Cypriot's culture. The majority of active users are satisfied users, who consider the service to be reliable and encourage friends and relatives to do business through online banking system, but they need to be sensitized on online issue threats.

Περίληψη

Η χρήση της Ηλεκτρονικής τραπεζικής έχει πλέον αυξηθεί κερδίζοντας όλο και περισσότερη δημοτικότητα στις πλείστες χώρες, συμπεριλαμβανομένης και της Κύπρου. Προηγούμενες έρευνες έχουν καταδείξει το πόσο σημαντικές είναι τέτοιου είδους υπηρεσίες, τόσο για τις Τράπεζες όσο και για τους πελάτες. Εντούτοις, η Ηλεκτρονική τραπεζική εξακολουθεί να θεωρείται από τους πελάτες, εναλλακτικό κανάλι για τις τραπεζικές τους συναλλαγές, αφήνοντας περιθώρια ανάπτυξης για περισσότερους ενεργούς χρήστες. Η μεταπτυχιακή διατριβή έχει ως στόχο την εξακρίβωση και κατανόηση των παραγόντων που επηρεάζουν τη συμπεριφορά των πελατών απέναντι στην Ηλεκτρονική τραπεζική και κατ'έπекταση την υιοθέτηση και χρήση τέτοιων υπηρεσιών, μέσα από τις εμπειρίες, τις ανησυχίες και τις ανάγκες τους.

Το πρωτογενές υλικό έχει συλλεγεί από ερωτηματολόγια που δόθηκαν τυχαία σε 90 πελάτες όλων των τραπεζών της Κύπρου. Τα κύρια ευρήματα της μεταπτυχιακής διατριβής είναι τα ακόλουθα: βρισκόμαστε στην αρχή ακόμη της χρήσης και εντριβής με την ηλεκτρονική τραπεζική, με τους κυριότερους λόγους επιλογής της υπηρεσίας να είναι η 24ωρη πρόσβαση στους λογαριασμούς, η εξοικονόμηση χρόνου και η άνεση, ενώ τα βασικά αρνητικά της ηλεκτρονικής τραπεζικής να είναι τα θέματα ασφαλείας και οι περιορισμένες υπηρεσίες. Τα αποτελέσματα δεν έχουν καταδείξει κάποια σχέση μεταξύ φύλου και βαθμού υιοθέτησης της υπηρεσίας, ενώ υπάρχει ανεπαρκής σχέση μεταξύ ορισμένων χαρακτηριστικών της προσωπικότητας και στάσης ζωής, όπως το να είναι κανείς ριψοκίνδυνος και βαθμού υιοθέτησης της ηλεκτρονικής τραπεζικής.

Αντιθέτως, έχουν καταδείξει ύπαρξη σχέσης μεταξύ ηλικίας και βαθμού υιοθέτησης, όπως επίσης και μεταξύ εργοδοσιμότητας και ανεργίας και βαθμού υιοθέτησης της ηλεκτρονικής τραπεζικής. Η ποιότητα εξυπηρέτησης, η γρήγορη εξυπηρέτηση και η ασφάλεια επηρεάζουν τις αποφάσεις των πελατών, ενώ παράλληλα η ανθρώπινη επαφή θεωρείται σημαντική, αντανακλώντας την κουλτούρα του Κύπριου πελάτη. Η πλειοψηφία των ενεργών χρηστών είναι χρήστες ευχαριστημένοι που εμπιστεύονται την υπηρεσία και ενθαρρύνουν φίλους και συγγενείς να την χρησιμοποιούν, αλλά που χρειάζεται να ευαισθητοποιηθούν σε θέματα ηλεκτρονικών κινδύνων.

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Introduction

Nowadays, Internet has become a powerful weapon for the business sector. The rapid spread of internet the recent years, the continuous development of technology and its unlimited use for almost all types of transactions, has transformed the conditions in the business sector. The internet is a significant mean, able to secure strategic advantage for the businesses and able to ensure their welfare, survival, stability and profitability. In a difficult economic period, as we live today, with tremendous competition and high cost of Operation, survival is a bet for businesses.

Businesses are constantly seeking new ways of operation, expansion and communication with the customers, new channels more competitive, more efficient, modern and innovative to meet the new conditions of life and of course with less operating expenses. Especially the banks are going through one of the toughest economic periods. Survival and stability is a challenge for all the banks in Cyprus.

The economic crisis, the recapitalization of Cypriot Banks by a bail-in of bank deposits, the collapse of Laiki Bank and the non-performing loans led banks into a difficult position not leaving space of error. The “red” loans are continuously rising, reaching unregulated levels and the stabilization of them is a basic objective for the banks. Because of the current economic conditions of the banking system, people’s trust in banking institution has been shaken and banks are looking for new ways to gain it back again. It is imperative to take all the necessary steps to address the high instability’s level and attract again the customer with new products/services.

One effective solution is cutting the operating costs. Here, we return to electronic banking service. Traditional banks are very expensive to run, while Electronic Banking is one of the cheapest delivery channels and Banks can take further benefits such as decrease on operating and administrative costs. The cost of an electronic transaction is dramatically less when is done online compared to at a traditional branch (Robinson,2000), resulting fewer employees, less and smaller branches and greater profit for investments.

Now the bank is transferred to the screen of the computers. All the Banks now in Cyprus provide their customers this online service, and not only from computers and internet but also from smart phones and applications, which they improve and upgrade following the dictates of technology and modern life. The policies of Banks are oriented and focused on quality service, identifying and analyzing the customer's needs, as the conditions are continuously changing.

On the other hand, the customers are more and more willing to experiment with alternative banking products and services, especially the younger generation. The traditional intercessory role of the banks for cash and cheque deposits, withdrawals, transfers of money, direct debits, statements, even for accounts openings, is limited since all these are offered electronically through computers, mobiles and ATM. However, in contrary to other countries, we are at the initial stage as old-fashioned, closed-minded customers, mainly older, who are not familiar with technology, prefer the traditional procedures and services at bank branches. Apart from the age, important it's the trust the Cypriot customer has to these innovative products/services.

The purpose of this study is to investigate and present the concept of electronic banking from customers' viewpoint, their experiences, confidence and trust to these online services, as the access to these services is still thought to be an innovative method in Cyprus. We will analyze the efficiency and effectiveness of electronic banking, the risks, and the dangers for banks and customers. Moreover, we will present the advantages for both sides. We will picture the electronic banking from the customer's point based on questionnaires, identifying, analyzing and understanding the factors that influence the attitude of bank customers toward electronic banking services and subsequently the adoption and use of such services through their experiences, concerns and needs. The method that has been used was based on an interview questionnaire form given to randomly selected customers from different banks in Cyprus and the bibliography was based on the existing bibliography.

Chapter 1

Literature Review

1.1 Definition of Electronic Banking

The definition of electronic banking varies among researchers, because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television, telephone or mobile phone (Daniel, 1999). The terms Electronic Banking, E-Banking, Internet Banking and Online Banking are often used in the literature to refer to the same things, while e-banking can be described as the “umbrella” term. According to Arunachalam and Sivasubramanian (2007), Internet banking is where a customer can access his bank account via the Internet using personal computer or mobile phone and web-browser. Burr (1996) describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. In addition, Ongkasuwan and Tantichattanon (2002) define electronic banking service as the banking service that allows customers to access and perform financial transactions on their bank accounts from their web-enabled computers with Internet connection to banks’ web sites at any time they wish. Salehi and Alipour (2010) defined electronic banking as the automated delivery of new and traditional banking products and services directly to customers through electronic and interactive communication channels. Electronic banking enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution’s website, as the bank branches alone are no longer able to offer services to meet the needs of today’s highly demanding and challenging customers (Utakrit, 2012).

1.2 History of Electronic banking

Nowadays, Internet is the main channel of electronic banking. Internet Banking, or Electronic Banking, is an extension of the development of banking sector. Technology and in particular the Internet has been a key driving force behind the changes in the banking industry (Karjaluoto, 2002). Online banking was first introduced in the early 1980s in New York, United States, when four of the city's major banks offered home banking services. Many banks began to view web-based banking as a strategic imperative and the early 2000s saw the rise of the branch-less banks as internet only institutions (Wikipedia). The e-banking business model evolved through three main phases that can be summarized as follows (Shannak, 2013):

- The Eighties: The early beginning

Modern e-banking first appeared in New York in the early 1980's, where it was offered by major banks in the city, such as Citibank and Chase Manhattan. The United Kingdom banks started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. Back then it required a computer terminal, monitor, and a telephone line. The early services were very basic ones such as viewing your bank statements and paying your bills online. It wasn't a full transaction banking service.

- The Nineties: Modern Internet Banking

In the 1990's, the use of internet evolved when people owned computers and were connected to the dial-up home internet. The first bank to offer the most comprehensive e-Banking services was the Stanford Federal Credit Union bank in 1994. This technological evolution and the spread of home internet usage meant customers enjoyed 24/7 e-Banking services. On the other hand, many customers during the 1990's didn't trust the concept enough to make serious and substantial monetary transactions and did not think the internet banking is safe enough.

- The 2000's: The growth and acceptance

Throughout the 2000's on-line banking started to grow and become more acceptable by customers. It covered most of the banking services range. The first also "on-line only" banking firms that offered better interest rates and more features to their clients appeared, taking advantage of the cost savings achieved by the "Digital Firm" business model (Shannak, 2013).

1.3 Technology - Internet

Customer-centered companies are adept at building customer relationships, not just products. Technology plays an increasing role for many companies and industries, offering new ways to satisfy customer needs and build loyalty (Kotler and Keller, 2015) and the banking sector is a dramatic example.

Technology is changing the rules of the game in a very fundamental way. Banks are investing enormous sums into digital transformation, shaping the new business landscape to meet customers' financial and non-financial needs and trying to build digital trust (www.accenture.com). Banking is being transformed by the ability to bank online and via mobile apps, with some customers rarely see a bank lobby or interact with an employee anymore.

Technology and Internet have transformed the economy, industrial sectors and business life. People are better informed and more demanding. Consumption habits and decision-making criteria have shifted. Most businesses worldwide have been forced to cope with this information-driven revolution (Gonzalez F., 2014). With technology changing constantly, it's important for the Banks not just to track but also to adapt to what's trending around the world. But banking, because it is highly regulated, has not evolved as quickly as other sectors. Nevertheless, banking right from our home, banking on-the-go, etc are the new reality and the impact of the technology in banking sector.

Technology is at the core of almost every conversation within organizations in the banking industry as they look to optimize and transform their business operations. Interestingly, technology is no longer just an enabler for business optimization but fast becoming a disruptor of traditional business models and thus cannot be overlooked. It

must be a key part of the transformation strategy. To remain competitive, financial services organizations must accept and adapt to the fact that the customer base they serve is going through a major shift in terms of buying behaviors and preferences, much of which is being driven by the digital technology revolution. Generation Y, for example, wants more choice and control in how they interact with a bank, whether it is self-directed, internet-led, person-to-person, on the phone or in an office (Khosla, 2016).

The affordability and penetration of the internet and the “new age” consumer, who is always connected and looking for a personalized experience with real-time online information, are the new realities that changed the way banking works in the 21st century and the Internet banking today is the biggest focus area in the “Digital Transformation” agenda of banks (www.ey.com). Technology has given banks a strong opportunity to offer various services across alternate channels such as the web, mobile, call centers, ATMs, and other systems and to optimize the core banking functionality, to reduce revenue leakage and to speed up customer service processes. However, branches continue to remain the primary service delivery channel for all the banks in Cyprus and the dominant belief is that the branch is the place to conduct all the banking transactions. The adoption rates depend on several reasons and the key issue is consumer behavior (www.ey.com).

1.3.1 Customer Behavior and Satisfaction

Consumer behavior is the study of how individuals, groups, and organizations select, buy, use and dispose of goods, services, ideas, or experiences to satisfy their needs and wants. Market is a collection of customers with needs, wants and demands and Banks have to identify, meet and satisfy them (Kotler and Keller, 2016). Products should combine quality, effectiveness and safety. Close to customers and understand their needs, Banks can respond to the aspiration of customers, whatever their lifestyle and their needs and transform science and technology into innovative products, which in return gives competitive advantage and loyalty.

The consumer’s behavior is influenced by cultural, social, and personal factors (Kotler and Keller, 2015). For example social classes, family, age occupation, personality, and lifestyle are some important factors that have important direct impact in consumer’s behavior and attitude. As the market s continuously changing, so is the way the company

dealing with the marketplace. Companies and so Banks must understand the consumer's behavior and needs to best market their products because success can be achieved only through customer value along with customer satisfaction.

Consumer responses are influenced by four key psychological processes- motivation, perception, learning, and memory and company's task is to understand how these drive consumers to act and result in decision processes and purchases decisions (Kotler and Keller, 2015). The Buying Decision Process typically has five stages and marketers must develop activities and programs that reach customers at all decision stages. The buying process starts when the customer recognizes a problem or need triggered by internal or external need. Gathering information from a number of consumers, banks can identify what trigger a particular need. Consumers search and gather information and evaluate the alternatives trying to satisfy a need and looking for certain benefits. Consumers eventually make a purchase decision and buy the most preferred brand. The company's job doesn't end with the purchase, since after purchase, post-purchase satisfaction, actions and product uses and disposal must be monitored (Kotler and Keller, 2015).

Successful businesses are those who carefully cultivate customer satisfaction and loyalty. Customer satisfaction is a person's feelings of pleasure or disappointment that result from comparing a product or service's perceived performance to expectations (Kotler and Keller, 2015). Service is an act or performance one party can offer to another that is essentially intangible and does not result in the ownership of anything (Kotler and Keller, 2015).

Nowadays consumers are more demanding, better educated and better informed than ever, and they have the tools to verify companies' claims and seek out superior alternatives. So, even the best-run companies have to be careful not to take customers for granted. Consumers expect companies to do more than connect with them (Kotler and Keller, 2015). To keep customers loyal, a firm must go beyond merely satisfying to truly delighting them (M.J. Arnold et al., 2005). Even the best-run companies have to be careful not to take customers for granted (Kotler and Keller, 2015). Customer satisfaction has been linked to a number of important outcomes, including increased market share, profitability, customer retention and loyalty, purchase intentions, usage rates, and the benefits associated with positive word-of-mouth effects (M.J. Arnold et al., 2005).

Attain satisfaction may be insufficient, and that going beyond customer satisfaction to “customer delight” is required. Customer delight has been thought to be the key to true customer loyalty and loyalty driven profits. Many companies monitoring satisfaction and have made significant financial and human resource investments into the measurement and analysis of customer satisfaction and its subsequent improvement (M.J. Arnold et al., 2005). Many firms are systematically measuring how well they treat customers, identifying the factors shaping satisfaction, and changing operations and marketing as a result (Kotler and Keller, 2015).

Service failure recoveries play an important role in the service process. It is important for the firms to attempt to recover dissatisfied customers through an appropriate set of actions known as “the customer recovery process”. Not all customers can be satisfied through such attempts, however (S.C. Chuang et al., 2011). However, a proper recovery generates customer-switching resistance, that is, recovery is crucial in preventing customers who perceive a service failure from switching services (S.C. Chuang et al., 2011).

1.4 Internet Banking and the Current Trends in Financial Technology

Despite the slow adoption rate in early part of the history of internet banking, online banking has proven that it's here to stay and slowly began to gain popularity. Online banking has become so widespread today that customers expect accounts to include free online banking and in the present scenario online services have become an added feature in the banking sector, while many banks only operate on the internet, effectively decreasing overhead costs to offer more competitive rates and enjoy higher profit margins. As technology continues to advance, online banking will likely become even easier and more ingrained in the average consumer's lifestyle (www.gobankingrates.com). According to Tyler McConvill, a digital marketing manager at Bank of Internet USA, the oldest online bank dedicated to service via Internet, customers who use the Internet to do their banking are now the norm, not the exception. “The goal is to provide the optimal banking experience for all banking customers, not simply the optimal banking experience for online banking customers”, McConvill said.

“This should be the goal of any bank that wishes to remain competitive in a world that is rapidly shifting away from the traditional ways of conducting business. Banks that fail to realize that online banking is really just banking in its new conventional form will soon find themselves struggling to survive”. A 2015 survey about online banking conducted by the Federal Reserve Bank revealed that 74 percent of people had used internet banking and 35 percent had used mobile internet banking during 12 months (www.gobankingrates.com). Therefore, online banking is growing with the customer satisfaction and has become an appropriate pedestal for banking sector.

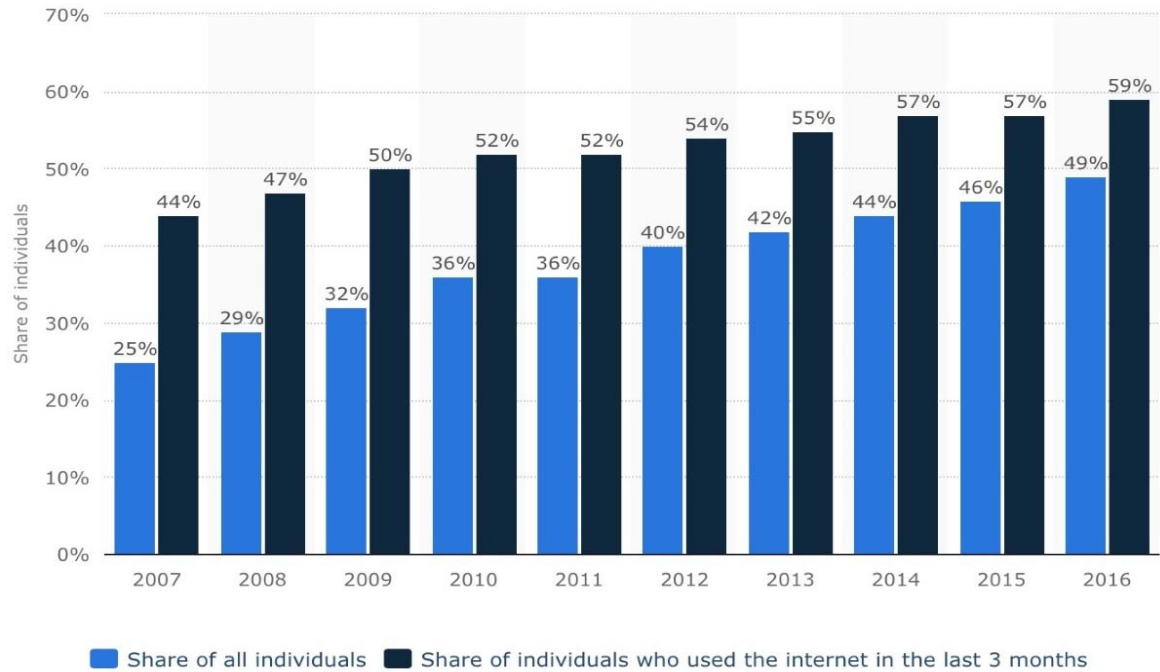
The internet may be growing fast, yet the only thing growing quicker is online and mobile banking. In the recent years, the banking industry around the world has been undergoing a rapid transformation and customers expect high quality services from banks which, if fulfilled, could result in significantly improved customer satisfaction levels or the customer may shift its business to other banks (IRJBM).

In the coming years, banks need to keep their focus on technologies, some new and some evolutionary, that have the potential to redefine banking. Mobility and Wearables, is a recent wave of innovation in the financial sector, as banks realize to the possibilities of digital technologies.

The increasing use of Smartphones and tables has changed customers’ behavior and fueled adoption of mobile banking. Mobile technology is revolutionizing the global banking and payment industry supporting a wide variety of banking services such as fund transfers between accounts, stock trading, and confirmation of direct payments (Gupta, 2013; Niina et al. 2004). Mobile devices such as smartphones and tables are being employed alongside personal computers, and even replacing them in some applications. Banks are increasingly investing on mobility, enabling the mobile web and mobile app channels for online banking, and by providing new mobile payment services (Gianni Fenu, Pier Luigi Pau, 2015).

Wearables, on the other hand, are tipped to become the second-largest selling consumer electronics product, behind smartphones, by 2020 (Rajashekara and Puneet, 2016). Although not yet commonplace, smart wearables are set to revolutionize the banking industry (<http://pages.misys.com>).

The chart below shows the Online Banking Penetration in the European Union from 2007 to 2016 (www.statista.com).



Chapter 2

Electronic Banking Services

in Cyprus

The banking services and the type of financial transactions that a customer can transact through online banking are determined by the financial institute. The first Cypriot bank and the major Cypriot financial institution “Bank of Cyprus” in 2000 introduced electronic banking to provide alternative service channels (internet, telephone, WAP) (www.bankofcyprus.com). The online banking penetration in Cyprus in 2016 was 28%, according to online statistic displays (www.statista.com).

The banks that are currently incorporated in Cyprus are Bank of Cyprus(1Bank), Alpha Bank (Alpha Express Banking), Ancoria Bank (Online Banking), Cyprus Development Bank (E-Banking), Eurobank (E-Banking), Hellenic Bank (Web Banking), Housing Finance Corporation (I-Banking), National Bank of Greece (Ethniki ebanking), Piraeus Bank (Winbank Web Banking), RCB Bank (Online Banking), Societe Generale Bank (eSGBCy), USB Bank (iBank) and Cooperative Central Bank (I-Banking).

Electronic Banking provides some important services, transactional and non-transactional activities, such as (www.bankofcyprus.com.cy):

- Accounts Information > Details: Customers can view the limit, balance and transaction history of all connected accounts. Also, they can see important information such as installments, arrears, due date, interest, etc.
- Accounts > Transactions > Cheques: Customers can order chequebook , they can have analysis of the issued cheques and images of the cheques that have been

presented to the Bank for payment. Users also have the option to stop the payment of a cheque.

- Accounts > Cards: Customers can request replacement of a damaged card and re-issue of a card PIN.
- Accounts > Transaction Status: For each transaction customers can see important details such as the Transaction Number, the creation and execution date, the transaction type, the description, the channel through which the transaction was carried out (Swift, Sepa etc), the amount and the status of the transaction.
- Transfers and Payments: Some of the most important functions offered through Electronic Banking is transfer of funds between connected accounts, own and authorized, transfer of funds to other customers of the same bank and transfers of funds in any currency to local banks and abroad. Also, users can settle utility bills of many Organizations, tuition fees and donations. Furthermore, companies can carry out their company's payroll.
- eProducts: A wide range of options for the opening of online accounts without the need to sign any applications is offered.
- Messages: With this function customers can exchange messages with the Bank, in a secure environment.
- Other Services: Such as Latest Rates, Rate History and Foreign currency converter, Update of personal data and change of contact information.

The Federal Deposit Insurance Corporation (FDIC) manual of examination policies for Internet banking separate Internet capabilities into three levels (registration, informational and interactive) by degree of functionality (Porter Q. A. 2005):

- Level 1: systems that only provide information.
- Level 2: systems that allow users to share sensitive information and communicate electronic information transfer systems.
- Level 3: systems that are most advanced and can facilitate electronic funds transfer and other financial transactions.

Chapter 3

Advantages of e-Banking

3.1 Banks

Bill Gates (2008) announced that “banking is essential, banks are not”. This quotation means that the traditional bank branch is going to vanish in order to be surrogated by electronic banking which continues to attract new users (Azouzi, 2009). Internet banking services are crucial for the long term survival of the financial institutions.

- Cost Savings

Banks selected to be part of the wide world Web for staying competitive in the rapid changing business world and also to take further benefits such as decrease on operating and administrative costs. Traditional banks are very expensive to run, while Internet Banking is one of the cheapest delivery channels for banking products and services and despite the high costs of maintaining e-banking channel, it still can become profitable.

The success of these attempts led several banks to increase their internet availability. The next phase of development was the arrival of internet-only banks that provide online banking and other financial services and products without a network of branch offices (Sharma, 2016). The customers do all of the work themselves so staff number can be reduced. In a long run, banks can save on money and costs and the more transactions can be converted online, the more money will be saved. According to Robinson (2000), the cost of an electronic transaction is dramatically less when is done online compared to at a branch.

- Customer Base

Internet banking is not limited to a physical site; some Internet banks exist without physical branches (Gaikwad, Rathod 2014). So, Banks use it as a competitive edge and a method to efficiently and effectively expand the business beyond the geographical barriers (Rifat S., 2013). Internet allows banks to attract new customers, to reach a whole new market, new segments of population as there are no geographic boundaries with the Internet and Banking is no longer tied to time. Banks can expand their market penetration internationally and offer personalized online services to clients.

- Efficiency – Service quality

Low fees, less paper work and less human errors are involved in the processing of electronic banking transactions. Internet provides the bank with an almost paperless system, which eliminates errors and time and leads to productivity gains. Customers rely on efficient and rapid access to banking information and Banks can become more efficient than they already are by providing Internet access to their customers. Service quality is increasingly recognized as being a key strategic value in the financial sector (Devlin, 1995, Porter Q. A. 2005) and an important component of a successful e-business (Cox and Dale, 2001, Porter Q. A. 2005).

- Customers Service and Satisfaction – Competitive Advantage

Bank customers are becoming increasingly more interested in having internet access to their bank, and banks fully understand that internet banking is the cornerstone of an effective customer relationship management strategy (Sheshunoff A., 2000). Banking on the Internet allows the customer to have a full range of services and with better and faster options a bank will surely be able to create better customer relations and satisfaction and retain their market share. According to Robinson (2000), online banking strengthens the relationship between the service provider and the customer, because it brings banking services directly to a customer's home or office, or in the mobile phone, and this creates customer loyalty. Banking is no longer tied to time and place, so Online services are a must for banks that have to compete with a growing number of services from other financial institutions (Robinson, 2000).

Shechunoff (2000) says further that the single most important driving force behind the implementation of full service internet banking by banks is the need to create powerful

barriers to customer exiting. He argues that once a customer moves to full-service internet banking, the likelihood of that customer moving to another financial institution is significantly diminished. According to Mols (1998), a questionnaire study showed that users of PC banking are more satisfied are less price sensitive, have higher intentions to repurchase and provide more positive word-of-mouth than non-users.

- Brand Image

One of the most valuable intangible assets of a firm is its brand (Kotler and Keller, 2015). Building a strong brand is both art and a science and commands intense consumer loyalty. The American Marketing Association defines a brand as “a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of a seller and to differentiate them from those of competitors (Kotler and Keller, 2015). Internet has become an increasingly important part of the branding and communication strategies (Riley and Lacoix, 2003).Sterne (2001) predicted that “what people think of your company as a whole, and of your products and services by extension, will depend more and more on how they are treated online”. Some authors have gone as far as producing a new term, e-loyalty to define Internet brand (Gommans et al., 2001). Bank reputation and brand image are considered to be among the key critical success factors in the retail banking industry (Canals, 1994). Internet becomes a major challenge for retail banking, in which customer perception has become crucial for success in the business. One of the reasons why UK banks opted for the Internet is to protect or enhance the organization’s reputation for innovation (Daniel and Storey, 1997).

The advantages can be classified into three channels based on the functions performed (Kiang et al, 1999: Peterson, 1997).

As a communication channel for information exchange between bank and customers, to improve interactivity and perceptual experience and to gather information about customers via surveys and contests for new product development and introduction, relationship building and personalization.

As a transactional channel for sales activities, to improve visibility and reach a much bigger customer base, to improve revenues by exploiting cross-selling opportunities. Also, in order to streamline transaction processing, thereby reducing task complexity, paperwork and transaction costs and to customize promotion and sales to individual customers and improve flexibility.

Last, as a distribution channel, to eliminate inventories, storage costs, utilities, and space rental, etc and to shorten the network of branch offices and to reduce commission and operating costs.

3.2 Customers

Electronic banking is globally accepted due to its several advantages to both customers and banks. Electronic banking offers new value to customers.

- Convenience – Flexibility

Electronic banking service provides a high degree of comfort and convenience to customer, as he doesn't have to wait in a long, tiresome queue. E-banking is quite convenient as customer easily, and at a less cost, can execute his banking transactions, financial and non-financial, at anytime and anywhere. People want flexibility and Internet banking offers it. Customer can has direct access to his accounts and keep an eye on his transactions and account balances 24 hours a day, seven days a week, day and night. Unlike the branches network, online banking sites never close, and they are only a mouse click away. Transactions are conducted outside the bank premises and off the official hours, as convenience is the reason for adopting electronic banking (Jehangir et al., 2016).

E-banking is the combination of alternative channels for providing services to customers in different ways and locations, rather than bank premises, so that physical queues, branch administrative expenses and overheads are minimized and customer satisfaction is maximized (Thornton and White, 2001; Jehangir et al., 2016). Banks are providing services to their customers, at their homes or offices and as a result convenience, satisfaction and loyalty is built (Robinson, 2000). According to Gerrard and Cunningham research (2003), internet banking was perceived by adopters and non-adopted to offer a high level of convenience. Also, respondents seemed more positive about convenience because they perceived that internet banking could used at any time, subject to a PC being available and their bank's Internet site being accessible.

- Save time and cost.

The great benefit of internet banking is that it is a cheap access service or even free service to customers. Also, cost efficiencies passed on to customers with less fees and charges than traditional banking. Because of the lower operating costs, banks can offer very attractive incentives. Customers can take advantage of the reduced and/or free charges for transactions when compared to those at bank branches. Low prices attract customers and make them purchase products (Jarvenpaa et al., 2000). Furthermore, conducting business online is generally faster than going to the bank. Longteller lines can be time-consuming, especially on a Pay Day. But online, there are no lines to contend with. Customers can access their accounts instantly and in their leisure (Gaikwad, Rathod, 2014).

- Ease of use - Accessibility

Internet banking offers ease of access, secure transactions and 24-hour banking options. Usually every service is designed to reach the widest possible audience, so it has the intuitively understandable user interface. If you have an internet connection you can bank from anywhere anytime and have greater control over your finances. Online accounts are simple to establish and need no more information than a conventional bank account and if the user runs into a problem, he has the option of emailing or calling the bank directly. Vrethopoulos and Atherinos (2009), stated that attitude towards web retail banking sites is strongly affected by the structure of the web site. Emphasis must be placed on providing easy to use interfaces as well as support the navigational activity of customers towards reaching their desired products and services. Findings indicate that layout has an effect on user acceptance of web banking in term of perceived usefulness and perceived ease of use. Chan and Lu (2004) validated the significant indirect effect of perceived ease of use on the intention to adopt and use internet banking. Luneborga and Nielsen (2003) found that to some customers, user friendly and attractive websites are more important than multiple diverse applications (Porter, 2005).

- Efficiency – Effectiveness

Electronic banking builds banking easier, faster, more effective and even more efficient, as real time account information and balances are present at the touch of a few buttons (Sharma, 2016). Virtual Surveys in 2004 (Porter, 2005) concluded that the higher levels of customer satisfaction seem to be primarily due to online banks improving the speed and usability of their banking sites. The range of products and services offered online has also improved.

Chapter 4

Drawbacks and Dangers of ebanking

However, there are always two sides to a coin and internet banking has few negatives, risks and dangers associated with it as well. Like any other solutions, e-banking does have both advantages and disadvantages.

Lack of human contact is one of the disadvantages of electronic banking. Virtual activities do not abolish the need for physical activities (Zott et al., 2000). The role of the sales person has been fundamental to building relationships in conventional marketing (Harridge-March, 2004). Albeit the Internet can replace some of the activities provided by the sales representatives, for example providing customers' information and confirming purchase orders, there are certain activities undertaken by sales person cannot be replaced, in particular, answering customized questions and providing reassuring results (Porter, 2005). This unwanted substitution may lead to lower customer loyalty (Kalakota and Whinston, 1996).

There are many complex transactions which cannot be sorted out unless there is a face to face discussion with the staff or the manager that is not possible through internet banking. Solving specific issues and complaints requires physical visit to the bank and cannot be achieved through the internet (IRACST, 2014).

For many customers, the lack of personal interaction may be detrimental to their interest in engaging in Internet banking, "the social interchange involved in some marketing channels adds to the enjoyment of undertaking a transaction" (Harris et al., 2000). To improve this Internet weakness, companies are trying to replace the traditional interaction with individual sales / service staff online. Internet communities, like chat rooms or forums, can also enhance a shopping experience by enabling interaction with other consumers (Porter, 2005).

While the internet offers enormous advantages and opportunities, it also presents various security risks. Security has been widely recognized as one of the main obstacles to the adoption of electronic banking (Zeithaml et al., 2002, Aladwani, 2001). Liao et al., (2003) suggest that consumer perceptions of transaction security, transaction accuracy, user friendliness, and network speed are the critical factors for success in Internet banking. Sayar and Wolfe (2007) argued that in the e-bank context, the security issue is crucial once, it involves directly the user's activities. A majority of studies highlight the fact that "security" is the biggest single concern for customers when faced with the decision to use internet banking (Sayar and Wolfe, 2007). Howcroft et. al., (2002) stated that the principal characteristics that inhibit online banking adoption are security and privacy. Akinci et al. (2004) find that the selection of an internet banking service provider is effected by security, privacy, trust and reliability.

Security is defined as a threat which creates "circumstance, condition, or events with the potential to cause 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 and Whinston, 1997; Porter, 2005). Under this definition, threats in Internet banking can be made either through network and data transaction attacks or though unauthorized access to the account by means fraudulent authorization. The concept of security is the "customers' perception of the degree of protection against these threats" (Porter, 2005).

Privacy is one of the most vital issues for online consumers (Porter, 2005). Privacy is defined as the rights of individuals to decide when, how, and to what extent information about them is to be transmitted to others (Grandinetti, 1996). Most customers are hesitate to give their personal details to an anonymous communication channel like the Internet, particularly with information related to financial status and credit facilities (So and Sculli, 2002). To conquer this weakness, some companies are employing new software and technologies at an unprecedented rate to help their anonymity, keep credit-card details safe and educate them about security issues, suspicious emails and web sites (Udo, 2001).

The concept of trust has been studied extensively. Yousafzai et al. (2003), define customer's trust in relation to Internet banking as, "a psychological state which leads to the willingness of the customer to perform banking transactions on the Internet, expecting that the bank will fulfill its obligations, irrespective of the customer's ability to

monitor or control the bank's actions"(Porter, 2005). Aladwani (2001) identified customers' trust as an important future challenge for online banking.

E-trust is a widely studied phenomenon in the e-commerce literature (Gefen, Karahanna and Straub, 2003). Trust is defined as a willingness to rely on an exchange partner in whom one has confidence (Moorman, Deshpande and Zaltman, 1993). Trust is an important factor when determining consumer use of technology, also use of technological systems (Alhabash et al. 2015). System trust is the belief that when using the Internet the individual consumer is generally protected during transactions with other actor's within the system, while institutional trust is the level of confidence one feels toward the organization hosting the online service (Alhabash et al. 2015).

Generally, trust in the online banking institution, as well as trust in the system (in relation to system security), is pivotal in driving an individual to the digital world of banking (Alhabash et al. 2015). Sztompka (1999) suggests three dimensions for a customers' perception of trust: a firm's reputation, its performance and its appearance. Reputation has great influence on a customer's willingness to transact with others (Hill, 1990). De Ruyters et al. (2001) also propose that having a good organizational reputation has impacts on the perceived risk, besides the trustworthiness of the organization (Porter, 2005).

Trust could also be built through communication with customers (Mukherjee and Nath, 2003). Ridings et al. (2002) recommended that firms use virtual communities to get information about customers' perception and interest and therefore build trust between customers and the firm. Mukherjee and Nath (2003) argue that "trust in online relationship banking" considered the following: shared values and opportunistic behavior. They suggested that shared values, reputation, security and privacy are the important determinants of trust and lead to relationship commitment (Porter, 2005).

According to Lee (2008), the scope of the adoption decision in large depends on customers' benefits and risks perceptions and includes both positive and negative factors: "perceived benefits" and "perceived risks" of online banking (Azouzi, 2009). Peter and Ryan (1976) defined perceived risk as a kind of subjective expected loss, and Featherman and Pavlou (2003) also defined perceived risk as the possible loss when pursuing a desired result. Six components or types of perceived risk have been

identified: financial, performance, social, physical, privacy, and time-loss (Jacoby and Kaplan, 1972; Kaplan et al., 1974; Roselius, 1971; Lee, 2008).

- **Financial Risk.** It is defined as the potential for monetary loss due to transaction error or bank account misuse (Lee, 2008). According to Kuisma et al. (2007), many customers are afraid of losing money while performing transactions or transferring money over the Internet.
- **Performance Risk.** This refers to losses incurred by deficiencies or malfunctions of online banking websites (Lee, 2008).
- **Social Risk.** This refers to the possibility that using online banking may result in disapproval of one's friends / family / work group. Venkatesh and Morris (2000), confirm that social influence plays an important role in determining the acceptance of new information technologies.
- **Security / Privacy Risk.** This is defined as a potential loss due to fraud or a hacker compromising the security of an online bank user. Phishing is a new crime skill by which phishers attempt to fraudulently acquire sensitive information, such as usernames, passwords and credit card details, by masquerading, as a trustworthy entity in an electronic communication (Reavley, 2005). Both fraud and hacker intrusion not only lead to users' monetary loss, but also violate users' privacy.
- **Time / Convenience Risk.** It may refer to the loss of the time and inconvenience incurred due to the delays of receiving the payment or the difficulty of navigation (Lee, 2008).

Disadvantages and risks of electronic banking trigger massive efforts and investments by the offering banks to develop more security features. Customers, on the other hand, need to know their rights and be protected from the unfair practices, but they also have the responsibility to prevent any possible e-fraud.

EU has specific consumer protection policy in telecoms' services which includes the right of access to services and their fair pricing as well as the protection and privacy of personal information. The Code of EU Online Rights (December, 2012) compiles the basic set of rights and principles enshrined in EU law that protect citizens when acceding and using online networks and services (<https://ec.europa.eu>).

According to Code, personal data is a fundamental right, and is also enshrined in the Lisbon Treaty. Every individual has the right to adequate protection of his personal data. Processing of data must be necessary, fair lawful and proportionate. Also, every consumer in the EU has the right to receive clear, correct and comprehensible key information from a trader/supplier of financial services about the product or service before making an online purchase. Subscribers of electronic communications services have the right to receive information from the provider e.g. charges, standard terms and conditions for access to and use of the services provided and quality of the service.

In case of an unauthorized payment transaction e.g. mistakes of the bank or fraud attempts not related to the payer, the payer has the right to obtain an immediate refund of the total of the transaction. In case of conflict acceding to and using online services, the Charter of Fundamental Rights of the European Union provided that “Everyone whose rights and freedoms guaranteed by the law of the Union are violated has the right to an effective remedy before a tribunal in compliance with the conditions laid down in this Article; is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law; and shall have the possibility of being advised, defended and represented. Legal aid shall be made available to those who lack sufficient resources in so far as such aid is necessary to ensure effective access to justice” (<https://ec.europa.eu>).

Chapter 5

Internet Use and e-Banking across the Lifespan

Recent studies have begun to differentiate users of information and communication technologies (ICTs) according to their generational age cohorts noting that particular patterns of ICT use reflect users' life stages and socialization experiences (Alhabash et al., 2015). According to Zickhur (2010) there are three generational cohorts: Millennials, born 1977-1992), Older Boomers, born 1946-1954, and SGI, combining the Silent Generation, born 1937-1945 and GI Generation, born 1936 or before.

Millennials are "digital natives" born during a time when ICTs were already pervasive (Alhabash et al., 2015). As Palfrey and Gasser (2008) note, Millennials are joined by a set of common practices, including the amount of time they spend using digital technologies, their tendency to multitask, their tendency to express themselves and relate to one another in ways mediated by digital technologies, and their pattern of using the technologies to access and use information (Alhabash et al., 2015). ICTs are a given part of Millennials' social environment and have never known a life without ICTs (Cotton, et al., 2011). Unlike older cohorts, Millennials have not had to relearn how to do things with technology. Compared to their older counterparts, Millennials use many ICTs, stay constantly connected via ICTs, and use ICTs to form, maintain, and end relationships with social ties (Ito, et al. 2008; Ling, 2008; Palfrey and Gasser, 2008).

Older Boomer cohorts are referred to as 'digital immigrants' (Palfrey and Gasser, 2008). Digital immigrants include a wide age range – from early middle ages of old age. Because of this age range, these different groups are likely to have had differing experiences with ICTs across their life course (Cotton et al., 2011). Individuals in these cohorts have had

to learn how to use ICTs, as many ICTs were developed and proliferated after they were adults. Unlike members of younger cohorts, Older Boomers have had to relearn how to do things via ICTs. For those cohorts closer to Millennials, this has most likely been easier due to the transmission of knowledge and interaction with ICTs. However, for those falling into the Older Boomers, it has most likely been harder for them to learn how to use and integrate ICTs into their lives, as they haven't had the need to integrate them into their lives. Nonetheless, many members of these cohorts had initial contact with ICTs in school and work settings in which both technical and social support were available, not only for the acquisition of basic computer skills, but also for coping skills related to security threats (Grimes et al., 2007; Alhabash et al., 2015).

Individuals in the SGI cohort are even further distanced from the necessity to use ICTs than Older Boomers. SGIs face greater hardship learning to use and integrate these new technologies into their lives. Those SGIs who are still in the workforce have a higher likelihood of ICT use (Peacock, 2009). Although there is some evidence of older adults adopting ICTs more and more, increasingly barriers to ICT use are becoming apparent. SGIs are concerned about privacy and security, physical and cognitive factors, declining vision and mobility, lack of access and/or ability to afford the ICTs, and attitudes that the technology has passed them by and there is no need to integrate ICTs into their lives (Cotten, 2010; Alhabash et al., 2015). All generations cohorts need additional training, but SGIs represent a unique cohort and if they are to become proficient in using ICTs (Cotten, 2011) their behaviors and attitudes need to be understood, particularly in risky situations (Alhabash et al., 2015). Despite the fact that online banking has gained popularity across all generational groups, the adoption rate seems slower for older individuals (Mattila et al., 2003). Older adults, compared to their younger counterparts, are less likely to adopt online banking and mobile banking due to perceived risks and lower self-efficacy (Laukkanen et al., 2007; Mattila et al., 2003; Wilkowska and Ziefle, 2009; Alhabash et al., 2015).

Chapter 6

Purpose of the Study

In the previous discussion it has been explained how electronic banking has become a market demand. Electronic banking indeed is profitable for banks and customers, but on the other hand, it also includes risks.

The purpose of this study is to investigate and present the concept of electronic banking from customers' viewpoint, their experiences, confidence and trust to these online services, as the access to these services is still thought to be an innovative and alternative service in Cyprus.

We will picture the electronic banking from the customer's point based on questionnaires, identifying, analyzing and understanding the factors that influence the attitude of bank customers toward electronic banking services and subsequently the adoption and use of such services through their experiences, concerns, opinions, viewpoint and the satisfaction level as it formed under the trust or distrust they have.

The method that has been used was based on an interview questionnaire form given to randomly selected customers from different banks in Cyprus. The findings, the analysis, the limitations and the conclusion are presented and discussed at the next chapters.

6.1 Questionnaire – Findings and Analysis

The questionnaire consists of three sections including Section 1, Section 2 and Section 3. Section 1 is related with customer's demographic characteristics and gathers demographic information such as gender, age, educational level, (un)employment and habits. Section 2 gathers information about the respondents' banking habits and Internet use. Section 3 seeks respondents' views on their feelings and perceptions toward using electronic banking services. The data were obtained by 90 respondents in Cyprus.

- **Question 1 - 4**

Table 1

Variable		Frequency	Percent
Gender	Male	38	42
	Female	52	58
Age	Under 20	6	7
	20-29	15	17
	30-39	37	41
	40-49	21	23
	Over 50	11	12
Education Level	High School	39	43.3
	Diploma	13	14.4
	Bachelor	21	23.3
	Master	13	14.4
	PhD	4	4.5
Employment	Yes	72	80
	No	18	20

Gender: Among the participants 52 were female and 38 were male. The percentage of males and females in the sample was 42% and 58% respectively. All respondents are residents of Cyprus.

Age of the respondents: The respondents belong to different age groups. Among the 90 participants, 6 of them are aged under 20, 15 are 20-29, 37 are 30-39, 21 are 40-49 and 11 are aged over 50.

Level of Education Attained: The majority of the respondents, the 43.3% of them, have attained high school.

Employment: The majority of the respondents, the 72% of them currently are employed, while the 18% of them don't work.

HYPOTHESIS TESTING:

1. $H_0: P_1 = P_2$

H_0 : There is no difference between women and males in adoption of the electronic banking system.

2. $H_a: P_1 \neq P_2$

Level of significance: 0.05

Participants	Frequency	Not users
Male = p_1	38	34%
Women = p_2	52	31%
$p = 29.04/90=0.3226$		
$SE = \text{sqrt}(0.009833) = 0.099$		
$z = (p_1 - p_2) / SE = (0.34 - 0.31)/0.099 = 0.303$		
P-value = 0.76189		

Interpret Results: Since the P-value (0.76189) is greater than the significance level (0.05), we cannot reject the null hypothesis.

CASE STUDY 1:

There is no relationship between gender and adoption of the electronic banking system.

- 34% of the male participants don't use the e-banking service
- 31% of the female participants don't use the e-banking service

Interpret Results: According to the findings, there is no identification between gender and adoption rate of electronic banking system, as about the same percent of the male/female participants use/don't use the e-banking service

CASE STUDY 2:

There is a relationship between age and adoption of the electronic banking system.

- 73% of the participants aged over 50 don't use the e-banking service
- 76% of the participants aged 40-49 use the e-banking service
- 73% of the participants aged 30-39 use the e-banking service
- 87% of the participants aged 20-29 use the e-banking service

Interpret results: According to the findings, there is identification between age and adoption rate of electronic banking system. Past researches confirm the above results, as they showed that older adults adopt new technologies and the Internet at lower rates compared to younger adults (Alhabash et al., 2015).

CASE STUDY 3:

There is a relationship between (un)employment and adoption of the electronic banking system.

- 72% of the participants who are currently unemployed don't use electronic banking
- 77,5% of the participants who are currently employed use the electronic banking

Interpret results: According to the findings, there is identification between (un)employment and adoption rate of electronic banking system.

- **Question 5 - Do you like to try new and different things?**

Table 2

Trying New-Different Things	Frequency	Percent
Yes	71	79
No	19	21
Total	90	100.00

The questions 5-6 try to seek some specific characteristics of the personality, habits and behavior and attitude towards life. Although the majority of the respondents (79%) claims that likes to try new and different things, the percentage of risk-taking decreases to 53% (Table 2 and Table3).

- **Question 6 - Do you consider yourself to be a risk taker?**

Table 3

Risk Taker	Frequency	Percent
Yes	48	53
No	42	47
Total	90	100.00

CASE STUDY4:

There is a relationship between some specific characteristics of the personality, habits and behavior and attitude towards life such as to be risk taker and the adoption of the electronic banking system.

- 77% of the participants who consider themselves to be risk takers use electronic banking
- 43% of the participants who don't consider themselves to be risk takers don't use the electronic banking

Interpret results: According to the findings, there is insufficient identification between to be risk taker and adoption rate of electronic banking system, but on a larger sample we may have safer and more accurate results. Moreover, there may be some bias in the responses of the participants which cannot be ruled out fully.

- **Question 7 - Do you use any e-banking services?**

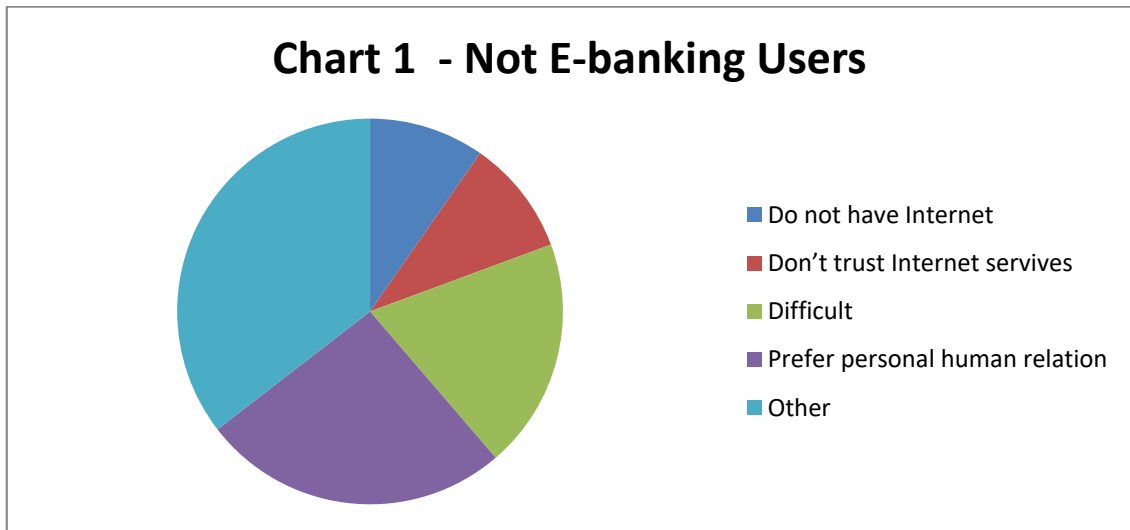
Table 4

e-Banking User	Frequency	Percent
Yes	61	68
No	29	32
Total	90	100.00

The results shows that 68% of the respondents use the electronic banking, while the 32% of them are not users of e-banking services. The results reveal that the service gains popularity but there is still space for improvement for having more active users.

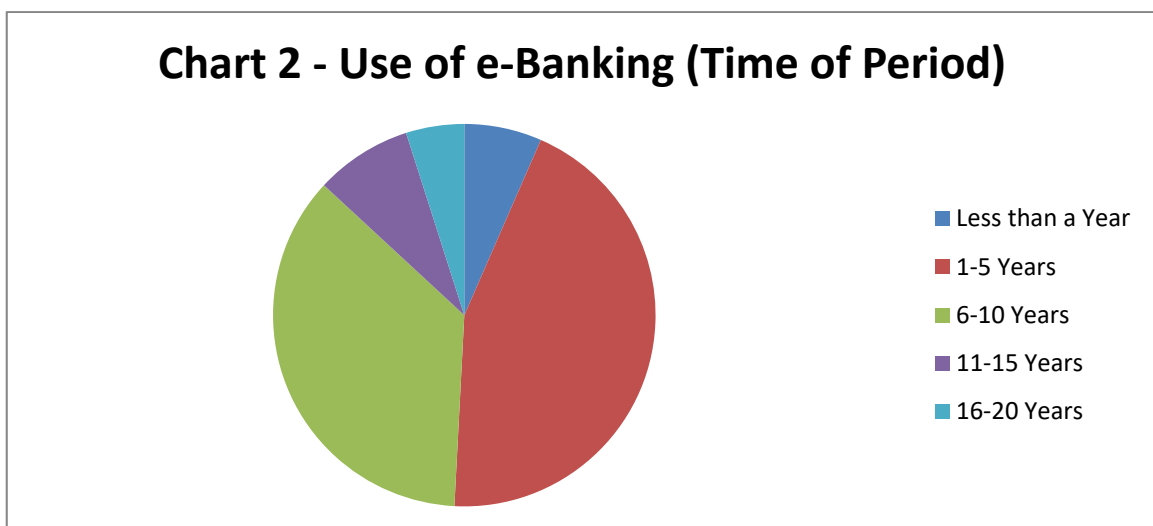
- **Question 8 - If no, why have you never used online banking services**

Table 4 shows that 29 of the 90 respondents are not using the internet banking services. Among the reasons they declared is that they don't have Internet, they don't trust Internet services, they prefer personal human relation, they find it difficult or other reasons, such as they don't have account or enough money to open a bank account, or they don't have access, as they have never asked codes and access.



- **Question 9 – If yes, for how long have you been using electronic banking**

Among the e-banking users-responders, 20 years is the longest time of using electronic banking services, while the lowest has a duration of 1 month for the earlier adopters. The finding, that the majority of them (44%) use the online services for a period of 1-5 years and 36% of them for 6-10 years, shows that we are still at the beginning of the penetration.



- **Question 10 – How often do you use e-Banking**

Table 5

How often	Frequency	Percent
Daily	19	31
Weekly	22	36
Monthly	17	29
Rarely	3	4
Total	61	100.0

The majority of the participants, the 36% of them use e-banking weekly and only 4% of them use it rarely. The results are positive and reveal that the existing customers are not occasional users.

- **Question 11 – Do you still visit branches since you started using electronic banking?**

Table 6

Visiting Branches	Frequency	Percent
Yes	44	72
No	17	28
Total	61	100.00

- **Question 12 - If yes, please mention the specific reasons for which you required to visit the branch despite of the online banking facility.**

The 72% of the respondents (Table 6), despite the frequent access and use of the electronic banking services, still visiting the bank branches, for the followings reasons: cheques and cash deposits, cash withdrawals and cash cheques, transfers, ATM transactions, account openings, technical problems and help support, safety overview,

transactions for their work and employers, other operations such as standing orders and because of friends-employees. The 38% of them visit their bank branches monthly and another 38% rarely (see Table 7). The results confirm the dominant belief, that the branch is the place to conduct all the banking transactions.

- **Question 13 – How frequently do you visit your bank branch per month?**

Table 7

How often	Frequency	Percent
Daily	5	8.5
Weekly	9	15.5
Monthly	22	38
Rarely	22	38
Total	58	100.0

- **Question 14 – What were your reasons for choosing online banking services**

Table 8

Reasons	Frequency	Percent
Convenience	12	19.7
To save time	18	29.5
24h access to accounts	29	47.5
Better Rates	0	0
Other	2	3.3
Total	61	100.00

Table 8 presents some factors that influence customers' adoption to internet banking services. The results show that the two main reasons of choosing online banking service are the "24h access to accounts" and the "time saving", with the percentage of 47.5% and 29.5% respectively. The factor "convenience" follows with 19.7%, while none of the respondents considers the factor "better rates" to be important in affecting adoption and to transfer their banking operations from tradition banking to online banking.

- **Question 15 – Which online feature do you use regularly**

Table 9

Online Features	Frequency	Percent
Pay Bills	11	18
Make an account inquiry	17	28
Transfer funds between accounts	31	51
Wire Transfers	0	0
Chequebook Ordering	0	0
Other	2	3
Total	61	100.00

Table 9 shows a list of typical and most frequently used internet banking services and transactions by customers. Transfers of funds between accounts is the most selected option by the respondents, as the 51% of the respondents prefer the internet banking for money transfers. Second most selected online feature is the accounts inquiries, as the 28% of the respondents regularly use it to check accounts, balances and statements. The 18% of the respondents preferred the internet banking for paying the bills. Finally, none of our respondents haven't selected the wire transfers and chequebook orderings. One possible reason is that the respondents may consider wire transfers more complex transactions that require personalized interaction.

- **Question 16 – Please indicate how much each of the following factors are important to you. (1 = the most important; 8 = the least important)**

Table 10

Factors	
1. Quality Service	2. Quick Service
3. Security of transaction	4. Convenience
5. Better Rates	6. Variety of features and services offered
7. Bank Location	8. Bank Familiarity

Table 10 indicates, in a list of priority and significance, some key factors that can influence the adoption of e-banking, the intentions and the choice between traditional banking and electronic banking.

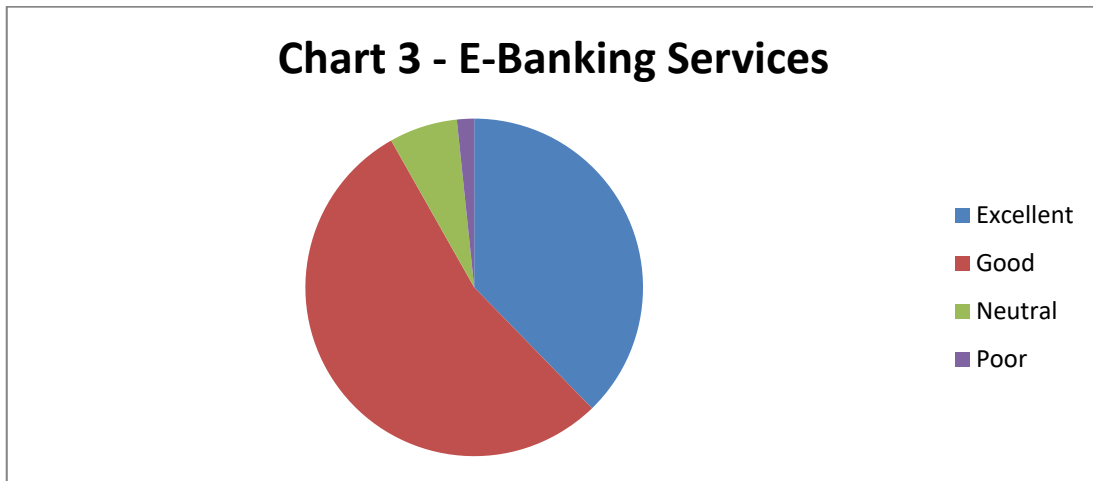
Participants were asked to indicate how much each of the these factors are important to them and according to their responses, the first most important factor for them is the “quality service”, next the “quick service” and third most important factor the “security of transaction”.

- **Question 17 – Please rate the online services**

Table 11

Ratings	Frequency	Percent
Excellent	23	37.7
Good	33	54.1
Neutral	4	6.6
Poor	1	1.6
N/A	0	0
Total	61	100.00

The respondents and users of e-banking were asked to rate the online services and as can be seen from table 11, the majority of the participants (54.1%) rate them as “good”, the 37.7% as “excellent” and only the 1.6% as “poor”. So overall, there is a high rate of satisfaction from online services.



- **Question 18 – Does it take you a long time to complete the bank transactions when using electronic banking?**

Table 12

	Frequency	Percent
Yes	4	6.6
No	57	93.4
Total	61	100.00

From the 61 participants, who use the online banking services, the 93.4% of them don't take them a long time to complete the bank transactions, which can be interpreted as overall simple service and familiarity with the online banking system. However, for the participants who are not users of e-banking, the difficulty of the system is an important factor for not adopting the service. Chan and Lu (2004) validated the significant indirect effect of perceived ease of use on the intention to adopt and use internet banking. Also, Vrethopoulos and Atherinos (2009) stated that attitude towards web retail banking sites is strongly affected by the structure of the web site. Emphasis must be placed on providing easy to use interfaces as well as support the navigational activity of customers towards reaching their desired products and services.

- **Question 19 – Do you feel frustrated when you use electronic banking**

Table 13

	Frequency	Percent
Yes	6	10
No	55	90
Total	61	100.00

Respondents were asked to state if they feel frustrated when using the electronic banking and subsequently to indicate their confidence in using internet banking. The 90% of them don't feel frustrated, while only the 10% don't feel confident to use e-banking.

- **Question 20 – Do you worry about making mistakes when using electronic banking?**

Table 14

	Frequency	Percent
Strongly Agree	3	5
Agree	15	24.6
Neutral	27	44.2
Disagree	15	24.6
Strongly Disagree	1	1.6
Total	61	100.00

The respondents were asked to express their degree of agreement against the question and a Five-Point Likert scale was used. As can be seen, the majority of the participants, the 44.2% of the respondents demonstrate a neutral degree of expression. The 24.6% agrees that they do worry about making mistakes when using electronic banking, while the same percentage disagrees with the above statement.

- **Question 21 - Do you think that human contact is important for banking relation?**

Table 15

Human Contact	Frequency	Percent
Yes	48	78.7
No	13	21.3
Total	61	100.00

For the 78.7% of the respondents, although they are users of electronic banking, the human contact is important in banking sector. This reflects our culture, it is part of Cypriot's culture and before making any decision, banks must consider and understand the culture of the audience in order to develop and design products, that suit customer needs and expectations. For many customers, the lack of personal interaction may be detrimental to their interest in engaging in Internet banking (Harris et al., 2000), while virtual activities do not abolish the need for physical activities (Zott et al., 2000).

- **Question 22 - Please rate, how convenient do you think of using e-banking (1 = not much; 5 = very much)**

Table 16

Ratings	1	2	3	4	5	Total
Convenient	2	0	2	14	43	61
Percent	3.3	0	3.3	23	70.4	100

Convenient is one of the main advantages of electronic banking service, so participants were asked to rate how convenient they think of using e-banking. According to Table 20, the 70.4% has rated the service with 5, which corresponds to "very much convenient" and only 3.3% of them have rated it with 1, "not much convenient".

According to Gerrard and Cunningham research (2003), internet banking was perceived by adopters and non-adopted to offer a high level of convenience. Also, respondents seemed more positive about convenience because they perceived that internet banking could be used at any time.

- **Question 23 – How reliable do you think of using e-banking
(1 = not much; 5 = very much)**

Table 17

Ratings	1	2	3	4	5	Total
Reliable	2	0	11	24	24	61
Percent	3.2	0	18	39.4	39.4	100

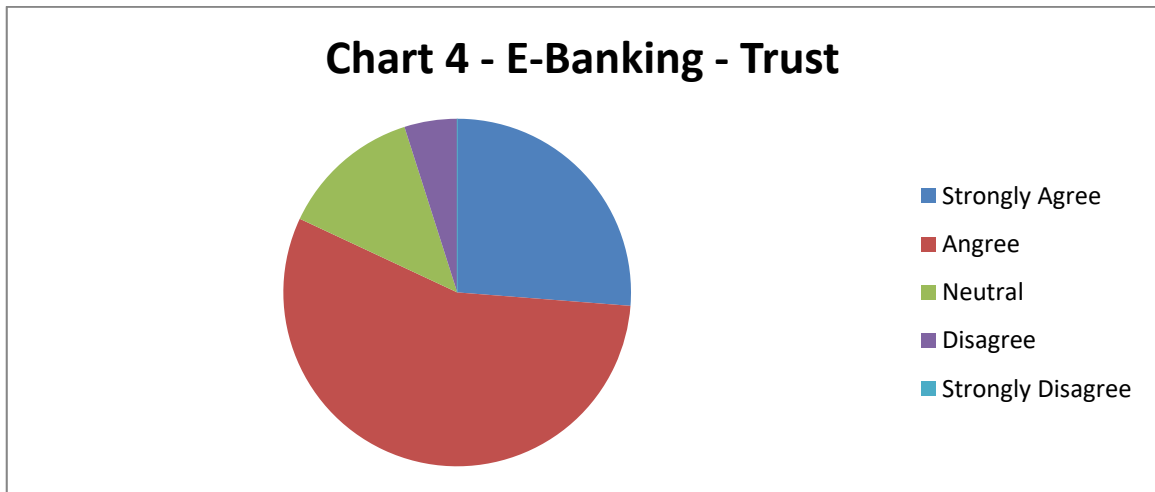
Reliability and e-Trust are important challenges for online banking. So participants were asked to rate how reliable they think of using e-banking. According to Table 17, the 39.4% of them rated the service with 5, which corresponds to very much reliable, while only 3.2% of them rated it with 1, not much reliable.

- **Question 24 – I can trust my bank's website and the information presented**

Table 18

Trust	Frequency	Percent
Strongly Agree	16	26.2
Agree	34	55.7
Neutral	8	13.1
Disagree	3	5
Strongly Disagree	0	0
Total	61	100.00

Although e-Trust is an important factor, that determines consumer's use of technology, and one of the main obstacles to the adoption of electronic banking services, as we can see from the table 2, the majority of the respondents / users, the 55.7% of them, regardless of the bank, agrees with the statement that they can trust their bank's website and information presented and only the 5% disagrees.



- **Question 25 - Do you have any security protection installed on your computer**

Table 19

PC Security Protection	Frequency	Percent
Yes	44	72
No	17	28
Total	61	100.00

- **Question 26 - How often do you change your online banking password? Do you use a combination of letters and numbers?**

Table 20.1

Changing of e-Banking Password	Frequency	Percent
No / Never	43	70.5
Rarely	4	6.5
Yes, Often	2	3.3
Not often	2	3.3
Every Year	2	3.3
When Required	1	1.6
3-6 Months	4	6.6
N/A	3	4.9
Total	61	100.00

Table 20.2

Password Combination	Frequency	Percent
Yes	21	34.4
No	37	60.6
N/A	3	5
Total	61	100.00

Although the 72% (Table 19) of the users have security protection installed on their computers, which shows interest on security issues and it is very encouraging, as we can see from the table 20.1, the 70.5% of electronic banking users never change their their banking password and only the 3.3% of them change it often, while the 60.6% of them don't use a combination of letters and numbers (Table 20.2). Unfortunately, this is quite worrying,as regarding security actions to prevent banking crimes, especially related to many vulnerabilities in internet banking system, many actions can be taken by customers

to handle it. Users have the responsibility to keep their username and password secure, and along with changing it often and using strong combinations of letters and numbers, they can have high protection to prevent money frauds.

- **Question 27 – Are you aware of online banking threats?**

Table 21

Threats	Frequency	Percent
Yes, I know	37	60.7
No, I don't Know	24	39.3
Total	61	100.00

Table 21 shows that the 60.7% of the respondents are aware of the online banking threats but unfortunately a highly concerning percentage of 39.3% of the electronic banking users don't have knowledge about the internet threats. The result indicates the necessity of education of the existing and potential customers. Banks that offer internet banking services should launch campaigns for awareness.

- **Question 28 – What are for you the main 2 disadvantages of online banking**

Table 22

e-Banking Disadvantages	Frequency	Percent
Overall difficulty of using ebanking system	3	3.2
Lack of Assistance	12	12.6
Security concerns	24	25.3
Limited service-doesn't enable all banking operations	16	16.8
Impersonality of the service	13	13.7
Depended on internet service	14	14.7
Unreliable	0	0
No Disadvantages	13	13.7
Total	95	100.00

The 61 participants, who are users of electronic banking, were asked to state the main 2 disadvantages of online banking based on their experience, feelings and concerns. Security concerns was the most selected option by the respondents (25.3%). Security has been widely recognized as one of the main obstacles to the adoption of electronic banking (Zeithaml et al., 2002, Aladwani, 2001). A majority of studies highlight the fact that “security” is the biggest single concern for customers when faced with the decision to use internet banking (Sayar and Wolfe, 2007). Howcroft et. al., (2002) stated that the principal characteristics that inhibit online banking adoption are security and privacy. Also, Akinci et al. (2004) find that the selection of an internet banking service provider is effected by security, privacy, reliability and trust.

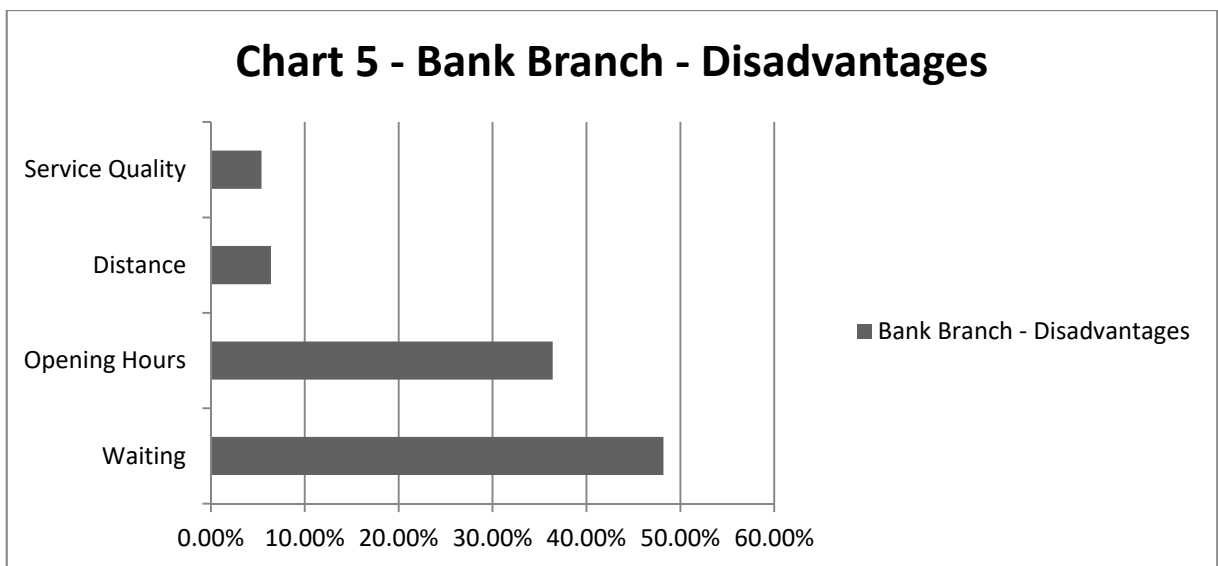
Second most selected option (16.8%) was the “limited service-doesn’t enable all banking operations”, and this is one of main reasons that the majority of the users still visiting the bank branches. The options “depended on internet”, impersonality of the service”, “no disadvantages” and “lack of assistance” follow with 14.7%, 13.7% and 12.6% respectively. None of the respondents believes that electronic banking is unreliable and only the 3.2% believes that e-banking is a difficult system.

- **Question 29 – What are for you the main 2 disadvantages of visiting a bank branch**

Table 23

Bank Branch - Disadvantages	Frequency	Percent
Waiting	53	48.2
Distance	7	6.4
Opening Hours	40	36.4
Quality of service	6	5.4
No Disadvantages	4	3.6
Total	110	100.00

According to this survey, 44 of the 61 respondents, who are users of electronic banking services, still visiting the bank branches for the reasons mentioned in question10. All 61 participants were asked to choose the 2 main disadvantages of visiting a bank branch. The first main disadvantage for the majority (48.2%) is the “waiting” factor and second main disadvantage (36.4%), the “opening hours”. Only the 3.6% of them, believe that visiting a bank branch has no any disadvantage.

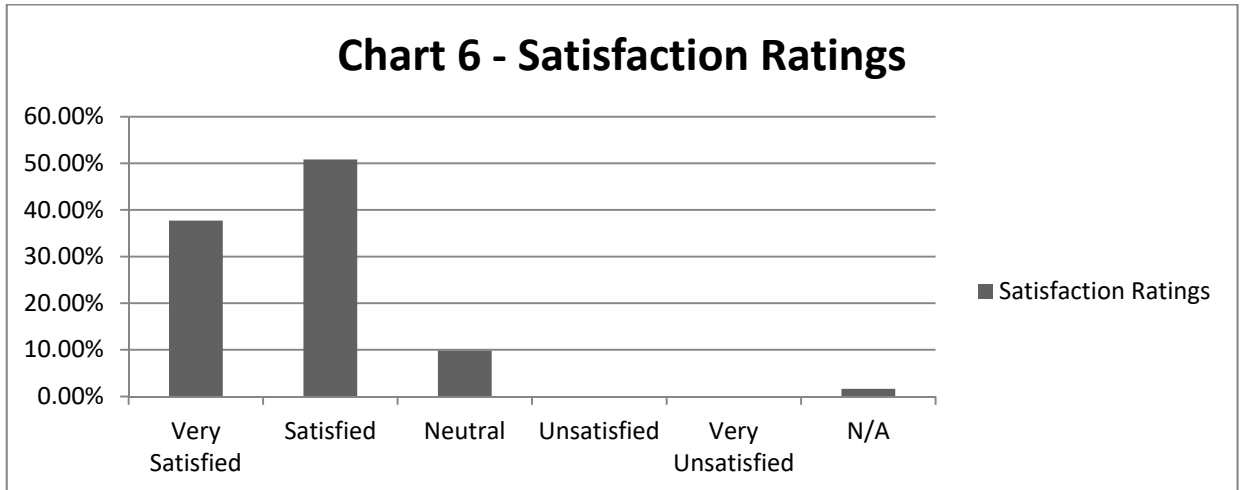


- **Question 30 – Overall, how satisfied are you with electronic banking service**

Table 24

	Frequency	Percent
Very Satisfied	23	37.70
Satisfied	31	50.82
Neutral	6	9.84
Unsatisfied	0	0
Very Unsatisfied	0	0
N/A	1	1.64
Total	61	100.00

The 50.82% of the responders are satisfied with electronic banking service, while 37.7% are very satisfied and only 9.84% of them are neutral. None of the responders is unsatisfied or very unsatisfied with their electronic banking services. Overall, we can say that there is a high rate of satisfaction from the online banking services.



- **Question 31 – What would encourage you to use more the online banking services?**

Table 25

	Frequency	Percent
Rewards (Discounted Fees)	15	20.27
Simpler Service	12	16.22
Higher Security	12	16.22
Free Transactions	15	20.27
Nothing else, I already often use e-banking services	20	27.02
Total	74	100.00

Table 25 indicates some factors that can influence the use of online banking services and the user’s adoption intentions. Hence, their influence is not significant in affecting the users, since the majority of 27% answered that they already use often the e-banking

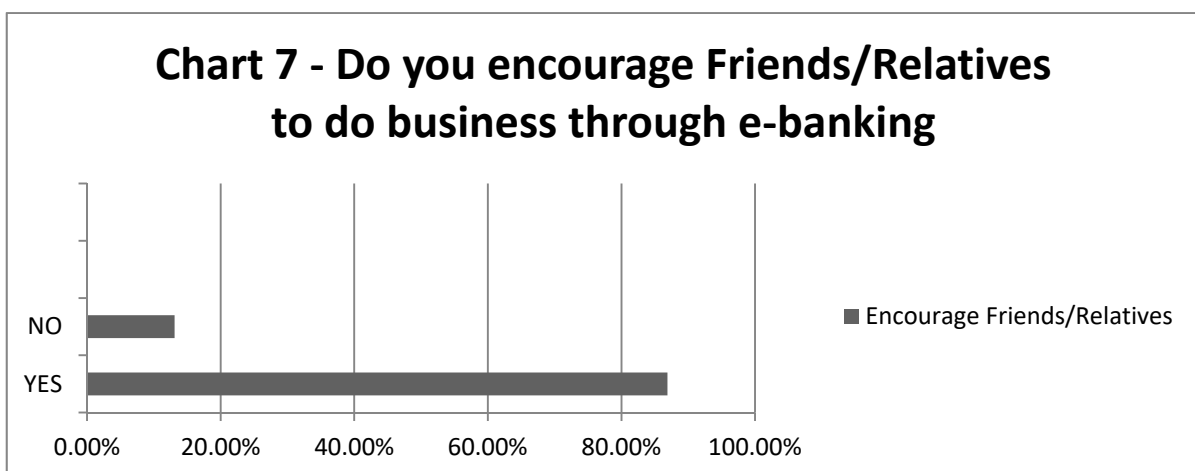
services. The findings indicate that the 20.27% of the respondents are more likely to use more the internet banking services if the transactions are free or rewards and discounted fees are offered. The 16.22% of the respondents ask higher security and simpler services.

- **Question 33 - Do you encourage friends and relatives to do business through electronic banking?**

Table 26

	Frequency	Percent
Yes	53	86.89
No	8	13.11
Total	61	100.00

The majority of the respondents and active users of e-banking (86.89%), encourage friends and relatives to do business through electronic banking. This is a very positive response and reveals that they believe in this service and they recognize its benefits, which overcome the drawbacks. Venkatesh and Morris (2000), confirm that social influence plays an important role in determining the acceptance of new information technologies.



Chapter 7

Conclusion

Electronic banking is considered as a strategic weapon for banks to increase and retain the market share and to remain profitable in the competitive marketplace today. Although it provides various benefits for both banks and customers, and although banks are providing free banking services so that the customers can be attracted, people still consider it as an alternative channel for their banking operations.

Based on the analysis and the results of the study, a number of conclusions can be drawn. Even though the majority of the respondents use the electronic banking services (68%), which reveals that the service gains popularity, there is still space for improvement for having more active users. The finding, that the majority of them (44%) use the online services for a period of 1-5 years and 36% of them for 6-10 years, shows that we are still at the beginning of the penetration. From the results there is no identification concerning gender and adoption rate, as the same about percentage of the male/female participants use/don't use the e-banking service. Moreover, there is insufficient identification between some specific characteristics of the personality and attitude towards life such as to be risk taker and adoption rate of electronic banking system, but on a larger sample we may have safer and more accurate results.

On the contrary, from the case study and the findings, there is identification between age and adoption rate, which is also confirmed by past researches that the older adults adopt new technologies and the Internet at lower rates compared to younger adults. Also, from the case study and according to the findings, there is identification between (un)employment and adoption rate of electronic banking system. Positive is that the existing customers are not occasional users, since 36% of them use the online banking weekly and only 4% of them rarely. Despite the frequent use, the 72% of them still visit

the branches, mainly for cheque and cash deposits and withdrawals, but in a very low frequency with the 38% of them monthly and another 38% of them rarely. For them, the main two disadvantages of visiting a bank branch are the waiting time (48.2%) and the opening hours (36.4%). On the other hand, the main reasons of choosing the electronic banking is the 24h access to accounts, the time saving and the convenience, with the most regularly feature used the transfer between the accounts (51%).

Quality service, quick service and security have positive and significant impact on customers' attitude and can influence their decisions. The online banking was rated as "good" by the majority (54%) and the 50.82% of them are satisfied and they encourage friends and relatives to do business through electronic banking system (86.89%), proving that they believe to this service and they recognize the benefits. On the other side, the human contact, related to banking services, is thought to be important by the 78.7% of the users, which is also confirmed by past researches that for many customers, the lack of personal interaction may be detrimental to their interest in engaging in electronic banking. This reflects the culture and lifestyle of the Cypriot customer that Banks must consider before making any decision.

Although security and e-trust are major issues and challenges for the Banks and many customers are apprehensive of shifting to electronic banking, however only the 3.2% of the users believe that banking service is "not much reliable" and only the 5% of them don't trust bank's website. Nevertheless, Banks should continue to develop risk reducing strategies to ensure that the perceptions of risks won't have negative impact on customer's attitude toward electronic banking services. As it concerns security, customers have their responsibilities, but as the results of the study revealed, they are not aware of security issues and prevention. The 70.5% of them never change their passwords, while 60.6% of them don't use strong combinations of passwords and 39.3% are not aware of the online banking threats, although the majority considers "security" the main disadvantage (25.3%).

Banks need to bring heightened awareness of the advantages of electronic banking, for heightened speed of growth, while sensitizing, informing and protecting their customers from online threats. Banks are investing enormous sums into digital transformation to remain competitive and to meet customer needs, however electronic banking services cannot achieve expected benefits if are not used by banking customers.

A country-level analysis of 33 European countries (Samer and Jun, 2015) shows that Internet banking diffusion in Europe is less than 50%, which confirms the need to investigate the factors that might be affecting the low and late diffusion of Internet banking in the most or second developed continent in the world. The Internet access average is 74.42%, which is a high rate of internet access comparing to the rest of countries in the world, which eliminates Internet access from being a barrier of Internet banking in Europe. However, Internet speed and Internet security show a significant concern from being major barriers of Internet banking diffusion in Europe.

According to Deutsche Bank's research in 2006 Europeans use online banking to quite different degrees. Adoption rates decrease from north to south and rich to poor and the European average is markedly below the US average. Online banking grows but not always at the expense of branch visits. Security concerns are an often voiced impediment to online banking. There is a negative correlation between security concerns and online-banking, but security fears are not based on bad experience. Reluctance to approach the internet in the first place is the biggest hurdle to further proliferation of online banking among older clients. Also, financial incentives can convince some to go online, but security concerns are the most important hurdle for many customers. Cheaper fees and the possibility to ask questions come second according to Deutsche Bank's survey. Many customers wish support from human advisors before they conclude a transaction online, therefore online banking should not ignore the importance of the human touch (www.dbresearch.com).

This study was conducted to investigate the electronic banking service in Cyprus from customers' viewpoint, but there is still space for further investigation. The study can be used as a reference by other researchers, who want to study further in this or related areas. The findings can have implications for both research and the banking sector. In addition, future studies can be extended to businesses, so that comparisons can be made between individual customers and business customers, or they can take into consideration what perspective do all bank employees have on electronic banking. Further research could also be directed towards the comparison of different service channels such as mobile banking in Cyprus.

The basic limitation of this study is that it is based on a sample and the sample size of only 90 was taken from the large population for the purpose of the study, so there can be

difference between results of sample from total population of Cyprus. Future researches can be performed on larger population for safer and more accurate results. Moreover, there may be some bias in the responses of the participants which cannot be ruled out fully and also, changes in the electronic banking practices can affect the results.

Appendix A

ELECTRONIC BANKING QUESTIONNAIRE

1. **GENDER** MALE / FEMALE
2. **AGE RATE** under 20 / 20-29 / 30-39 / 40-49 / over 50
3. **Level of education attained** High school / Diploma / Bachelor / Masters / PhD
4. **Are you currently employed** YES/NO
5. **Do you like to try new and different things?** YES / NO
6. **Do you consider yourself to be a risk taker.** YES / NO
7. **Do you use any e-banking services** YES / NO
8. **If no, why have you never used online banking services**
Do not have internet /don't trust internet services /prefer personal human relation/difficult /other
9. **If yes, how long have you been using electronic banking?**
10. **How often do you use e-banking** Daily / Weekly / Monthly / Rarely
11. **Do you still visit branches since you started using electronic banking?**YES/NO
12. **If yes, please mention the specific reasons for which you required to visit the branch despite of the online banking facility.**
13. **How frequently do you visit your bank branch per month**
Daily / Weekly / Monthly / Rarely / Never
14. **What were your reasons for choosing online banking service**
Convenience / to save time / 24h access to accounts / better rates / other.....
15. **Which online features do you use regularly?**
Pay bills / make an account inquiry / transfer funds between ac/s / wire transfers/order chq-books / other.....
16. **Please indicate how much each of the following factors is/are important to you (1=the most important; 8=the least important**

Better rate...../bank familiarity.... /quick service...../bank location...../quality service...../security of transaction...../convenience...../ variety of features and services offered.....

17. Please rate the online features Excellent / good / neutral / poor / n/a

18. Does it take you a long time to complete bank transactions when using electronic banking? YES /NO

19. Do you feel frustrated when you use electronic banking? YES / NO

20. Do you worry about making mistakes when using electronic banking?

Strongly agree / agree / neutral / disagree / strongly disagree

21. Do you think that human contact is important for banking relation? YES/NO

22. Please rate, how convenient do you think of using e-banking
(1=not much; 5=very much)

23. How reliable do you think of using e-banking (1=not much; 5=very much)

24. I can trust my bank's web site and the information presented.

Strongly agree / agree / neutral / disagree / strongly disagree

25. Do you have any security protection installed on your computer? YES / NO

26. How often do you change your online banking password? Do you use a combination of letters and numbers?

27. Are you aware of online banking threats? YES I KNOW / NO, I DO NOT KNOW

28. What are for you the main 2 disadvantages of online banking?

Overall difficulty of using e-banking system/ lack of assistance/security concerns/limited service-doesn't enable all banking operations/impersonality of the service/depended on internet service/unreliable/no disadvantages

29. What are for you the main 2 disadvantages of visiting a bank branch?

Waiting/distance/opening hours/quality of service/no disadvantages

30. Overall, how satisfied are you with electronic banking service

Very satisfied / satisfied / neutral / unsatisfied / very unsatisfied

31. What would encourage you to use more the online banking services?

Rewards (discounted fees)/simpler service/higher security/free transactions/ nothing else, I already often use e-banking services

32. Do you have any other comments or suggestions? NO / YES.....

33. Do you encourage friends and relatives to do business through e-banking? YES/NO

Bibliography

- Akinci S., Aksoy S., Atilgan E. (2004). Adoption of internet banking among sophisticated consumer segments in an advanced developing country. *International Journal of Bank Marketing*, Vol.22 (3), p.212-32
- Aladwani A.M. (2001). Online banking: a field study of drivers, development challenges and expectations. *International Journal of Information Management*, Vol.21, p. 213-225 Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Alhabash S., Brooks B.A., Jiang M., Rifon N.J., LaRose R., Cotton S. (2015). Is it Institutional or System Trust: Mediating the Effect of Generational Cohort Membership on Online Banking Intentions. In *iConference 2015 Proceedings*. Retrieved from <http://www.ideals.illinois.edu>
- Arnold M. J., Reynolds K. E., Ponder N., Lueg J. E., Customer delight in a retail context: investigating delightful and terrible shopping experiences, *Journal of Business Research* 58, 2005
- Arunachalam, L. and Sivasubramanian, M. (2007). The future of Internet Banking in India. *Academic Open Internet Journal*. Retrieved from www.acadjournal.com
- Azouzi D. (2009). The Adoption of Electronic Banking in Tunisia: An Exploratory Study. *Journal of Internet Banking and Commerce*, Vol. 14(3)
- Banking on Technology. Perspectives on the Indian Banking Industry (2014). Retrieved on www.ey.com
- Burr, W.1996. Wie Informationstechnik die Bankorganisation verändern konnte. *Bank und Markt* 11, 28-31. Retrieved from <http://citeseerx.ist.psu.edu> Heikki Karjaluoto, Electronic Banking in Finland
- Canals J. (1994). *Competitive Strategies in European Banking*. Clarendo Press, Oxford
- Chan S. C., Lu M.T. (2004). Understandig internet banking adoption and use behavior: A Hong Kong perspective. *Journal of Global Information Management*, 12 (3), 123-145

- Chuang S.C., Cheng Y.H., Chang C. J. ,Yang S.W., The effect of service failure types and service recovery on customer satisfaction: a mental accounting perspective, *he Service Industries Journal*, 2011
- Cotten S.R. (2010). Using ICTs to enhance quality of life among residents of independent and assisted living communities. Paper presented at the Gerontological Society of American annual meeting, New Orleans, LA. Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Cotten S.R., McCullough B., Adams R. (2011). Technological influences on social ties across the life span. *Handbook of Lifespan Psychology*, p.647-671. Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Cotton S.R. (2011). Overcoming digital divides in assisted and independent living communities: Results from a randomized trial. Paper presented at the Gerontological Society of America Annual Meeting, Boston, MA. Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Cox J. and Dale B.G. (2001). Service Quality and eCommerce: An Exploratory Analysis. *Managing Service Quality Vol.11*, 121-131
- Daniel E., Storey C. (1997). On-line banking: Strategic and management challenges. *Long Range Planning* 30, 890-898
- Daniel, E. (1999). Provision of electronic banking in the UK and the Republic of Ireland. *International Journal of Bank Marketing*, 17 (2), 72-83. Retrieved from <http://ijbssnet.com/journals> Mohamad O. Al.-Smadi, Factors Affecting Adoption of Electronic Banking: An Analysis of the Perspectives of Banks' Customers
- De Ruyter K., Moorman L., Lemmink J. (2001). Antecedents of commitment and trust in customer-supplier relationships in high technology markets. *Industrial Marketing Management* Vol.30, p.271-286. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Entrust (2008). Phishing attack. Available from <http://www.entrust.com/phishing/index.htm>
- Featherman M.S, Pavlou P.A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *Int J Hum Comput Stud*, Vol.59(4), p.451-74
- Fenu G., Pau L. P. (2015). An analysis of Features and Tendencies in Mobile Banking Apps, Retrieved from www.sciencedirect.com/science/article/pii/S1877050915016580

- Forsythe S.M., Shi B. (2003). Consumer patronage and risk perceptions in internet shopping. *J Bus Res* Vol.56, p. 867-75. Retrieved from <http://citeseerx.ist.psu.edu>
- Furash E. F. (1999) Internet strategy: Why banks may be getting in wrong—and how to get it right. *Journal of Retail Banking Services* Vol.21, 37-43
- Gaikwad N.M., Rathod A.U. (2014). Online Banking in India – Advantages & Disadvantages, *Tactful Management Research Journal*, Vol. 3
- Gates B. (2008). Banking is essential, Banks are not. Retrieved from www.slideshare.net/Carolederks/banking-is-essential-banks-are-not
- Gefen D., Karahanna E., Straub D.W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, Vol.27(1), p.51-90 Retrieved from <https://www.ideals.illinois.edu>
- Gerrard Ph. J., Cunningham B. (2003). The diffusion of Internet banking among Singapore consumers. *International Journal Of Bank Marketing*, Vol. 21 Iss 1 pp.16-28.
- Glas A., Truszei M. (2016). Current Trends in Financial Technology. Retrieved from <http://onlinelibrary.wiley.com/store>
- Gommans M., Krishnan K., Sheffold K. (2001). From the brand Loyalty to E-Loyalty: A Conceptual Framework. *Journal of Economic and Social Research* 3 (1), 43-58
- Gonzalez F. (2014). Banking, Information, and Technology: Toward Knowledge Banking. Retrieved from <http://www.technologyreview.com>
- Grandinetti M. (1996). Establishing and maintaining security on the Internet. *Sacramento Business Journal* Vol.13, p.22. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Grimes G.A., Hough M.G., Signorella M.L. (2007). Email end users and spam: Relations of gender and age group to attitudes and actions. *Computers in Human Behavior*, Vol. 23(1), p.318-332 Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Gupta S. (2013). The Mobile Banking and Payment Revolution. *The European Financial Review*. Retrieved from www.hbs.edu
- Harridge-March S. (2004). Electronic marketing, the new kid on the block. *Marketing Intelligence & Planning*, Vol. 22, p. 297-309

- Harris K., Baron S., Parker C. (2000). Understanding the Consumer Experience: Its 'good to talk' Journal of Marketing Management Vol.16, p.111-127
- Hill C.W.L. (1990). Cooperation, opportunism and the invisible hand: implications for transaction cost theory. The Academy of Management Review, Vol.15, p. 500-513. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Howcroft B., Hamilton R., Heder P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. International Journal of Bank Marketing, Vol. 20 (3), p.111-21
- <http://pages.misys.com>
- <https://ec.europa.eu>
- <https://transferwise.com/gb/blog/5-ways-technology-has-changed-banking>
- IRACST – International Journal of Commerce (2014), Business and Management (IJCBM), Vol. 3 Retrieved from www.ircast.org
- IRJBM (2015). Online Banking: An Introspection – International Research Journal Of Business and Management, 72-73. Retrieved from www.irjbm.org
- Ito M., Horst H., Bittanti M., Boyod D., Herr-Stephenson B., Lange P.G., Pascoe C.J., Robinson L. (2008). Living and Learning With New Media: Summary of Findings from the Digital Youth Project. The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning. Retrieved from <https://www.ideals.illinois.edu>
- Jacoby J., Kaplan L. B. (1972). The components of perceived risk. Retrieved from Venkatesan M. Advances in consumer research. Association for Consumer Research
- Jarvenpaa S.L., Tractinsky N., Vitale M. (2000). Consumer trust in an Internet store. Information Technology and Management Vol.1, 45-71
- Jehangir M., Zahid M., Jan S., Khan A. (2016). Benefits and Risks of Electronic Banking in the Context of Customer Satisfaction. TextRoad Publication 6 (3) 112-117.
- Kalakota R., Whinston A. (1996). Frontiers of Electronic Commerce, Retrieved from <http://wrap.warwick.ac.uk>
- Kalakota R., Whinston A. (1997). Electronic Commerce, Reading, Mass.: Addison Wesley Longman, Inc. Retrieved from Porter Q.A. (2005). Internet and Competitive

advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>

- Kaplan L.B., Szybille G.J., et al. (1974). Components of perceived risk in product purchase: a cross validation. *J Appl Psychol*, Vol.59(3), p.278-91
- Karjaluoto H. (2002). Electronic Banking in Finland. *Consumer Beliefs, Attitudes, Intentions and Behaviors*, 25-26. Retrieved from <http://citeseerx.ist.psu.edu>
- Khosia I. (2016). The growing impact of technology on the insurance and banking industry. Retrieved from <https://www.capgemini.com>
- Kiang M.Y., Raghu T.S., Kevin H.S. (1999). Marketing on the Internet – who can benefit from an online marketing approach?, *Decision Support Systems* 27 (2000) 383-393
- Kotler, Ph. and Keller, K. L. (2016). *Marketing Management, Global Edition*, Pearson
- Kuisma T., Laukkanen T., Hiltunen M. (2007). Mapping the reasons for resistance to internet banking: a means-end approach. *Int J Inform Manage* Vol. 42(2), p.75-85
- Laukkanen T., Sinkkonen S., Kivijarvi M., Laukkanen P. (2007). Innovation resistance among mature consumers. *Journal of Consumer Marketing*, Vol. 24(7), p.419-427. Retrieved from <https://www.ideals.illinois.edu>
- Lee M. (2008). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit, *Electronic Commerce Research and Applications*, Forthcoming
- Liao Z., Cheung M., (2003). Challenges to Internet E-Banking. *Communications of the ACM*, Vol. 46(12), p.24-250. Retrieved from <http://ijiet.com>
- Ling R. (2008). Should we be concerned that the elderly don't text?. *The Information Society*, Vol.24(5), p.334-341. Retrieved from <https://www.ideals.illinois.edu>
- Littler D., Melanthiou D. (2006). Consumer perceptions of risk and uncertainty and the implications for behavior towards innovative retail services: the case of internet banking. *J Retailing Consume Serv*, Vol.13(6), p.431-43. Retrieved from <http://citeseerx.ist.psu.edu>
- Luneborga J.L., Nielsen J.F. (2003). Customer-focused Technology and Performance in Small and Large Banks. *European Management Journal* 21, 258-269

- Mattila M., Karjaluoto H., Pentto T. (2003). Internet banking adoption among mature customers: early majority or laggards?. *Journal of Services Marketing*, Vol. 17(5), p.514-528. Retrieved from <https://www.ideals.illinois.edu>
- Mols N. P. (1998). The behavioral consequences of PC banking. *International Journal of Bank Marketing* 16(5)
- Mukherjee A., Nath P. (2003). A mold of trust in online relationship banking. *The International Journal of Bank Marketing*, Vol.21, p. 5-15. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Niina M., Matti R., Virpi K.T. (2004). Mobile Banking Services. Adopting new and innovative mobile financial applications and service provisioning methods. *Communications of the ACM*, Vol. 47(5), p.42-46
- Ongkasuwan M. Tantichattanon W. (2002). A Comparative Study of Internet Banking in Thailand. Retrieved on <http://www.academicjournals.org> Andrew Muslime and Malinga Ramadhan, Internet banking, consumer adoption and customer satisfaction.
- Palfrey J., Gasser U. (2008). *Born digital: Understanding the first generation of digital natives*. New York, NY: Basic Books. Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Peacock S.E. (2009). ICT for employability. In M. Cabrera & N. Malanowski (Eds.) *Information and Communication Technologies for Active Ageing*, p.150-65. Retrieved from Retrieved from <http://www.ideals.illinois.edu>
- Peter JP, Ryan MJ. (1976). An investigation of perceived risk at the brand level. *J Market Res*, Vol.13, 914-8 Retrieved from <https://pdfs.semanticscholar.org>
- Peterson R.A., Balasubramanian S., Bronnenberg B.J. (1997). Exploring the implication of the internet for consumer marketing, *Journal of the Academy of Marketing Science* 5 (4), 329-346
- Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Rajashekara V.M. and Puneet Ch. (2016). *Technology Trends 2016*. Retrieved from www.edgeverve.com
- Reavly N. (2005). Securing online banking. *Card Techno Today*, Vol.17(10), 12-3. Retrieved from <http://citeseerx.ist.psu.edu>

- Ridings C., Gefen D., Arinze B. (2002). Some antecedents and effects of trust in virtual communities. *Journal of Strategic Information System*, Vol.11, p.271-295. Retrieved from Porter Q.A. (2005). *Internet and Competitive advantage – an empirical study of UK retail banking sector*. Retrieved on <http://go.warwick.ac.uk/wrap>
- Rifat O. Shannak (2013). Key Issues in E-Banking Strengths and Weaknesses: The Case of two Jordanian Banks. *European Scientific Journal* Vol.9 No.7. Retrieved from <http://eujournal.org>
- Riley F.D., Lacroix C. (2003). Luxury Branding on the Internet: Lost Opportunity or Impossibility? *Marketing Intelligence & Planning* 21, 96-104
- Robinson T. (2000). Internet Banking – still not a perfect marriage. *InformationWeek* 17(4), 104-106
- Roselius T. (1971) Consumer rankings of risk reduction methods. *J Market*, Vol.35(1), p.56-61
- Salehi M., Alipour M. (2010). E-Banking in Emerging Economy: Empirical Evidence of Iran. *International Journal of Economics and Finance*, Vol.2(1), p.201-209
- Samer T., Jun S. (2015). Internet banking diffusion: A country-level analysis. *Electronic Commerce Research and Applications*, Vol. 14(5), p.361-371
- Sayar C., Wolfe S. (2007). Internet banking market performance: Turkey versus the UK. *International Journal of Bank Marketing*. Vol.25(3), p.122-141
- Sharma S. (2016). A detail comparative study on e-banking VS traditional banking. *International Journal Of Applied Research* 2(7), 302-307
- Sheshunoff A. (2000). Internet banking – an update from the frontlines. *ABA Banking Journal* 92 (1)
- So M.W.C., Sculli D. (2002). The role of trust, quality, value and risk in conducting e-business. *Industrial Management & Data Systems* Vol.102, p.503-512. Retrieved from Porter Q.A. (2005). *Internet and Competitive advantage – an empirical study of UK retail banking sector*. Retrieved on <http://go.warwick.ac.uk/wrap>
- Szotompka P. (1999). *Trust: A Sociological Theory* Cambridge: Cambridge University Press. Retrieved from Porter Q.A. (2005). *Internet and Competitive advantage – an empirical study of UK retail banking sector*. Retrieved on <http://go.warwick.ac.uk/wrap>

- Thornton J., White L. (2001). Customer orientations and usage of financial distribution channels. *Journal Of Financial Services Marketing*, Vol. 15 No.3, 168-185
- Udo G.J. (2001). Privacy and security concerns as major barriers for e-commerce: a survey study. *Information Management & Computer Security* Vol.9, p.165-174. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Utakrit N. (2012). Security awareness by online banking users in Western Australian of phishing attacks. Retrieved from <http://ro.ecu.edu.au>
- Venkatesh V., Morris M. G. (2000). Why do not men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage Behavior. *MIS Quarterly*, Vol. 24(1), p.115-139. Retrieved from <http://citeseerx.ist.psu.edu>
- Virtual Surveys. Online Banks Continue to Improve 2003, 2004. Available at http://www.virtualsurveys.com/news/press_release_10.asp
- Vrechopoulos A., Atherinos E. (2009). Web banking layout effects on consumer behavioral intentions. *International Journal of Bank Marketing*, Vol. 27 Iss 7 pp.524-546.
- Wilkowska W., Ziefle M. (2009). Which factors form older adults' acceptance of mobile information and communication technologies? *HCI and Usability for e-Inclusion*, p.81-101. Retrieved from <https://www.ideals.illinois.edu>
- www.accenture.com
- www.bankofcyprus.com.cy
- www.dbresearch.com
- www.gobankingrates.com/banking/history-online-banking/
- www.statista.com
- Yousafzai S.Y., Pallister J.G. and Foxal G.R. (2003). A proposed model of e-trust for electronic banking. *Technovation* Vol.23, p.847-860. Retrieved from Porter Q.A. (2005). Internet and Competitive advantage – an empirical study of UK retail banking sector. Retrieved on <http://go.warwick.ac.uk/wrap>
- Zeithaml V.A., Parasuraman A., Malhotra A. (2002). Service quality delivery through Web sites: a critical view of extant knowledge. *Journal of the Academy of Marketing Science* Vol.30, p.362-375. Retrieved from Porter Q.A. (2005). Internet

and Competitive advantage – an empirical study of UK retail banking sector.
Retrieved on <http://go.warwick.ac.uk/wrap>

- Zickuhr K. (2010). Generations 2010. Pew Research Internet Project. Retrieved from Alhabash S., Brooks B.A., Jiang M., Rifon N.J., LaRose R., Cotton S. (2015). Is it Institutional or System Trust: Mediating the Effect of Generational Cohort Membership on Online Banking Intentions. In iConference 2015 Proceedings. Retrieved from <http://www.ideals.illinois.edu>
- Zott C., Amit R., Donlevy J., (2000). Strategies for Value Creation in E-Commerce: Best Practice in Europe. European Management Journal Vol.18, p.463-475