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**PREREQUISITES TO IMPLEMENT ONLINE BANKING IN  
CAMEROON**

Master's Thesis  
in Information Systems Science

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1	INTRODUCTION .....	4
1.1	Motivation and research question .....	4
1.2	Structure of the thesis .....	5
2	BACKGROUND OF ONLINE BANKING.....	7
2.1	Definition of a bank.....	7
2.2	Types of banking channels.....	8
2.3	Internet and online banking.....	10
2.4	Online banking architecture and security requirements.....	11
2.5	Benefits to the bank for using online banking technology.....	15
2.6	Definition of a customer.....	16
2.7	Benefits of using online banking channel by customers.....	17
3	LITERATURE REVIEW .....	19
3.1	Prerequisites for the implementation of online banking .....	19
3.2	Bank .....	20
3.2.1	Market orientation.....	21
3.2.2	The bank culture of innovation.....	22
3.2.3	Vision of the future .....	27
3.3	Customer .....	27
3.3.1	Convenience.....	28
3.3.2	Accessibility.....	29
3.3.3	Effectiveness .....	30
3.3.4	Economics.....	30
3.3.5	Computers and computer literacy .....	31
3.3.6	Internet connection.....	32
3.4	Infrastructure / society.....	33
3.4.1	Internet network .....	33
3.4.2	Culture.....	33
3.4.3	Government policy and legal requirements .....	34
3.5	Implementation of online banking in the United Kingdom, Finland and Malaysia .....	35
3.5.1	Implementation of online banking in the UK. ....	36
3.5.2	Implementation of online banking in Finland.....	43
3.5.3	Implementation of online banking in Malaysia .....	48

4	RESEARCH METHOD .....	55
4.1	Revisiting the research question.....	55
4.2	Research design.....	56
4.2.1	Description of the study .....	56
4.2.2	Sample selection .....	58
4.2.3	Sample question .....	59
4.2.4	Data collection .....	60
4.2.5	Data analysis .....	61
5	RESEARCH RESULTS .....	62
5.1	Brief country overview.....	62
5.2	Infrastructure and society .....	63
5.2.1	Communication Infrastructure .....	63
5.2.2	Internet network .....	64
5.2.3	Government policy.....	65
5.2.4	Legal requirements.....	67
5.2.5	Culture.....	67
5.3	Culture of Innovation .....	68
5.3.1	Size of the bank.....	69
5.3.2	Managerial style.....	70
5.3.3	Managerial capability.....	70
5.4	Market orientation .....	71
5.5	Vision of the future .....	72
5.6	Customers.....	73
6	CONCLUSION .....	75
6.1	Limitations .....	75
6.2	Implications.....	75
6.2.1	Theoretical implications.....	76
6.2.2	Practical implications.....	76
6.2.3	Conclusion .....	78
	REFERENCE.....	79
	APPENDIX.....	86

**LIST OF FIGURE**

Figure 1: Internet banking structure.....	11
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**LIST OF TABLES**

Table 1 Demographic profile of the United Kingdom.....	36
Table 2 Internet banking providers in the UK in 1999.....	38
Table 3 Demographic profile of Finland.....	43
Table 4 Growth of ICT in Finland.....	47
Table 5 Demographic profile of Malaysia.....	48
Table 6 Types of services offered by banks in Malaysia.....	52
Table 7 ICT Statistics Malaysia.....	53
Table 8 Sample information.....	59

# 1 INTRODUCTION

## 1.1 Motivation and research question

Online banking refers to the banking channel whereby banking activities such as paying of bills, creating of bank accounts and transfer of funds are conducted from home, business or on the road without visiting a physical bank location. It is also known as cyber banking, virtual banking and electronic banking (Turban, King, Viehland, Lee, 2006, 105). Online banking is also defined as an internet portal through which consumers can access various types of banking services (Pikkarainen, Pikkarainen, Karjaluoto, Pahnla, 2004, 229).

However, there are other types of banking channels such as brick and mortar, automated teller machine (ATM), telephone banking, wireless application protocol (WAP), electronic fund transfer at point of sale (EFTPOS) and branches in stores (Fethi, Gumussoy, 2008, 215). Amongst the various banking channels, online banking channel has become very popular in recent times. This can be seen in the current trend of more customers adopting the online banking channel. According to Pew Internet and American Life Project study in 2006, it was revealed that 63 million Americans bank online (increase from 53 million in 2005). It was also realized that 35% of all bills are paid online (Horton, 2007, 26). Moreover, research firm eMarketer estimates that by the end of 2011, at least 101 million people will be banking online (Horton, 2007, 26).

However, despite the proliferation of the online banking system in most western countries, the implementation is still very slow in less developed and developing countries. It is realised that even older forms of technology such as ATM, Telephone banking and EFTPOS have not been fully implemented in developing countries (Sukkar, Hasan, 2005, 388). The slow implementation of online banking in developing nations is as a result of reasons such as the culture and attitudes of the people (Sukkar, Hasan, 2005, 388). The Government policies towards information and communication technology (ICT), the banks' culture of innovation and the infrastructure available are some of the reasons for the slow implementation of online banking system in developing Nations. In some developing countries customers are afraid of the risk losing money rather than the convenience the system provides (Sukkar, Hasan, 2005, 388). Some Governments with the aim to protect domestic banks and citizens allow

domestic banks to start to implement online banking services before foreign incorporated banks, thereby slowing the implementation process (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2).

In order to enhance the implementation of online banking by examining the various requirements necessary to do so, it becomes the motivation of this thesis to explore some useful information from countries that have implemented the online banking system successfully or are still in the process. Based on this motivation, the research question is formed as:

*What are the prerequisites for financial institutions in Cameroon to implement online banking system?*

Furthermore, the main objective of this dissertation is to identify the factors or conditions that are available for Cameroon banks and other financial institutions to implement online banking. These factors would be a reflection of the true situation of the country and it will be based on opinions and concepts of practicing bankers in Cameroon.

## **1.2 Structure of the thesis**

In order to answer the research question, I start by giving a background of online banking in chapter 2. This chapter comprises of the definition of a bank, types of banking channels, internet and online banking, online banking architecture and security requirements, benefits of using online banking system, the customers and benefits of online banking channel to customers.

Chapter 3 is the literature review part of the study. In this chapter the prerequisites for the implementation of online banking is analysed in three perspectives: the bank, the customer and infrastructure and society. I also describe how online banking was implemented in three countries: the UK, Finland and Malaysia.

In Chapter 4 I further describe the research method that has been used to carry out the study by revisiting the research question. I describe the research design by explaining how sample was selected, how the sample questions were formulated and how data was collected and analysed.

In chapter 5 I present the results of the study by analysing the data based on six factors identified in the study as prerequisites for implementation of online banking

system in Cameroon: the culture of innovation, market orientation, vision of the future, customers, infrastructure and society. In the last chapter, chapter 6, I give a conclusion of the study.

## **2 BACKGROUND OF ONLINE BANKING**

Online banking has been defined as the banking channel whereby banking activities such as paying of bills, creating of bank accounts and transfer of funds are conducted from home, business or on the road without visiting a physical bank location (Turban, King, Viehland, Lee, 2006, 105). It is also known as cyber banking, virtual banking and electronic banking (Turban, King, Viehland, Lee, 2006, 105). There are three actors involved in the online banking system: the bank, internet and customer (Hutchinson and Warren, 2003, 69). For a better understanding of the online banking channel, some fundamental aspects concerning the three actors have to be introduced. I will start by introducing the bank in the next subchapter.

### **2.1 Definition of a bank**

A bank is a financial intermediary that offers a growing range of financial services in addition to lending, deposit-holding and payments (Howells, Bain, 2005). On the other hand, a bank is defined as a financial institution that accepts deposits and grants loans. Included in this definition are firms such as commercial banks, savings and loans associations and credit unions, which act as intermediaries that an average man interacts with more often to receive financial services (Mishkin, 1997).

There are two types of banks: Retail or Commercial banking and Corporate banking. Retail banking is the traditional banking business with branches in different locations involved in the holding of deposits, issuing of loans and operating the payment mechanism for households (Howells, Bain, 2005). Corporate banking provides similar services but restricted to large firms (Howells, Bain, 2005). For a bank to provide it services to customers, it must use a channel. There are several channels through which financial services can be obtained. There are many services provided by banks. The core services are payment services, granting of loans and holding deposits (Howells, Bain, 2005). Besides these core services, there are lots of other services such as opening of checking and savings accounts, pay off a loan, pay a bill, transfer fund, apply for a loan, check account balances etc. These services are provided via the numerous banking channels available to banks. The next subchapter will be a review of the different banking channels.

## 2.2 Types of banking channels

To effectively provide the various services to its customers, the bank has to use various channels (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 253). There are six service channels through which banks can deliver their services to customers. These are automated teller machine (ATM), brick and mortar, phone banking, wireless application protocol (WAP), electronic fund transfer at point of sale (EFTPOS) and internet banking or online banking (Fethi, Gumussoy, 2008, 215).

- The *automated teller machine* (ATM) was the first self service device developed more than three decades ago with the main objective to ease the process of obtaining banking services while decreasing the cost of providing such services (Fethi, Gumussoy 2008, 215). However, the ATM has come a long way and has undergone lot of improvements making it possible for new ATMs to be able to deliver full banking services, telecommunication service and also cruise the World Wide Web (Colonia, Willner, 2004, 243). Nevertheless, since the inception of the ATM, there have been some problems such as reliability, security from fraud, volume generation at any particular location and high cost per machine network (Meidan, 1996, 220).
- The *brick and mortar channel* is one of the oldest forms of delivering banking services. This is made up of bank branches distributed in different locations. The distribution of bank branches in different locations makes it convenient for customers to obtain banking services. However, the emergence of the dot com era and the wide distribution of internet network have made it possible for financial information to be transferred in micro-seconds. Most analysts had predicted that brick and mortar bank building will no longer be relevant (Moutinho, Davies, Peris, and Alcaniz, 1997, 99). On the contrast, and to the surprise of those who predicted the downfall of bank branches, the role of bank branch is not passing away, instead it is evolving and its role is changing (Moutinho, Davies, Deng, Peris, and Alcaniz, 1997, 99). Despite the changes in technology, some customers still find bank branches as a reliable source to obtain financial services, may be because of the physical contact they have with staff of a bank. Anyway, there is no doubt that the growth rate of bank

branches will reduce significantly and there is a trend of slowdown in their growth in many places due to prevailing economic conditions (Moutinho, Davies, Deng, Peris, and Alcaniz, 1997, 99).

- The *phone banking channel* is a banking channel that emerged in the 1980s. This is one other development in the banking industry which was used to deliver banking services. This is the system whereby the financial services are been conveyed through telecommunication devices linked to an automated system of the bank, thereby enabling clients to carry out some of their transactions through a phone call (Fethi, Gumussoy, 2008, 215).
- There is the *wireless application protocol (WAP)*. This is similar to online banking. It is the use of WAP-enabled mobile phones to access banking services. With WAP-enabled mobile phone, a user is able to connect to the bank through a wireless link. For this to be possible, the WAP proxy or gateway is necessary to translate the protocols used in WAP to the ones used in the internet (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 255). The user interface in the WAP system is a mini browser in the mobile phone of the user, but what makes the WAP different from online banking is that there is no end to end connection between the customer and the bank's server (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 255).
- The *electronic fund transfer at point of sale (EFTPOS)* is a system that allows a customer to pay for his or her purchases in a retailer's store. The customer uses a debit card to transfer money from his account to the retailer's account instantly (Muhmin, 1998, 117).
- The last but not the least is the *online banking or internet banking channel* which is the channel that has drawn so much attention these days. With this channel the bank is able to set up an electronic banking facility incorporated into the internet in which the bank's customers can carry out many of their transactions without ever leaving the comfort of home (Mishkin, 1997, 8, 258). Online banking is cost effective for banks and also convenient for customers

(Mishkin, 1997, 8, 258). Due to its unique features, internet banking is viewed to be most distinctive from other banking channels such as WAP, ATM, EFTPOS, bank branches etc. Online banking seems to complement these banking channels (Fethi, Gumussoy, 2008, 220). The online banking design provides customers to see operation alternatives more easily, making it more convenient for customers to carry out their transactions (Fethi, Gumussoy, 2008, 219).

However, for a better understanding of the online banking channel, it is foremost important to have an understanding of the internet architecture in which the online banking system is deeply rooted. I will look at the internet and its relation to online banking in the next chapter.

### **2.3 Internet and online banking**

The internet is an international network of networks connecting more than 400 million people working in science, education, business and government distributed in more than 200 countries (Laudon, Laudon, 2002). The internet has been defined broadly as a means by which all computers in the world are able to communicate (Tapscott, 1996). The internet uses a universally accepted system known as World Wide Web (www), with standards for storing, retrieving, formatting and displaying information in a networked environment (Laudon, Laudon, 2002). Financial institutions have been able to take advantage of the internet rich communication capabilities to come up with new business models (Laudon, Laudon, 2002).

A business model that uses the internet is online banking channel. The online banking channel is used to serve customers via the World Wide Web or web banking (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 254). The Http is the standard protocol of communication between the browser and the banks web server. Http is the communication language of the WWW (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 254). The user or customer uses a PC with a network connection, and communicates with the bank via the World Wide Web (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 255). Figure one below shows the internet banking structure.

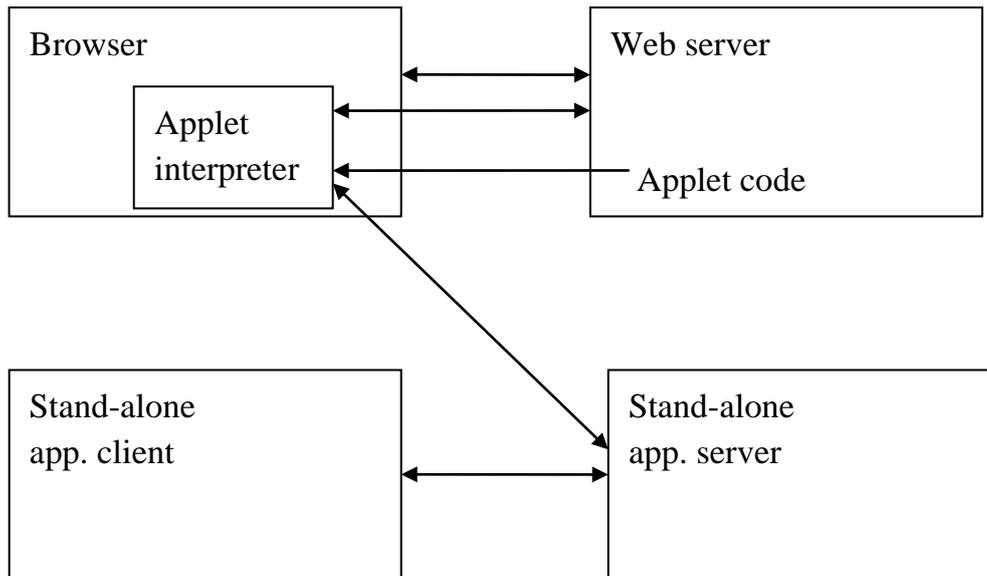


Figure 1 Internet banking structure (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 254).

Figure 1 above shows the basic architecture of an online banking system (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 254). An individual having a PC with a network connection connects to the bank through the World Wide Web. The standard protocol of communication or Http is used. A standalone client/server application is used to facilitate communication between the user and the bank. This same protocol is used by the web browser/server to provide security. In order to make sure the user have the necessary software for the system, an ordinary browser is used at the client side. To increase the functionality a Java applet is downloaded from the bank's website. The applet is a relatively small piece of software code that runs within the user's browser and provides extra security. The advantage with this approach is that the applet technology allows the bank to manage and updates the client software. Clients can automatically download and use new versions of software. For the purpose of this research, a user is referred to a physical person, and client is the machine or software. In the next section I will look at online banking architecture and security requirements.

## 2.4 Online banking architecture and security requirements

The online banking procedure is carried out under the framework of the internet as cited in sub chapter 2.3. The standard protocol of communication is the http, which is the

communication language of the World Wide Web or WWW (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 254). There are four spheres involved: home based customer, business based customer, bank and internet (Hutchinson and warren, 2003, 69). A sphere is defined by Hutchinson and Warren as an independent entity consisting of a person, information system or both. Moreover, there are three areas of security involved in internet banking. These are the bank, the internet and the user's computer (Hutchinson and warren, 2003, 68). To illustrate how the online banking transaction is carried out, it would be reasonable to show the different actions involved. These are (Hutchinson and warren, 2003, 70):

- Action one: A customer uses the internet to connect to the bank's website.
- Action two: The customer browses the web site and decides on a service. An internet banking transaction is initiated by the customer by providing the invoice and payment information.
- Action three: The bank checks if the transaction is executable by verifying the customer has enough funds available and a response is returned to the client.
- Action four: After completing the transaction, a confirmation is sent to the customer.
- Action five: The bank honours the payment and returns proof of having done so.

The major concern with this process is the security issue. To have a secure and safe online banking transaction, some essential security requirements are needed for the online banking environment. Due to the close relationship between E-commerce and online banking, it means that both systems share the same security requirements, which are as follows (Hutchinson and warren, 2003, 68):

- *Identification and Authentication.* The capability to distinctively identify a person or entity and to proof his or her identity.
- *Authorization.* The ability to control the actions of a person or entity based on its identity.
- *Confidentiality.* The ability to prevent unauthorized parties from interpreting or understanding data which does not concern them.

- *Integrity*. The ability to ensure that data is not modified accidentally or tampered with by any unauthorized parties.
- *Non-repudiation*. The capability to avoid the denial of actions by persons or entity.
- *Availability*. The ability to provide an uninterrupted service.
- *Privacy*. The ability to prevent unlawful or unethical use of information or data
- *Auditability*. The ability to keep an accurate record of all transactions for reconciliation.

Having listed the security requirements for online banking, my interest will be to look at the specific security requirements for each action. Then I will try to recognize the possible mechanism required to secure the banking environment.

With regards to action one, whereby a customer uses the internet to connect to the bank's website, the bank is responsible for identifying and to authenticate the customer to satisfactorily perform a transaction. The customer needs privacy regarding the personal account information being viewed (Hutchinson and warren, 2003, 70). With respect to action one, the identification and authentication security requirement can be managed by the implementation of a smart card authentication system with an accompanying biometric mechanism (Hutchinson and warren, 2003, 70).

However, most electronic banking systems use a fixed password to authenticate the client, which can be PIN number or a character-based password. This is combined with a service account number which is not easy to guess. In many cases just a subset has to be provided by the user, and the bank asks for a different subset each time (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 259).

To further intensify the authentication and identification security requirements, some banks issue a list of one time passwords or dynamic passwords to their users. These can be used once and offers more security. Some systems use both fixed and dynamic passwords (chain of dependent passwords) for entity authentication and transaction authentication respectively (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 260). In addition, authentication can be further managed through the use of an integrated digital signature and a digital certificate in combination with a smart card system (Hutchinson and warren, 2003, 72)

With regards to action two, which is the process whereby the customer browses the website and initiate an internet banking transaction, the security requirement suggests that SSL (secure sockets layer) be used to secure the communication between the customer and the bank across the internet (Hutchinson and warren, 2003, 70). SSL was originally initiated by Netscape. It works in a way that a private key is used to encrypt data that is transferred through the SSL connection, designed to prevent eavesdropping, tampering and forgery (Connolly, Begg, 2002, 544). The SSL provides a secure communication channel between the customer and the bank. This implies that data which is transmitted between the two ends is kept secret (confidentiality) and if a third party tampers with the data it is been detected (data integrity) by the system (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 257).

However, besides a secure communication channel between the bank and the client, there is still risk if the client's platform is not secured. The client platform refers to the user's PC, operating system and software, which will determine the secure end point. This end point have been noted to be vulnerable to viruses, trojan horses, worms and other malicious programs, which can spoof the user interface, mislead users in another way and can intercept communication before it is securely sent to the bank (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 262).

That notwithstanding, an industry alliance has been working to provide more trust and security on end user's computing platform. Moreover, work has been done to secure bank's server so as to prevent hackers from breaking into the site (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002, 262).

There are also security requirements for action three, four and five. One requirement is that the bank sends confirmation of the transaction. Another security requirement is to ensure confidentiality and integrity of the message. The last one is that the customer is interested in a guarantee that the bank cannot later deny that the transaction took place (non-repudiation). With all these security demands, the SSL mechanism is appropriate to satisfy them. An acknowledgement needs to be digitally signed by the bank to meet up with the security requirement of non-repudiation (Hutchinson and warren, 2003, 70).

Nevertheless, the bank has to prevent internet-based users from infiltrating the banking network illegally. This can be done by implementing a firewall to isolate the web server from the customer information database (Hutchinson and warren, 2003, 73). A firewall system would prevent unauthorized access to or from a private network

(intranet) connected to the internet. It makes sure that all messages passing through the bank intranet must pass through the firewall for examination, and those which do not meet the specified security criteria are blocked (Connolly, Begg, 2002, 542).

After analyzing the online banking process, it would be necessary to show how relevant it is to the bank and to the customers. In the subsequent chapter I am going to look at the role online banking channel plays to the bank and the customers. I will also look at how the bank and customers benefit from using the online banking channel and the difficulties they face.

## **2.5 Benefits to the bank for using online banking technology**

Choosing to serve customers online is very beneficial to the bank. However, there is always a limit a bank can offer its services online, which makes it still necessary to maintain local branches. For instance a bank cannot receive customers cash deposits online and the human touch aspect is also missing, a smiling face, helpful gesture and a handshake, not to mention a situation where the internet connection is down, which imply online banking services are down and in this situation local branches has to back up the online banking services (Bank of America, 2007). Nevertheless, there are enormous benefits that a bank can achieve for using online banking technology.

One of the main benefits banks have achieved as a result of using online banking technology is the possibility of providing their services all round the clock without keeping branches open for 24 hours a day (Peterson, 2006). Moreover, online banking has enabled banks to provide reliable and quality service. A customer is able to pay bills online, transfer money between accounts and also track his spending more often. A customer can check his or her financial situation instead of waiting for paper statements (Moneyinstructor.com, 2005).

Furthermore, there is the cost-effective advantage which banks can achieve. Thousands of customers can be served without the bank spending money on hiring more cashiers and clerks. The administrative work gets reduce considerably and the cost of bank stationeries, envelopes, stamps, paper slips and forms is dropped drastically thereby raising the profit margins of banks (Peterson, 2006). In addition, some of the costs have been shifted to the customer. For instance a customer does not need to go to the bank to request for a bank statement, rather, the customer can download from his or

her online bank account to get the up-to-the minute updated figures, which he or she can print. This shifts the cost of printing from the bank to the customer (Peterson, 2006).

In a macro perspective it has been realised that it is difficult to figure out the contribution of investment in information technology on the success of a business. With online banking system being part of information technology, it is obvious that measuring the direct contribution of online banking system to the profitability of a bank is difficult (Brynjolfsson, Hitt, 1998, 206). However, despite the difficulties to evaluate the benefit of online banking system to the bank with regards to money measurement, banks have been able to evaluate the contribution of online banking system base on other criteria. For instance, online banking system has been used by banks to compete in the market and to facilitate banking tasks (Smithson, Hirschheim, 1998, 164).

In recent years markets of many products and services has become hugely more competitive due to increasing pressure towards globalization. This has lead to reduction of trade barriers and regulatory laws making it possible for competition to increase in local markets (Smithson, Hirschheim, 1998, 164). In the mist of all these changes, banks success will depend on their strategies to access the markets which will be based on their quality of service and range of different type of services. Online banking system is one of those tools for banks to utilize and cope successfully in the market thereby satisfying the customer who are the main rationale for using the system (Smithson, Hirschheim, 1998, 164).

Having looked at the role, challenges and benefits banks are exposed to for using online banking technology. I am going to move to the next actor, which is the customer. In the next chapter I will look at the role, benefits and challenges customers face for using online banking technology.

## **2.6 Definition of a customer**

There are two types of customers involved in the online banking context. We have the home-base customer and the business-base customer. A home-base customer is any user of the internet who can participate in an online banking transaction (Hutchinson, Warren, 2003, 69). On the other hand, a business-base customer is any company on the internet that participates in online banking (Hutchinson, Warren, 2003, 69). The

difference between the home-based customer and business-base customer lies in the implementation of the form of security (Hutchinson, Warren, 2003, 69).

However, the association of both customers type with the bank signifies there is a relationship between the two. Moreover, the business-base customer acts as a merchant between the home-based customer and the bank (Hutchinson, Warren, 2003, 69). This implies the business-base customer accepts the responsibility for securing the transaction with the home-based customer before sending it to the bank (Hutchinson, Warren, 2003, 69). For example if a customer wish to carry out an online purchase from an online retail shop such as Amazon, it becomes the responsibility of Amazon to make sure the transaction is secured between the customer and the bank. Amazon has to make sure the customer's information is not exposed to third parties.

## **2.7 Benefits of using online banking channel by customers**

The reason why consumers adopt a particular product or service is mostly due to the benefits it offers. With regards to online banking, there are lots of benefits that are pulling more and more consumers to adopt the system.

One of the main benefit is the 'ease of use', it has been noted that the extent to which an innovation is difficult to understand or use is one of the main reason of failure of home banking in the USA (Milind, 1999, 325). With regards to online banking, ease of use is one of the main characteristics in the system, which makes it very popular among consumers. With online banking, consumers can now receive their banking services in the comfort of their homes. Consumers can pay bills online, without buying stamps, pens or envelopes, moreover, consumers can check their bank statements whenever necessary without waiting for paper statements from the banks. All these make the system very convenient for customers (Bankrate.com, 2005).

However, despite the advantage of ease of use of online banking, there are still some hindrances that make customers not to benefits fully from the system. For instance not all customers have access to computers that are connected to the internet. Also, not all customers have the knowledge of working on the computer (Milind, 1999, 325). Nevertheless, there are lot of other advantages that consumers can achieve by using online banking technology. Customers can transfer funds from one account to the other, create bank accounts, apply for loans and monitor their financial situation online

(Milind, 1999, 324). All these banking transactions can now be done with the click of a mouse unlike before, when customer needs to visit a bank branch and wait in a queue before he could carry out a transaction. Nowadays, the consumer benefits from saving time and money (Milind, 1999, 324).

Having looked at the benefits that consumers can incur as a result of using online banking, in the next section, I will look at the prerequisites that can facilitate the adoption of online banking by banks, customers and the society as a whole.

### **3 LITERATURE REVIEW**

For the sake of answering the research question, I will look at some variables that may cause a bank to implement the online banking system. There are so many factors that may cause a bank to adopt an innovation, but in order to make this research more precise and consistent, I will focus on some main factors. With respect to the bank, factors such as market orientation, the bank's culture of innovation and vision of the future will be looked at. Moreover, the reason why the customer will adopt an innovation like online banking will be analyzed which are effectiveness, convenience, accessibility and economics. The societal factors and infrastructure will also be investigated to see how they influence the adoption of online banking. Furthermore, since the main purpose of this thesis is to verify the prerequisites for Cameroon banks to start offering banking services, it becomes utmost important to study how banks in some countries started to implement the system and what did they go through in the course of its implementation. It is in this light that a brief analysis is written on how banks in the United Kingdom, Malaysia and Finland adopted the online banking system. I will look at the difficulties the banks faced and what factors enabled them to adopt the system. After looking at all these variables and the process that banks in UK, Finland and Malaysia went through, I will be able to get a picture of the prerequisites Cameroon banks possessed to start offering online banking services.

#### **3.1 Prerequisites for the implementation of online banking**

The adoption and implementation of online banking system requires favorable conditions (Gurau, Calin, 2002, 290). The identification of these conditions can help in the adoption and implementation process of the system. For online banking to be implemented, there must be some prerequisites which can be looked at from the perspective of the bank, customer and the society as a whole.

For the bank to implement the online banking system, it must be based on requirements like the market orientation, the culture of innovation of the bank and the vision of the future. For the customer to adopt the system, it will depend on its convenience, accessibility, effectiveness, economics and computer literacy of the customer. For the society as a whole it will depend on internet network, communication

infrastructures, literacy rate of the society, legal issues and government support. For the purpose of this thesis, I am going to look at some of the prerequisites that will facilitate the implementation of online banking system with respect to banks, customers, infrastructure and the society.

### **3.2 Bank**

Of recent there has been pressure to improve customer service, total quality management as well as competition. Organisations have responded to these by changing their processes and structures (Smithson, Hirscheim, 1998, 163). These changes have been dramatic in the banking sector, and banks have used information technology to change their process and improve on customer service.

Serving customers online has been one of those big changes that have been witnessed in the banking sector. However, banks have faced a lot of challenges trying to adapt online banking as a tool in delivering banking services to their customers, due to the complexity of the system and the high risk associated with the system. Nevertheless, there have been tremendous benefits accruing to banks that have applied the online banking system diligently, ranging from increase customer base, revenue, low cost, and facilitation of task.

According to the technology acceptance model (TAM), which states that the reason an individual will use an information system is driven by two factors: perceived usefulness and perceived ease of use (Venkatesh and Davis, 2000, 187). With respect to the online banking system the object of TAM can be visualized clearly. TAM theorizes that a person will use a system if the person believes that the system will enhance his job performance, and also if using the system will be free of effort. Applying this view to online banking it can be noticed that banking tasks have been facilitated by adopting the online banking system. Banks don't need to serve their customers traditionally as before. Now, most of the job is done by customers themselves (self-service), from checking of balances, paying of bills, fund transfer and opening of bank accounts.

Despite the benefits resulting from the use of online banking, there are problems faced by using the system. There is the problem of unauthorized access to customers' information by third parties, transfer of viruses from banks to online customers and losses cause to customers as a result of bank's server outages (Horton, 2007, 26).

Anyway, effort is being made to cope with these problems so as to make the system safe and secure for both the bank and the customers. However, using the online banking system can be beneficial and also risky to a bank depending on the bases on which the system was adopted.

I am going to look at some of the requirements or prerequisites that will enable a bank to adopt the online banking system. There is a large amount of academic literature that describes the prerequisites for a bank to implement online banking. The focus of this study is to investigate if the banks in Cameroon are set or have got what it takes to implement online banking. There are three important criteria for an organisation when it comes to analysing new product or service opportunities. The three criteria are the market orientation, the culture of innovation of the organisation and the vision of the future. These three criteria also apply to banks wishing to implement online banking system and it is in this regard that these three criteria have been chosen to analyse the implementation of online banking from the perspective of the bank. I will start the next sub topic by analysing how the market orientation can influence a bank to implement online banking.

### **3.2.1 *Market orientation***

Market orientation is simply described as how a company listens to its customers and develops products and services that meet their needs (Daniel, 1999, 74). Market orientation is best described as “market pull” rather than “technology-push” which is a situation where organizations try to create a need for their products in isolation from the market (Daniel, 1999, 74). For organizations to pursue the market pull innovation, they need to have knowledge of their customers’ needs and behavior and the offerings of their competitors (Daniel, 1999, 74). With regards to online banking, banks have to be pragmatic in the introduction of online banking system in any market. That is banks have to make sure that the market or the customers are made to realize that the new system is more convenient and better than the previous one. Banks also have to be careful and not be aggressive in the introduction of a new technology since customers need to have time to forget their old ways of doing business. For instance a market that is based on a “cash culture”, a successful introduction of online banking services requires a gradual development of the market of electronic financial services (Gurau,

Calin, 2002, 291). In order to familiarize customers with electronic payments and services, banks can introduce debits and credit cards, install ATMs and introduce PoSs in major shops and restaurants (Gurau, Calin, 2002, 291). However, the introduction of a particular system will depend on the specific characteristics of the market. The bank should be able to introduce its online banking system within the banking organization and in the relationship with customers (Gurau, Calin, 2002, 293)

Moreover, the competitive pressures in the markets act as stimulant to make banks adopt online banking (Gurau, Calin, 2002, 294). Banks have the desire to promote an innovative image as a competitive advantage (Gurau, Calin, 2002, 294). Most banks are aware of the fact that early entry in the provision of internet services secures key advantages like attracting young customers, allowing the business model to develop and establishing a brand associated with service and innovation (Gurau, Calin, 2002, 294). However, even though there may be market opportunities, it may be difficult to adopt the online banking system by some banks (Daniel, 1999, 74). The reasons for the difficulty of the adoption may be due to internal barriers and limitations but most often than not the reason is due to the innovation culture of the organization (Daniel, 1999, 74). In the next sub chapter I will look at the role of a bank's culture of innovation in the introduction of new offerings.

### **3.2.2 *The bank culture of innovation***

One of the most important criteria for the development of a new product or service is the organization's competence for innovation (Daniel, 1999, 74). Moreover, companies that have built a reputation for innovation find it easier to introduce new products or services in the future since consumers are more ready to accept new offers from proven innovators (Daniel, Elizabeth, 1999, 75).

According to the Diffusion of Innovation theory (DoI), the decision to adopt an innovation by an individual depends on five specific attributes (Gounaris, Koritos, 2008, 285). According to this theory, the adoption of an innovation will depend on the perception of the members of a social system regarding the five specific attributes of the innovation in question (Gounaris, Koritos, 2008, 285). The five attributes are listed below (Gounaris, Koritos, 2008, 285):

- *Relative advantage.* The degree to which the innovation is perceived to be better than what it supersedes.
- *Compatibility.* The degree to which the innovation is perceived to be consistent with existing values, past experiences and needs.
- *Complexity.* The degree to which the innovation is perceived to be difficult to understand and use.
- *Trialability.* The degree to which the innovation can be experimented with on a limited basis
- *Observability.* The degree to which one can see and understand the results of adopting the innovation before the full adoption.

According to the initiator of this theory, the perception of the above five attributes represent reliable predictors of innovation adoption and diffusion with respect to an individual (Gounaris, Koritos, 2008, 285).

However, with respect to a bank there are some factors which will predict the adoption. The factors that will determine the adoption and diffusion of online banking technology with regards to a bank are referred to as organizational factors. These factors are listed below (Kamal, 2006, 206):

- *Administrative authority.* The innovation of information technology would be more possible in an organization when the political entity in which the organization belongs is receptive to change. This implies if administrative authorities, elected or appointed top administrators, local governments and also central government officials throw their support to an innovation, it becomes easy for IT managers who are in charge of implementing the adoption process and its utilization to carry on with it (Kamal, 2006, 206).
- *Financial support.* The availability of financial resources to build or enhances an organization's IT infrastructure is one of the strongest predictors of innovation (Kamal, 2006, 206). For an organization to adopt an advanced IT like online banking system, financial support is needed for acquiring and developing adequate levels of hardware, software and training of end-users as needed (Kamal, 2006, 209). Investment in information technology may be necessary to change the IT infrastructure to support future innovation (Kamal, 2006, 206). This reason behind the large difference in IT innovations between organizations can be explained by the amount of budget available to adopt new IT (Kamal, 2006, 209). However, the size of total budget differs from

organization to organization; the proportion of the IT budget in the budget structure can be used as a factor to judge the level of financial support (Kamal, 2006, 209). Besides, the financial support as a means for an organization to adopt an innovation, there is also the managerial capability.

- *Managerial capability.* The availability of personnel who have ample competences for producing new ideas is a very significant factor for IT innovation. These ideas are likely to be proposed by personnel who have expertise in a particular discipline. IT innovations tend to start from resourceful applications devised by managers with technical background (Kamal, 2006, 210). The managerial capability of an IT manager which is the ability for the manager to identify problems of the current IT system, develop and evaluate alternatives to improve the IT capacity of the organization, is a decisive factor influencing IT adoption (Kamal, 2006, 210). An IT manager capability can be referred to as a change agent composing of knowledge of IT, innovativeness and motivation (Kamal, 2006, 210).
- *Managerial style.* The system in which the organization operates can be effective in introducing and adopting IT. If top management has the determination to be innovative, other members of the organization will have to do little to encourage effective innovation policy (Kamal, 2006, 206). It has been noted that successful innovation can be associated with an open management style which can be reinforced by means of communication-related IT (Kamal, 2006, 206). Furthermore, IT innovation will emerge continuously when top management understand the value of innovation and systematize the atmosphere of the organization in a manner that supports innovation (Kamal, 2006, 206).
- *Complexity.* The complexity of a technology refers to the difficulties and challenges that come with a new system. When a technology is complex, it becomes unhelpful for it to be adopted since users will not know how to get the most out of it (Kamal, 2006, 211).
- *Compatibility.* There are two aspects of compatibility: technological and organizational compatibility. Technological compatibility refers to the compatibility of the new technology with the organization's existing technologies. A fit of the available technology with the organizations existing technology is an important determinant for adoption of the new technology

(Kamal, 2006, 211). Incompatibility of IT equipments like hardware, software and telecommunication networks negatively affects inter-organizational information sharing (Kamal, 2006, 211). Therefore a high level of technological compatibility can have a positive result on the adoption of IT innovation (Kamal, 2006, 211). On the other hand, the organizational compatibility is referred to as the organizational fit of the system required for effective information sharing among different departments (Kamal, 2006, 211). The incompatibility of a new system with the existing work procedures decreases the possibility of adoption (Kamal, 2006, 211) It has been realized that an organization having a history of innovativeness have a positive organizational climate that facilitates the adoption of new technologies (Kamal, 2006, 211). Moreover, the compatibility of the new system with the existing needs of the organization is very important for the adoption of a new innovation (Kamal, 2006, 211).

- *Market knowledge.* It can be seen that a majority of successful innovations have effectively satisfied the needs of the market (Kamal, 2006, 212). Moreover, an unstable environment generates increased potential for IT innovation. This signify that organizations have to be up to date and well informed about changes in the environment. Organizations can get contact with the environment by developing external information system. This implies a high level of knowledge of the market environment can have a positive impact on IT innovation adoption by organizations (Kamal, 2006, 212).
- *Size.* Size can be looked at from two perspectives: as an environmental factor and as an organizational factor. As an environmental factor, size can be measured in terms of size of the community serve and the number of services provided. It has been noted that larger cities would adopt more sophisticated and advanced information technologies compared to smaller cities since they have greater financial resources, and they are in more need of these technologies. Moreover, larger cities have superior institutional ability to support these technologies. This means a higher level of community size can have a positive impact on IT innovation adoption. On the other hand, organizational size is an organizational factor. It is noted that larger organizations simply because they are large are unlikely to adopt innovation (Kamal, 2006, 212). However, size by itself is not related to innovativeness logically, an organization with a small size will want to adopt innovation to experience economies of scale while a large organization may have sufficient

input to justify the adoption of new innovation. This means organizational size is a driver for organizational innovativeness (Kamal, 2006, 212).

- *Coordination.* Increased knowledge will lead to rapid development of information and research and development technology (Kamal, 2006, 213). This will reduce the psychological perceived geographical distance between various information systems thereby leading to a more rapid innovation (Kamal, 2006, 213).
- *Championship.* Championship refers to the existence of a single person within the organization who is committed to introducing the innovative IT initiative to the organization. (Kamal, 2006, 213). This person could be a manager who is active, energetic and willing to promote his personal vision for using information technology, by pushing the project over or around approval and implementation obstacles. This implies the presence of a champion at the organizational level can positively impact IT innovation adoption by organizations.
- *Collaboration factors.* Collaboration refers to the inter-organization factors that might affect the adoption of IT innovation in organizations. The way in which the participation of stakeholders in the development process is organized will determine success of the system (Kamal, 2006, 215). One way to do these is to align key stakeholders in the system development process (Kamal, 2006, 215). One other factor is the mutual inter-organizational trust which has to be a precondition for sharing information. A lack of mutual trust may results in each organization trying to collect information about the same subject thereby slowing the process. Therefore, a higher level of inter-organizational trust can positively impact IT innovation adoption in organizations.

It is crystal clear that banks take into considerations the above attributes before adopting the online banking system. For instance the compatibility attributes, bank managements would likely adopt online banking system if it is compatible with the existing system of the bank. The compatibility of the system with the banks daily operations is very important because that will determine if the bank will improve its methods of serving its customer. The managerial capability attribute is also very important because if a bank does not have personnel with the right capability to

influence the innovation of the online banking system, the bank may be slow in adopting the system.

Besides the bank's culture of innovation, there is also the vision of the future that will influence a bank to adopt the online banking system. In the next sub chapter I will look at how the vision of the future influences a bank to adopt an innovation.

### **3.2.3 *Vision of the future***

Due to the fact that electronic banking services are highly innovative, it is expected that the organization's vision of the future should be particularly important (Daniel, Elizabeth, 1999, 74). With respect to online banking, the trends that banks forecast in retail banking in the next five to ten years are very important to the decision to invest on a particular system (Daniel, Elizabeth, 1999, 74). The migration from current distribution channels to electronic channels is important for banks (Daniel, Elizabeth, 1999, 78). Moreover, the decreasing consumer loyalty due to increasing transparency of pricing combining with electronic channels like the internet to facilitate comparison shopping, are trends to be taken into consideration by banks (Daniel, Elizabeth, 1999, 78).

In addition, banks decision to adopt electronic banking will also depend on the role online banking will play to their prosperity in the future (Daniel, Elizabeth, 1999, 78). Online banking will be welcome by most boards if it is going to be a key component in the reduction of costs and offers further competitive advantage (Daniel, Elizabeth, 1999, 78).

In the next chapter I will look at the prerequisites that are necessary for consumers to adopt online banking.

## **3.3 Customer**

Advancement in information technology has influenced banks to implement self service channels, such as online banking whose popularity amongst customers has grown rapidly over the past few years. According to the Finnish Banker's Association 55% of private banking customers in Finland had an online banking contract with their bank by

2003 (see Pikkarainen Tero et al., 2004, 224). This number increases to 87% in 2008 (Statistic Finland, 2008). Moreover, according to a 2006 Pew internet and American life project study, it was discovered that 63 million Americans bank online. Approximately 35% of all bills in the United States are paid online. Another study conducted by TowerGroup declared that online banking is one of the most influential channel banks have ever set up increasing at an annual rate of 27% overhauling other banking channels like ATM, and they went further to predict that by 2010 online banking will be the waterway for 31 billion bank customer transactions in a year (Horton, 2007, 26).

Nevertheless, despite the rapid increase in the number of customers using the online banking channel, there has been an increase in statistics that paint a less encouraging picture on this channel as well. In a 2006 survey conducted by Deloitte's Global Financial Services Industry Experts, it was realised that 78% of large financial institutions faced an external security breach in their online banking system while 49% experienced at least one internal breach unlike in 2005 when there was only 26% experienced external breaches and 35% reported internal breaches. According to the Private Right Clearinghouse more than 150 million records have been unintentionally exposed causing problems between the banks and the customers (Horton, 2007, 26).

However, with regards to the enormous benefits that this system has on the customers, considering the rapid increase in the popularity of this system, for the purpose of this research, I will look at some determinants that will cause customers to adopt the online banking channel. These determinants can be classified under six categories. These are convenience, accessibility, effectiveness, economic, computer and computer literacy and internet connection (Wai, Poon, 2008, 62)

### **3.3.1**     *Convenience*

Convenience is one of the factors that affect the adoption of online banking. According to a research conducted in Malaysia, it was realized that 85% of the respondents viewed online banking as convenient (Wai, Poon, 2008, 62). According to a webcheck (an online marketing research company) survey conducted in South Africa, it was revealed that most South Africans bank online because it is convenient (Singh, 2008, 190). It is more convenient for South Africans to view accounts, source information and make third party payments online (Singh, 2008, 190). In Malaysia, customers regard the time

and place flexibility of online banking system as valuable means to facilitate transactions (Wai, Poon, 2008, 62). Moreover, they perceive online banking as easy to use and user friendly (Wai, Poon, 2008, 62).

However, despite the convenience of the system, there are still some challenges that may pose as obstacles to user. If a user is computer illiterate, using internet banking is like a nightmare (wai, poon, 2008, 62). Anyway, a minimum level of computer literacy is good enough to use online banking. A higher computer literacy rate of a community is even more readily prepared to use e-banking (wai, poon, 2008, 62). This implies the higher the literacy level of the market, the higher the usage of online banking.

Nevertheless, in order to grow online banking usage, banks train their customers in their regional training centers and in partner universities (Singh, 2008, 190). In addition, potential customers are also trained by banks through partnership with universities and polytechnics (Singh, 2008, 190).

### **3.3.2 Accessibility**

Having access to computers connected to the internet, is one of the main prerequisites to the usage of online banking channel. Due to the accessibility of the internet in Finland, by 2003, 55% of Finish customers had an online banking contract with their banks (Pikkarainen, Pikkarainen, Karjaluoto, Pahnla, 2004, 224). However, for a computer to be connected to the internet is not a guarantee for accessibility to the internet. A system may be shut down for maintenance thereby disrupting users from carrying out their transactions ( Poon, 2008, 62). In such situations customers will feel that the system is accessible if banks are providing enough notice to them. Banks have to direct customers to alternatives to complete their transactions in case of urgent need (Poon, 2008, 62). Moreover, banks have to secure transactions from interruptions in case of power failures. Banks have to provide power backup and data recovery system (Poon, 2008, 62).

There are some factors that may hinder access to an online banking site. The site design may pose as a challenge to the user if it does not function well. This may be as a result that the site is loaded with color, pictures, flash animations, sound and directions to other sites. These features make the sites to be slow and boring to customers carrying out online transactions. However, a well designed site with simple pages that open

easily and quickly and contains relevant information is more desirable to customers (Singh, 2008, 190). More to that, customers will prefer a site with an option, in which the user can turn off artistic features like graphics, pictures, sounds etc, so as to make downloading faster and cheaper (Singh, 2008,190).

### **3.3.3 Effectiveness**

One of the reasons why online banking has carried grounds upon its introduction is its effectiveness. With online banking, users can perceive information on the diverse products and services that the bank offers (Poon, 2008, 63). Users can print their bank statement from home or work place, and can verify if their transactions are accurate (Poon, 2008, 63). Users can also change their passwords and user IDs easily (Poon, 2008, 63). Users of online banking channels are often informed well in advance, if there is going to be a change in the site.

More often than not, online banking channels may be ineffective due to lack of information flow. For instance, in 2001, Standard bank in South Africa warned users of Netscape 5.7 and lower to upgrade to a new version (Singh, 2008, 195). Users with Netscape 6 were unable to connect to the standard bank, but when they called the helpdesk, they were informed that the new version was Netscape 5.78 (Singh, 2008, 190). It is apparent from this fact that clear and concise information is valuable for users. Moreover, banks have to invest massive amount of capital on online banking facilities and infrastructure. There should be constant upgrade of the facilities to make them more effective (Poon, 2008, 63).

### **3.3.4 Economics**

One of the factors that determine consumers' decision to use online banking is the cost of carrying out transactions via the system. It is less costly to use online banking nowadays since the price of computer is reasonable (Poon, 2008, 66). Moreover, the price of internet connections are affordable and reasonable (Poon, 2008, 66). The amount of fees charged for internet services is also acceptable making it accessible by all the groups of the community (Poon, 2008, 66). Internet transactions costs are also

lower than that of other channels like ATM (Singh, 2008, 194). The low cost of carrying online banking services has let to substantial savings by customers (Singh, 2008, 194). However, the cost of using online banking may be low but there may be a problem if there are no computers and users are not computer literates.

In the next sub chapter I will look at how the availability of a computer and computer literacy can influence a customer to adopt the online banking system.

### **3.3.5 *Computers and computer literacy***

The primary factor that will determine the use of online banking will be the number of people having a computer connected to the internet or having access to computers connected to the internet (Jayawardhena, Foley, 2000, 22). Some governments directly encourage individuals to purchase ICT equipment by passing policies that will provide financial support in the form of cheap loans and tax credits (Europe's information society 2008). In addition, to bank online requires a customer to have knowledge of transacting online, what buttons to click and what to do when a transaction is in progress (Singh, 2004, 193). This knowledge is known as computer literacy (Singh, 2004, 193). Customers need this knowledge in advance before they can adopt the online banking system. However, most online banking sites have tutorials on how to use the system and for customers with aptitude for computing using the site is simple. Furthermore, banks take the initiative to train their customers to use their online facilities (Singh, 2004, 194). Banks conduct training programmes in their regional centers and institutions such as universities also train students who become potential customers to use online banking (Singh, 2004, 194). Banks also have to invest in training of their internal employees to use the new technology (Hamid, Amin, Lada, Ahmad, 2007, 14).

In broader sense, the digital literacy rate of a customer will determine his adoption of online banking. Digital literacy refers to the skills required to achieve a digital competence, the confident and critical use of ICT for work, leisure, learning and communication (Europe's information society 2008). It is strengthened by basic skills in ICT and the use of computers to retrieve, access, store, produce, present and exchange information, and to communicate and participate in collaborative network via the internet (Europe's information society 2008). It has been suggested that digital

competence is one of the eight competences every European should have to prosper in a knowledge-based society and economy (Europe's information society 2008). It is clear that with a high digital literacy rate more customers will be willing to adopt online banking. However, having a computer and having knowledge on how to use it is not sufficient for a consumer to adopt online banking. The computer must be connected to the internet before an online banking transaction can take place.

In the next sub chapter I will look at how internet connection influences consumers to use internet banking.

### **3.3.6 *Internet connection***

The degree to which customers will use the online banking system will depend on the connection to the internet. To further improve on digital literacy, public internet access points have been introduced to serve poorly served geographical areas (Europe's information society 2008). Member states of the European Union have successfully equipped schools with computers and have equally connected all schools with internet as prescribed by the Lisbon target (Europe's information society 2008). Public Internet Access Points (PIAPs) have witnessed a proliferation as location of access point includes schools, town halls, job centers, public libraries, post offices and telecenters (Europe's information society 2008). There has been a rise in private sector internet cafes providing widespread access to the internet (Europe's information society 2008). However, despite the widespread access of internet, about 57% of the population of EU doesn't have internet access at home (Europe's information society 2008). The reasons for the lack of internet access at home is due to lack of interest/need, affordability (for both equipments and internet access prices) and no skills (Europe's information society 2008).

Having looked at the prerequisites for adopting online banking from the perspective of the customer, in the next chapter I will look through the prerequisites that will lead to the adoption of online banking with respect to infrastructure and the society or government.

### **3.4 Infrastructure / society**

The degree to which customers and the society as a whole will adopt the online banking system will depend largely on communication infrastructures such as internet network in a specific locality, the government policy, legal requirements and the culture of the community. For the purpose of this thesis, I will look at how the internet network, culture, the government policy and legal requirements may act as prerequisites for the implementation of online banking.

#### **3.4.1 *Internet network***

The internet network plays a major role in the adoption of online banking in an area. A good internet network could be evaluated in terms of secure servers and the amount of public networks in a country (Gurau, 2002, 290). Moreover, the international connectivity is also vital. The international connectivity can be in terms of the direct fibre links with other countries which will determine the internet exchange with other countries (Gurau, 2002, 290). Besides the good internet network, there is also the literacy level of the community that will determine the implementation of online banking.

In the coming sub chapter I will explain how culture of a community can help in the implementation of online banking.

#### **3.4.2 *Culture***

Cultural factors are a significant point of difference between customers of developed countries, developing countries and less developed countries. It is however important to study the cultural variables that will influence the adoption or rejection of a new technology like online banking (Sukkar, Hasan, 2005, 392). The concept of culture is complex because it changes over time and place and consists of variables such as language, geography, social norms, currency and tradition (Sukkar, Hasan, 2005, 392). These variables have an influence on the adoption of technology in one way or the other (Sukkar, Hasan, 2005, 392). Culture also makes a difference to customers' behavior and therefore has an impact on bank marketing (Laforet, Li, 2005, 369). For instance,

Chinese consumers are always concerned with the risk involve in new unfamiliar technology-base financial services (Laforet, Li, 2005, 369). Since Chinese consumers are more resistant to new technology such as online banking, they might prefer to keep using the familiar branch services (Laforet, Li, 2005, 369). Moreover, group influences is also one of the reason why Chinese are more resistant to new technology and this is as a result of the fact that Chinese are more collective (Laforet, Li, 2005, 369).

Culture can also be described in terms of values and norms where values indicates what is worth doing or having and norms are shared beliefs about behavior (Sukkar, Hasan, 2005, 392). It could also be referred to as the difference in beliefs, values and motivation between one group and another (Sukkar, Hasan, 2005, 392). Some researchers have referred to culture as a deposit of knowledge, experience, beliefs, values, attitudes, meanings, hierarchies, religion, notions of time, spatial relations, concepts of the universe, and material objects and possessions acquired by a set of people over a course of generation through individuals and the group (Sukkar, Hasan, 2005, 392). All these cultural factors will influence the user in adopting information technology in one way or the other. However, it is very important to know some factors that can influence cultural norms and values. Education, language and religion have been noted to be important change agents (Sukkar, Hasan, 2005, 392). With respect to adopting online banking, education and language are effective variables in changing the behaviors of users when they are adopting the online banking system (Sukkar, Hasan, 2005, 392).

Having looked at how culture can influence the implementation of online banking, it will be necessary to look at the role of the Government in the implementation of online banking. In the next sub chapter I will look at how the government can support the implementation of online banking.

### **3.4.3 *Government policy and legal requirements***

The governments of most countries in the world have initiated programmes to support the implementation of information technology services. ICT is an important part of Finnish government programmes and it was implemented in 2006 and it yielded positive results (Europe's information society 2008). The government helps to bring organizations in the implementation of online banking by passing policies and rules that

helps to guide the various operations carried out through online banking. One of the big problems faced by banks implementing online banking is customer protection (Hamid, Amin, Lada, Ahmad, 2007, 13). Customer privacy is one of the major legal issues affecting internet banking and to have customer confidence, banks have been urged to implement specific and standard laws governing online banking (Hamid, Amin, Lada, Ahmad, 2007, 12). In Malaysia, electronic commerce law has been implemented to resolve internet fraud efficiently but it still needs to be improved (Hamid, Amin, Lada, Ahmad, 2007, 12).

In Thailand electronic commerce law was implemented in 2002 but customers still believe the country lack the ability to protect bank customers in cases of financial loss through online banking (Hamid, Amin, Lada, Ahmad, 2007, 14).

Having looked at some of the requirements for the implementation of online banking, I will proceed to the implementation of online banking in the UK, Finland and Malaysia in the next section

### **3.5 Implementation of online banking in the United Kingdom, Finland and Malaysia**

The implementation of online banking by banks in the United Kingdom, Finland and Malaysia has not been the same. There have been many differences and similarities in the way banks in those countries have introduced online banking services. However, there are several factors that influence banks and other financial institutions to implement online banking. Since online banking is highly innovative, the organization's culture of innovation, market share or strength, restrictions and limitations, the prediction of customer acceptance and the vision of the future market are important factors for implementation of online banking (Daniel, Elizabeth, 1999, 72). Moreover, competitive pressures also play a big role in determining banks implementation of online services. Banks tend to introduce online banking either to emulate their competitors or to have an edge over them in the market (Gurau, Calin, 2002, 291). The Government plays a big role in determining the introduction of online banking in the community. The government influences the implementation of online banking through tax rebate incentives for the purchase of IT equipments like PC (Wai, Poon, 2008, 59). The government further influences the implementation by passing legislation which

gives approval for banks to offer online banking services (Sadiq Sohail, Shanmugham, 2003, 211)

Nevertheless, these factors contributed largely to the implementation of online banking in the UK, Finland and Malaysia. However, some were more influential in some countries than others making all three countries to have different experiences in the implementation of online banking services. To better understand how online banking was implemented in the above three countries, an investigation will be carried out separately in the three countries. These will provide understanding of the different methods used in the three different countries explaining the reasons why such methods were used to implement the online banking system. Moreover, I will look at the various types of internet infrastructures and the customer requirements in the three countries that had caused the implementation of online banking or can influence the implementation of online banking

### 3.5.1 *Implementation of online banking in the UK.*

Table 1 Demographic profile of the United Kingdom (Extract from BBC NEWS, 2009)

<b>ITEM</b>	<b>UNITED KINGDOM</b>
Area	242,514 sq km
Population	61 million (UN, 2008)
Capital	London
Languages	English
Religion	Christianity
Currency	Pound
GNI Per Capital	US DOLLAR 42.740 (World bank 2007)
Internet Domain	.uk
International dialing code	+44

Unlike Malaysia, the United Kingdom is a developed country having a long history of banking. Large banks such as Abbey National and First Direct were not amongst the first banks to launch the online banking services rather they were fast followers (Daniel, Elizabeth, 1999, 73). Electronic banking in the UK started in the 1980s with “homelink” service launched by Nottingham society and the bank of Scotland but failed to gain extensive recognition (Daniel, Elizabeth, 1999, 73). However, with the coming of the Internet in the 1990s, many banks started launching online banking services (Daniel,

Elizabeth, 1999, 73). By 1998 five banks were already providing online banking services in the UK and they were Barclays, First Direct, Nationwide, The Royal Bank of Scotland and the Co-operative bank (Howcroft, Barry-Hamilton, Robert-Hewer, Paul, 2002, 115). The number of banks offering online banking services increased to 12 by 1999 (Jayawardhena, Foley, 2000, 23). By 2004 83 banks were offering online banking services or just having a website without transactional options (Sayar, Wolfe, 2007, 127).

By 1999 the UK was one of the eight European countries at the forefront of online banking in Europe (Jayawardhena, Foley, 2000, 24). Germany had the majority of banks offering online banking services while the UK had a much smaller number of internet banking sites (Jayawardhena, Foley, 2000, 23). However, the UK internet banking sites were of the highest quality and functionality making the UK a model in online banking in Europe and elsewhere (Jayawardhena, Foley, 2000, 23). A study was carried out in 1999 to show the quality of online banking services provided by 12 UK banks. The 12 online banking services were categorized in four main categories. These were: view only functions, account control functions, new services and reconciliation functions (Jayawardhena, Foley, 2000, 24). Each of these four categories was divided into subsets of functions as shown in table 2 below (Jayawardhena, Foley, 2000, 24). The basic services such as account information, balance enquiry, bill payments, funds transfer and cheque facilities are considered to be useful to customers (Sayar, Wolfe, 2007, 130). As shown in table 2 below, the view only functions refer to those services that do not involve any transaction such as checking of balances, viewing account statements and historical records (Jayawardhena, Foley, 2000, 24). The account control functions are those services that enable the customer to have a greater access and control over his account (Jayawardhena, Foley, 2000, 24).

Table 2 Internet banking providers in the UK in 1999 (Jayewardene, Foley, 2000, 25)

NAME OF BANK	View Only			Accounts amendment	Order cheque books	Transfer funds	Pay bills to third party	Standing orders/direct debit	Account Control			Apply for loans	Open current Accounts	Open savings account	Apply for credit cards	Apply for Mortgages	Apply for Insurances	Reconciliation/Integration	INTER-NET SITE ADDRESS
	check balances	View statements/Account	historical records						order/print statements	send messages	pay credit card bills								
Bank of Scotland-HOB (Home and Office Banking Service)	*	*	*			*	*	*	*	*	*								<a href="http://www.bankofscotland.co.uk/electronic">http://www.bankofscotland.co.uk/electronic</a>
BankNet Electronic Banking service	*	*	*			*						*							<a href="http://mkn.co.uk/bank">http://mkn.co.uk/bank</a>
Barclays	*	*	*			*	*	*	*	*	*	*							<a href="http://www.personal.barclays.co.uk/online/">http://www.personal.barclays.co.uk/online/</a>
Citibank	*	*	*			*	*	*	*	*	*	*				*	*	*	<a href="http://www.citibank.com/uk/intbank/index.html">http://www.citibank.com/uk/intbank/index.html</a>
co-operative bank	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.co-operativebank.co.uk/internetbanking.html">http://www.co-operativebank.co.uk/internetbanking.html</a>
Egg	*	*	*			*			*	*	*	*	*	*	*	*	*	*	<a href="http://www.egg.com/">http://www.egg.com/</a>
First Direct	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.firstdirect.co.uk/PCBanking/home.html">http://www.firstdirect.co.uk/PCBanking/home.html</a>
Lloyds on-line	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.lloydsbank.co.uk/">http://www.lloydsbank.co.uk/</a>
Nationwide online banking	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.nationnet.com/onlinebanking/olbHomepageSetup.htm">http://www.nationnet.com/onlinebanking/olbHomepageSetup.htm</a>
Natwest Bank	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.natwest.co.uk/">http://www.natwest.co.uk/</a>
Norwich and Peterborough BS (Netmaster)	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.npbs.co.uk/intro.htm">http://www.npbs.co.uk/intro.htm</a>
Royal Bank of Scotland	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	<a href="http://www.rbs.co.uk/dbpc/product_demonstrator.htm#productinformation">http://www.rbs.co.uk/dbpc/product_demonstrator.htm#productinformation</a>

The action/account control functions are made up of services such as accounts amendment, ordering of cheque books, transferring of funds, paying of bills to third parties, standing order/direct debit, order/print statements, sending of messages and paying of credit card bills (Jayawardhena, Foley, 2000, 2). The new banking services function is made up of applying for loans, opening of current accounts, opening of savings accounts, applying for credit cards, applying for mortgages and applying for insurance. While the integration and reconciliation function is made up of the reconciliation/integration services (Jayawardhena, Foley, 2000, 24). As shown on the table above, as of 1999 all 12 banks were offering the view only functions. This implies customers in the UK could check their account balances, view their bank statements and their historical records from the online facility of the 12 banks. The view only function was advantageous to the banks, since it reduces the work load of bank staff and the customers were assured of quick and efficient service all round the clock (Jayewardene, Foley, 2000, 24).

With respect to the account control functions all the banks could provide at least one of the functions. Since maximum customer satisfaction is derived when many of these functions are provided, all the banks offered the opportunity to transfer fund between accounts (Jayawardhena, Foley, 2000, 24). Moreover, all the banks except three provided the service of paying bills to third parties. This service is important since all households incur bills, and bills represent a significant proportion of household income. Since standing order or direct debit might not provide the possible payment timing, 10 banks offered amendment of standing order (Jayawardhena, Foley, 2000, 24). Statements could be ordered from 11 banks and just three banks allow ordering of cheque books (Jayawardhena, Foley, 2000, 24). Only nine banks had the facility for communicating with the bank through the internet. However, all these operations were at their infancy and users were getting used to the internet concept (Jayawardhena, Foley, 2000, 24). It was necessary that all banks had the facility for communication so that customers could send their complaints to banks (Jayawardhena, Foley, 2000, 25).

With respect to application for new banking services, customers were more satisfied if they could make applications for core banking services and open accounts online. As at 1999 few banks offered such services, as shown in table 2 above, five banks were offering the service whereby loan applications could be made online. Four banks offered mortgage applications and opening of savings and current accounts online

(Jayawardhena, Foley, 2000, 24). Insurance and credit cards applications could be done online in two and three banks respectively. Lastly just three banks could offer the facility for reconciliation of accounts. Customers could freely download and share information from their bank accounts to their individual financial management software (Jayawardhena, Foley, 2000, 26).

Besides, the quality of online banking services offered by the banks, there was also the advantage of quality web sites owned by the 12 banks (Jayawardhena, Foley, 2000, 26). Since there is a correlation between the user satisfaction and the website download speed, most banks tried to have at least an average speed so as to satisfy the customer (Jayawardhena, Foley, 2000, 27). Moreover, the content and design was of prime importance to the users. Content refers to the product information content, amount of product information, amount of product, product format, languages and layout features (Jayawardhena, Foley, 2000, 2). Some of the websites had plain design void of graphics or colours while others had low quality graphics and portrayed a poor image of the bank (Jayawardhena, Foley, 2000, 27). Some of the sites had high quality content and a demonstration of services while at some sites users had to download a program in order to view a demonstration (Jayawardhena, Foley, 2000, 25). With regards to navigation, most of the sites had a display of index making it easy and fast for a user to arrive at the desired destination and encryption technology was used for security purpose (Jayawardhena, Foley, 2000, 25). However, to increase security some banks used a combination of different unique identifiers such as a password, mother's name and maiden name, a memorable place etc (Jayawardhena, Foley, 2000, 28). In the next paragraphs I will describe the reasons that prompted banks in Britain to adopt online banking.

There are many reasons why banks will adopt online banking. Some of the reasons are cost savings, increased customer base, enabling of mass customization, marketing and communication, development of non-core business etc (Jayawardhena, Foley, 2000, 21). Requirements for banks to implement online banking in the UK were mainly market orientation motives or a bank's culture of innovation and vision of the future (Daniel, Elizabeth, 1999, 74). In the next paragraphs, I will explain how banks were able to make use of these requirements to start offering online banking services in the UK.

Market orientation is a very important concept for organizations to consider when designing their strategies. Market orientation is referred to as the situation whereby companies seek to know the needs and wants of their customers and the offerings of their competitors before coming up with an innovation (Daniel, Elizabeth, 1999, 74). Market orientation is known as market pull unlike “supplier or technology- push” which organizations try to create a market for products they have developed (Daniel, Elizabeth, 1999, 74). With regards to the implementation of online banking in the UK, market orientation was one of the reasons why banks were obliged to implement the services. The growth in the demand of electronic services in the late 1990s enabled by the internet was a possibility for banks to start offering online banking services (Jayawardhena, Foley, 2000, 22). By 1999 the range of British nationals connected to the internet was between 4 million to 10, 6 million (Jayawardhena, Foley, 2000, 22). This was a ready market for banks to start offering online banking services and this market was made up of young people (Jayawardhena, Foley, 2000, 22). There has been a constant increase in the market of potential online users in the UK. In 2002 the number of internet users was 25 million and 49% access the internet at least once a week (Sayar, Wolfe, 2007, 128). Moreover, as of December 2003, broadband penetration rate was 5,3% in the UK and had risen to 7,4% in 2004 (Sayar, Wolfe, 2007, 128). Beside the markets, a bank’s culture of innovation was also one of the drivers that pushed banks to adopt online banking (Sayar, Wolfe, 2007, 128). In the next paragraph, I will explain how banks culture of innovation made it possible for banks to adopt online banking in the UK.

A firm may have the financial, human resources and the market opportunities but still find it difficult to start or launch a new product. One of the reasons for this is the firm’s culture of innovation (Daniel, Elizabeth, 1999, 74). With respect to online banking, senior management has to communicate the importance and support the online banking innovation (Daniel, Elizabeth, 1999, 74). One way is for the management to remove fear of failure and to stop bureaucracy so as to facilitate communication (Daniel, Elizabeth, 1999, 74). With respect to the pace setters of online banking in UK, most of the banks were competent for innovation (Daniel, Elizabeth, 1999, 76). Most of the banks created the system to facilitate the delivery of products and services to the customers in an innovative manner (Jayawardhena, Foley, 2000, 22). Even though there was not a large market for the online banking system in the late 1990s, most banks were

still developing the system. One of the main drives for that move by banks was their vision of the future. In the next paragraph I am going to explain how banks envisaged the prospect of online banking in the future and developed the system.

One of the drivers of online banking adoption by UK banks is the vision of the future. Most banks were pretty sure of the market of online banking consumers in the future so they went ahead adopting the system. The growth in the number of internet users was on a constant increase, in 1999 the number of internet users was 10,6 million (Jayawardhena, Foley, 2000, 28). The number of internet users increased to 25 million in 2002 and that of mobile phone users was 49,7 million in 2002 (Sayar, Wolfe, 2007, 128). This trend was a signal for banks to start investing on the online banking technology. In addition, internet users in the UK were mostly students who are low income earners and on entering the job market, they are likely to earn average income and remain connected to the internet (Jayawardhena, Foley, 2000, 23). These low income earners are replaced by similar or a higher number of students and the cycle continues (Jayawardhena, Foley, 2000, 28). This cycle of internet users caused a constant increase of users in the market of online banking.

The implementation of online banking in the UK was somehow successful and that could be seen from the over 40 banks offering the service today (UK banks websites, 2008). Nevertheless, at the initial stage of online banking implementation in the UK, there were some inhibitors that hindered a smooth implementation of the system (Sayar, Wolfe, 2007, 126). For instance, there was not enough ownership of computers and there was resistance to change by some customers and banks alike, making it difficult for online banking to take off smoothly (Sayar, Wolfe, 2007, 128). In addition, some of the first banks that started the system were not effective enough to satisfy the customers (Jayawardhena, Foley, 2000, 24). As said earlier, one of the main motives of using online banking system is to receive banking services 24 hours irrespective of locations (Jayawardhena, Foley, 2000, 24). However, at the start of online banking in UK, some banks were not able to provide their services online for 24 hours (Jayawardhena, Foley, 2000, 24). For instance, Bank of Scotland customers could only operate their accounts between 06.00 and 01.00 on Wednesdays and between 06.00 and 00.00 on weekends (Jayawardhena, Foley, 2000, 24). There was constant shut down of web operations for purposes of maintenance and back office operations (Jayawardhena, Foley, 2000, 24). There was also the issue of web pages not properly designed and also difficulties of

navigation and security loop holes (Jayawardhena, Foley, 2000, 27). Despite some of the problems faced by the early adopters of online banking in the UK, they laid the foundation for the present day large system of online banking. In the next sub chapter I will explain the implementation of online banking in another developed country which is Finland, by looking at the similarities and differences with that of the UK.

### 3.5.2 *Implementation of online banking in Finland*

Table 3 Demographic profile of Finland (Extracted from Foreign and Commonwealth office, 2009)

<b>ITEM</b>	<b>FINLAND</b>
Area	390,920sq km
Population	5.3 Million
Capital City	Helsinki – population 560,000 (Capital region 1.2m)
Languages	Finnish 91.51%. Swedish 5.49%. Increasing Russian-speaking Minority (0.8%). Small Sami Speaking community.
Religions	Religions: Lutheran 82.5%, Orthodox 1.1%.
Currency	Euro
GNI Per capital	US DOLLAR 44.400 (World bank 2007)
Internet Domain	.fi
International dialing code	+358

The Scandinavian countries are been regarded as the leaders of online banking in the world (Mäenpää, Kale, Kuusela, 2008, 266). Denmark is having one of the most developed online banking sectors (Sayar, Wolfe, 2007, 126). Finland is belonging to the Scandinavian countries and just like UK and unlike Malaysia and Cameroon, Finland is a developed country and one of the early adopters of online banking system (Mäenpää, Kale, Kuusela, 2008, 266). In 2005 almost half of the total Finnish population used the online banking system regularly and 66% paid their bills via the online banking system (Mäenpää, Kale, Kuusela, 2008, 266). In 2006, 67% of Finns used the internet to pay their bills, 13% was via direct debit, and 9% was via ATM, 3% via branch office, and 1% by telephone (Laukkanen, Sinkkonen, Laukkanen 2007, 440). In addition, of 700 million credit transfer made in 2005, 284 were made through the internet (Mäenpää, Kale, Kuusela, 2008, 266).

The above trend is a justification of the fact that Finland is one of the countries having the highest percentage of online banking penetration (Mäenpää, Kale, Kuusela, 2008, 266). Just like the UK, internet banking started in Finland as far back as the early 1980s with development of the concept by MeritaNorbanken (Karjaluo, Mattila, Pento, 2002, 347). By 1996 online banking service was implemented in Finland (Pikkarainen, Pikkarainen, Karjaluo, Pahnla, 2006, 159). Unlike the UK, online banking is dominated by the largest bank in Finland, MeritaNordbanken (Karjaluo, Mattila, Pento, 2002, 347). MeritaNordbanken launched its internet based solo-service system in 1996 and by 2001 it had 700,000 internet customers and was expected to rise by 1.2 million in 2001. However, there were other banks that also started the internet banking services at the same time such as Osuuspankki and Leonia (Karjaluo, Mattila, Pento, 2002, 347). The second largest bank in Finland, Osuuspankki group, had about 460,000 internet customers by the year 2000 and Leonia bank was having 350,000 (Karjaluo, Mattila, Pento, 2002, 347). However, despite the smallest number of internet customers, Leonia bank had the highest percentage of internet users from the overall customer base (Karjaluo, Mattila, Pento, 2002, 347). There are certain requirements that enabled the implementation of online banking in Finland. I will explain the requirements that enabled the implementation of the system in Finland in the next paragraphs.

Just like in the UK, the requirements that enabled the smooth implementation of online banking in Finland were the market orientation, the bank's culture of innovation and its vision of the future. Unlike in the UK, there was a Government policy which enabled the smooth take off of online banking in Finland.

With respect to market orientation, there was a potential market of online banking consumers, because in 1998 almost 2.5 million Finns aged 15 to 74 had access to the internet (Karjaluo, Mattila, Pento, 2002, 346). Moreover, more than half of this number used the internet daily (Karjaluo, Mattila, Pento, 2002, 347). According to a study carried out in 2004 in Finland, of the 2479 respondents, 576 had made their cruise booking online and a great number had viewed their product online before booking through the traditional channel (Järveläinen, 2004, 60). In addition, more than 40% of all Finnish households had a computer in 1999 and 22% had internet connection as per 1000 inhabitants (Karjaluo, Mattila, Pento, 2002, 347). These was a ready market for the implementation of online banking in Finland and the online banking customers have

grown steadily since 1996 (Karjaluoto, Mattila, Pento, 2002, 347). This ready market is the reason behind the high penetration rate of online banking services in Finland (Pikkarainen, Pikkarainen, Karjaluoto, Pahnila, 2006, 159). Since the launch of online banking in 1996 there has been a 50% penetration rate and recently 60% of private bank customers use online banking regularly (Pikkarainen, Pikkarainen, Karjaluoto, Pahnila, 2006, 159). However, despite the large market of online banking consumers in Finland, the innovativeness of the banks was very important for the implementation of online banking. In the next paragraph, I will explain how a bank's culture of innovation helped in the implementation of online banking in Finland.

Just like in the UK, innovative culture of Finnish banks has helped greatly in the high penetration of online banking in Finland. The leading online bank in Finland MeritaNordbanken launched its internet based solo-service system in 1996 which it started developing in 1982 (Karjaluoto, Mattila, Pento, 2002, 347). The internet solo service of MeritaNordbanken can be reached via a computer with an internet connection (Karjaluoto, Mattila, Pento, 2002, 347). It can also be reached via a GSM-SMS and a wireless application protocol (WAP) enabled mobile phones (Karjaluoto, Mattila, Pento, 2002, 347). For the purpose of privacy and security, an individual is provided with his own user ID and a key code list to access the service (Karjaluoto, Mattila, Pento, 2002, 347). Each banking session has a different encryption key and the system is said to be superior to others with regards to security and privacy (Karjaluoto, Mattila, Pento, 2002, 347). Moreover, banks have been able to merge with insurance companies making it possible for different kinds of insurance products to be accessible online (Pikkarainen, Pikkarainen, Karjaluoto, Pahnila, 2006, 159). Beside the innovative culture of the banks, there is also a vision of the future which has made the online banking system to grow rapidly. In the next paragraph, I am going to look explain how the vision of the future has influenced the implementation of online banking in Finland.

The vision of the future is very important in determining the implementation of an innovation (Daniel, Elizabeth, 1999, 72). With respect to implementation of online banking in Finland, the vision of the future has been a corner stone to the implementation of the system by the actors involved (Karjaluoto, Mattila, Pento, 2002, 347). There has been a constant increase in the market of online customers in Finland since the coming of the internet (Karjaluoto, Mattila, Pento, 2002, 346). Almost 2.5 million Finns had access to the internet in 1998 (Karjaluoto, Mattila, Pento, 2002, 346).

As shown in table 4 below, the percentage of internet users in Finland was 58.1% in 2003, 63.2% in 2004, and 71.2% in 2006 (Europe's information society 2007). At the same time the percentage of online banking users have increased from 43.4% in 2003 to 62.6% in 2006 (Europe's information society 2007). This trend is an indication that there is a bright future for online banking in Finland. To realize the future vision, banks have introduced new methods to better access the online banking services. MeritaNordbanken have visualized the future trend to be the movement from PC-based internet banking to wireless, mobile phone internet banking (Karjaluo, Mattila, Pento, 2002, 346). In order to deliver the goods in the future, MeritaNordbanken has gotten into a cooperation project with Nokia and Visa called EMPS (Electronic Mobile Payment Services) (Karjaluo, Mattila, Pento, 2002, 347). EMPS technology will enable customers to draw out money from ATM with a mobile phone (Karjaluo, Mattila, Pento, 2002, 346). There are hopes that in the future everything will be controlled via the mobile phone (Karjaluo, Mattila, Pento, 2002, 347). However, the successful implementation of online banking in Finland did not occur without the influence of the Government. In the next paragraph I will discuss the role of the government in facilitating the implementation of online banking in Finland.

Table 4 Growth of ICT in Finland (An abstract from Europe's information society, Finland i2010 Annual Report 2007)

<b>Broadband</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Total DSL coverage (as % of total population)	87.6	89.4	90.4	
Broadband penetration (as % of population)	6.4	12.4	20.3	26.0
Households having broadband (as % of those having internet access at home)	26.1	41.8	66.7	81.7
% of enterprises with broadband access	65.2	70.9	81.1	88.9
<b>Internet usage</b>				
% of population who are regular internet users	58.1	63.2	62.2	71.2
Sending e-mails	54.8	61.9	62.7	67.4
Internet telephoning or video conferencing	2.3	5.3	9.7	14.2
Listening to web radio and watching web TV	9.6	11.9	16.7	20.2
Online banking	43.4	50.3	56.3	62.6
<b>ICT in schools</b>				
% of schools with broadband access				90
Number of computers connected per 100 pupils				16.2

In the early 2000's, the Ministry of Education passed a legislation with the aim at making internet services available to all educational institutions in Finland (Karjaluoto, Mattila, Pento, 2002, 346). Then by 2006, the percentage of schools with broadband access was at 90% and the number of pupils connected to per 100 computers was 16.2% as shown on table 4 (Karjaluoto, Mattila, Pento, 2002, 346). All these moves by the Government in providing high technological infrastructure explain the high internet banking usage rate in Finland (Karjaluoto, Mattila, Pento, 2002, 346). Moreover, Government action also sparked off the early implementation of online banking in Finland with MeritaNordbanken launching its first internet banking service in 1996 (Karjaluoto, Mattila, Pento, 2002, 346).

Internet banking implementation has been a success in Finland that can be explained by the high usage rate of the services. There has been a steady increase of internet banking usage in Finland and in 2006 Finland ranked third for using the service in Europe (Europe's information society, 2007). Furthermore, just like in the UK, the system is still in constant improvement to satisfy consumers changing needs for information technology services. In the subsequent sub chapter I will explain the implementation of online banking in a less developed economy, which is Malaysia.

### 3.5.3 Implementation of online banking in Malaysia

Table 5 Demographic profile of Malaysia (Dauda, Santhapparaj, Asirvatham, Raman, 2007, 4)

<i>ITEM</i>	<i>MALAYSIA</i>
Area	329,750sq km
Population	25.58 million (approximate)
Capital	Malay and other indigenous 58%, Chinese 24%, Indian 8%, Other 10%
Official Languages	Bahasa, Melayu, English, Chinese, Tamil, and more than five others
Religion	Islam, Buddhism, Daoism, Hinduism, Christianity
Currency	Ringgit
GNI Per Capital	US DOLLAR 6.540 (World bank 2007)
Internet Domain	.com.my
International dialing code	+606

Unlike the United Kingdom and Finland, Malaysia is a less developed country having a different approach in its implementation and adoption of online banking. The electronic revolution in the Malaysian banking sector started as far back as the 1970s, but the actualization of the electronic revolution took place in 1981 with the introduction of the automated teller machine (ATM) (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2). The introduction of telephone banking services in the 1990s became the next technological leap (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2).

Contrarily to the UK and Finland, online banking was introduced later in Malaysia. As a result of rapid innovation in telecommunication industry and the Government efforts in trying to structure a legal framework to provide online banking services due to competitiveness in the industry, online banking was introduced in Malaysia (Hamid, Amin, Lada, Ahmad, 2007, 12). Internet banking was officially introduced in Malaysia in June 2000 when the Malaysian central bank (Bank Negara Malaysia) allowed commercial banks to offer internet banking services to their clients (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2). Only banks licensed under the banking and financial institutions Act 1989 and Islamic Banking Act 1983 were allowed to offer online banking services (Goi, Chai Lee, 2006, 7). Malayan banking Berhard (Maybank) was the first bank to provide internet banking services and it was followed by hong leong bank (Hamid, Amin, Lada, Ahmad, 2007, 3). By 2006 the three largest banks in

Malaysia were dominating the scene of internet banking in the country they were CIMB, Maybank, RHB Bank Berhad and they collectively had 917,000 internet banking users (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2). However, this was just 8% of total internet users which was estimated to be about 13.5 million users (Ramand, Stephenaus, Alam, Kuppusamy, 2008, 2). As of 2007 there were 13 commercial banks offering internet banking services in Malaysia out of a total of 25 (Hamid, Amin, Lada, Ahmad, 2007, 3). The list below shows the number of banks offering internet banking services as at 2007.

List of Banks offering banking services in Malaysia (Hamid, Amin, Lada, Ahmad, 2007, 4)

LOCAL BANKS
Alliance bank Malaysia Berhad
Bumiputra commerce bank Berhad
Bank islam Malaysia Berhad
Hong leong bank
Malayan banking Berhad
Public bank Berhad
RHB bank Berhad
Southern bank Berhad
FOREIGN BANKS
Citibank Berhad
HSBC bank Malaysia Berhad
OCBC bank (Malaysia) Berhad
United overseas bank (m) Berhad

As at 2007 13 banks were already offering online banking services in Malaysia. For the purpose of this thesis, I will be interested in the requirements that led to the implementation of online banking in Malaysia. Contrary to the UK and Finland, one of the requirements that led to the implementation of online banking in Malaysia was Government support (Hamid, Amin, Lada, Ahmad, 2007, 3). The Malaysian Government, with the aim of protecting local banks from competition against foreign banks, decided to give approval for domestic banks to start offering online banking services in June 2000 (Hamid, Amin, Lada, Ahmad, 2007, 3). At the same time locally incorporated foreign banks were allowed to start operating internet banking services only after January 2002 (Hamid, Amin, Lada, Ahmad, 2007, 3). The Malaysian Government, through the Bank Negara Malaysia (Central bank), came out with minimum guidelines on the provision of internet banking services in may 2000 (Goi, Chai Lee, 2006, 8). The guidelines require that banking institutions should have face to face interactions with customers prior to opening of accounts or extension of credits (Goi, Chai Lee, 2006, 8). In providing internet banking services, banking institutions are required to implement monitoring and reporting mechanisms to identify potential money laundering activities (Goi, Chai Lee, 2006, 8). This made it possible for the central bank to ensure that the banking industry while in line with development in ICT would maintain the integrity of the financial system and prevent it from being abused by money launderers (Goi, Chai Lee, 2006, 8). Moreover, the government further

reinforced the adoption of online banking by implementing a tax rebate incentive for the purchase of a PC every 5 years (Poon, Wai-Ching, 2008, 56). Lastly, in its 2006 budget, the Malaysian government announced its intension to increase the acceptance of electronic means of payment with the Government and to promote the use of E-payments nationwide (Goi, Chai Lee, 2006, 8). Besides the government support, the innovative culture of Malaysian banks played a big role in the implementation of online banking in Malaysia. In the next paragraph I will show how the banks culture of innovation helped in the implementation of online banking in Malaysia.

According to a study carried out, it was realized that Malaysian banks were highly innovative in offering their banking services online (Poon, Wai-Ching, 2008, 63). With respect to accessibility, convenience and content there is the availability of appropriate technology and technical support for the proper introduction and the development of electronic services (Poon, Wai-Ching 2008, 63). Banks in Malaysia are innovative in offering various internet banking services. Table 6 below shows the various internet banking services offered by five banks in Malaysia. The Bumiputra Commerce Bank with the aim to transform its existing internet banking system, to offer improved user experiences and increase technical flexibly, to enhance internet banking operations efficiently, has engaged cyber village in a project codenamed “transformation of internet banking system” (TBS) (Goi, Chai Lee, 2006, 7). TBS seek to deliver an enterprise–class internet banking platform that could provide a superior online user experience while leveraging on a cost-effective, flexible technology platform (Goi, Chai Lee, 2006, 7). The project is leveraging on IBM websphere platform and DB2 database (Goi, Chai Lee, 2006, 7). Cyber village is the first local e–business company to design and developed internet banking system for a Malaysian bank (Goi, Chai Lee, 2006, 8). Innovation comes as a result of market need, the Malaysian market is very important in the implementation of online banking. In the next paragraph I will explain the role of the market in the implementation of online banking in Malaysia.

Table 6 Types of services offered by banks in Malaysia (An abstract from Hamid, Amin, Lada, Ahmad, 2007, 7) a= service offered (available)

x= service not offered.

INTERNET BANKING SERVICES AND FEATURES		AVAILABILITY				
		BANKS IN MALAYSIA				
		Malayan bank Berhad	Hong Leong bank	Rashid Hussain bank	A m bank Berhad	Public bank Berhad
1	check your balances and statements online	a	a	a	a	a
2	fund transfer	a	a	a	a	a
3	Bill payments	a	a	a	a	a
4	manage savings and current accounts	a	a	a	a	a
5	card services	a	a	a	a	a
6	order cheque and books request	a	a	x	a	a
7	request for stop cheque payments	a	a	a	x	a
8	fixed deposit payments	a	a	x	a	a
9	requesting the bank statement	a	a	x	a	a

Information technology and internet boom have pressurized people to shift away from the simple face to face and over the counter payments applications to information technology –based platforms (Poon, Wai-Ching 2008, 72). However, for customers to accept the new technology, this will depend on the cost, which means it must be reasonably priced relative to the alternatives (Poon, Wai-Ching 2008, 72). With the passing away of traditional banking transactions, banks have come to understand that it is vital for them to understand the current e-banking trend (Poon, Wai-Ching 2008, 63). In Malaysia, services provided in the e-banking sector are designed to meet the customers' demand and banks are considering the Malaysian users' perspectives before

designing a system (Poon, Wai-Ching 2008, 63). For banks to remain competitive attention has to be placed at the highest management level that design strategies with regards to the market (Goi, Chai Lee, 2006, 4). The infrastructure has been very important for the implementation of online banking in Malaysia. In the next paragraph I will look at how the infrastructure contributed for the implementation of online banking in Malaysia.

In terms of information and communication technology infrastructure, Malaysia has witnessed some improvement, the Personal Computer penetration rate is at 16.6% (Dauda, Santhapparaj, Asirvatham, Raman, 2007, 4). Commercial broadband services were launched by time Dotcom in June 2001 and by 2003 there were about 110,247 subscribers making a subscriber penetration rate of 0.44% (Dauda, Santhapparaj, Asirvatham, Raman, 2007, 4). Almost 98% of all broadband connections are over direct exchange line (DSL) (Dauda, Santhapparaj, Asirvatham, Raman, 2007, 4). In 2000 the inter-bank GIRO system (an electronic credit transfer system) was introduced and it recorded an annual transaction of 160% in terms of volume and nearly 200% in terms of value between 2003 to 2004 (Goi, Chai Lee, 2006, 4). Furthermore, the internet-based multi-bank payment system in Malaysia and the financial process exchange established in 2004 facilitate online payments (Goi, Chai Lee, 2006, 5). The system provides convenience and an efficient channel for businesses and consumers to carry out their transactions through the internet (Goi, Chai Lee, 2006, 5). Table 7 below shows ICT statistics in Malaysia.

Table 7 ICT Statistics Malaysia (Abstract from Dauda, Santhapparaj, Asirvatham, Raman, 2007, 5)

<i><b>ITEM</b></i>	<i><b>MALAYSIA</b></i>
Telephone line	15,695.7 Million (ITU, 2003)
Main lines per 100	18.8 (ITU 2004)
Internet access charges	US DOLLAR 12.36 (Tel.&ISP charge)
PC per 100 people	16.6 (ITU 2004)
internet hosts per 10,000	42.90 (ITU 2003)
internet users per 10,000 inhabitants	3,453.31 (ITU 2003)
ISPs	7 (ITU, 2003)

However, despite the implementation of online banking in Malaysia in the beginning of the millennium, online banking has experienced a slow uptake in the country because of some reasons. One of the reasons why Malaysians are reluctant to adopt the system is

because of the security and privacy issue (Amin, Hanudin, 2007, 2). Consumers are not interested to test the system because of lack of knowledge of the system and also because they are scared of risk (Amin, Hanudin, 2007, 2). Secondly internet banking comes with some costs which a large part of the population cannot afford such as connection cost, personal computer or laptop costs and also maintenance (Amin, Hanudin, 2007, 2). Thirdly, the computer literacy rate in Malaysia is not making it possible to apply online banking to a larger group of the Malaysian population ( Amin, Hanudin, 2007, 2). However, despite these challenges, there are certain factors that if met properly internet banking will have a high penetration rate in Malaysia. First banks have to create confidence among individuals by providing enough information about the system (Amin, Hanudin, 2007, 2). Banks have to provide in-group training to make customers aware and believe about the usefulness of the system (Amin, Hanudin, 2007, 2). With continuous improvement the internet banking in Malaysia will become widely used service in the future.

## 4 RESEARCH METHOD

### 4.1 Revisiting the research question

In the literature review, I found three main prerequisites necessary for the implementation of online banking in bank context. The three prerequisites are the market orientation, the bank's culture of innovation and the vision of the future. I also found that these prerequisites have been the backbone for the implementation of online banking in some countries like the United Kingdom, Finland and Malaysia. From these I am inspired to come up with the research problem, *what are the prerequisites for financial institutions in Cameroon to implement online banking system?*. Therefore it is important and necessary to identify if Cameroonian banks have the prerequisites necessary for the implementation of online banking.

In writing up the literature review, it is important to be aware of which concepts have to be emphasized, and this can be determined by the problem or research question (Ghauri, Gronhaug, 45, 2002). For the purpose of this study, the literature review is structured to map the research question. As a result, the emphasis in the literature review is on previous studies of the prerequisites for the implementation of online banking and how those prerequisites facilitate the implementation of the online banking system in some countries. What is important is that literature on the prerequisites to implement online banking has been written mostly about developed countries and about a handful of developing countries. Little or nothing has been written about Cameroon and it becomes the main task of this research to investigate if Cameroonian banks and the Cameroon economy as a whole have the prerequisites to start online banking. In order to address the research question and search for meaningful answers, a qualitative approach has been used. Since this research requires an in-depth study of the phenomenon of online banking, making it an exploratory research, the qualitative method became suitable for the research (Ghauri, Gronhaug, 88, 2002). Qualitative research methods are used to uncover a phenomenon about which little is known and qualitative research provides intricate details and understanding of a particular phenomenon (Ghauri, Gronhaug, 87, 2002). With regard to this research, a qualitative research approach is best fitted to study the prerequisites necessary to implement online

banking in Cameroon. Little has been done about this phenomenon in Cameroon and it becomes the main task of this research to deal with it.

## **4.2 Research design**

### **4.2.1 Description of the study**

As stated in the objective, the main task of this study is to investigate if the Cameroonian banking industry possesses the prerequisites for implementation of online banking. The banking sector in Cameroon is made up of the central bank, the commercial banks and the micro finance institutions. The central bank supervises the activities of the commercial banks. The commercial banks can be either home base commercial bank or foreign incorporated commercial banks with a branch in Cameroon. A home base commercial bank is a commercial bank that the share holders are Cameroonian nationals and the corporate head office is based in Cameroon. A foreign incorporated commercial bank is a commercial bank that is made up of both foreign and Cameroonian share holders. It has branches in Cameroon and the corporate head office is in a different country. Commercial banks get their clients from businessmen, civil servants and diplomatic missions (All Africa.com, 2009). Micro Finance institutions carry out services such as operating of savings accounts, offering of loans and paying of salaries. Micro finance institutions get their clients among petty traders, farmers and other low income earners (All Africa.com, 2009). The difference between micro finance institutions and commercial banks is that commercial banks have larger capital than micro finance institutions.

For the sake of getting reliable information of what is happening in the field, I contacted those commercial banks that have a website in the internet and have more than 500 employees and are doing well in the market. For the micro finance institutions I contacted those that have a website and have more than 100 employees. I sent e-mail to ten institutions asking their permission to send the questionnaire. One bank replied to my e-mail accepting me to send the questionnaire. With the help of my supervisor the questions were designed in a way so as to make them easy for the respondents to understand and know what information is expected from them. The questions were

clearly written with words that were easy to understand. The structure of the questionnaire was as follows: the first section was background information of the researcher which was followed by a brief comment from the supervisor. The next section was made up of the questions which were arranged under six major headings to make it easy for the respondents to know the context in which each of the questions belongs. The headings were: company profile, culture of innovation, market orientation, vision of the future, customers, infrastructure and society. I decided to send the questionnaire to all the institutions. After two weeks I did not get any reply and therefore I sent an e-mail to remind the institutions. One bank sent the responses while the others did not. I sent a second reminder and waited for one week and I had no reply. I sent a third reminder letter and there was still no reply. At this stage I decided to change strategy. I searched for the telephone numbers of the various institutions in the internet and I made calls to them. I talked with one member from each of the nine institutions that had not sent their responses. Some were positive and promised to send the responses while some were reluctant. One bank asked me to visit their office in Cameroon in person before they could release any information to me. Two commercial banks and one micro finance institution promised to send the responses. I waited for two weeks and they did not send the responses, so I called the offices. One bank and the lone micro finance institution sent their responses. I had to wait for two months before I could get the responses from the last bank that promised to send the responses and within those months I made more than twenty phone calls to the management information system officer who was always on the move and never had time to answer the questions. After a difficult process I finally got responses from three banks and one micro finance institution out of a total of six banks and four micro finance institutions as explained in chapter 4.2.2. I had to contact one of the banks by phone for more explanations on certain issues that were raised in the responses that were not explicit. Finally all the information from the e-mail interviews and follow-up conversations were gathered and documented. These data were analyzed by the standard procedure of qualitative research.

#### 4.2.2 *Sample selection*

One of the main tasks of a researcher is to decide on the sample to interview (Creative Research Systems, 2009). Determining the right sample or target population is critical, because if a researcher does not interview the right kind of people, he will not successfully meet his goals (Creative Research Systems, 2009). It is necessary for the researcher to clearly define the target population and since there are no strict rules to follow, the researcher must rely on logic and judgement (Ghauri, Pervez-Gronhaug, Kjell, 2002). However, the target population can be defined based on the objective of the study (Creative Research Systems, 2009). The researcher can also decide on the target population size using variables such as time available, budget and the necessary degree of precision (Creative Research Systems, 2009).

In the Cameroonian banking sector some banks have started offering banking services online while others are still using the traditional channels to offer their services. Banks differ in Cameroon with respect to size, capital and market share. As explained in chapter 4.2.1, there are home based banks, foreign incorporated banks and micro financial institutions that supply banking services to the population. Due to their adequate resources, the foreign incorporated banks have become the early adopters of online banking system. Some of the large home based banks have also adopted online banking. The objective of this study is to investigate the prerequisites necessary to implement online banking in Cameroon. Therefore, it becomes necessary to use banks in Cameroon as target population. Accordingly, as stated in chapter 4.2.1, banks and micro finance institutions that have a website and have more than 500 and 100 employees respectively became the sample. As stated in chapter 4.2.1, I first of all sent an e-mail to six banks and four micro financial institutions asking permission to send my questionnaire. The following institutions were selected: Union Bank (Bank), Afriland First Bank (Bank), Eco-Bank (Bank), Community Credit Company plc (Micro-Finance), First Trust (Micro Finance), National Financial Credit (Bank), Union Bank of Africa (Bank) SGBC (Bank), Express Savings and Credit (Micro Finance), Cofinest (Micro-Finance). I got response only from one bank, Afriland First Bank, which was willing to answer my questionnaire.

Even though I got response from only one bank to send my questionnaire, I decided to send the questionnaire to all the 10 institutions. Of these institutions four replied my questionnaire: three banks and one micro finance institution. They were Union Bank

(Bank), Afriland First Bank (Bank), Eco-Bank (Bank) and Community Credit Company plc (Micro-Finance).

From the above four institutions one participant answered my questionnaire. Table 8 below shows the background information of the participants.

Table 8 Sample information

Subjects	Institution	Category	Number of branches	Number of employees	GENDER	POSITION
#1	Union bank	Bank	5	520	Male	Accountant
#2	Afriland first bank	Bank	19	519	Male	MIS officer
#3	Ecobank	Bank	600	11000	Male	MIS officer
#4	Community credit company plc	Micro-finance institution	11	163	Male	Accountant

#### 4.2.3 *Sample question*

Questioning is one of the most effective analytical tools for conducting qualitative research because most people are familiar with it (Ghauri, Pervez-Gronhaug, Kjell, 2002). Moreover, using a questionnaire is more cost effective when compared with other methods like face interviews, mainly because of the cost of travelling (Creative Research Systems, 2009). By asking questions subjects are free to elaborate on their responses and opinions. Consequently, in this study all questions were open ended in order to allow the respondents to give their real opinions, thereby making it possible to collect their opinions based on their experiences. Moreover, the respondents have greater freedom of expression and they can qualify their answers. As explained in chapter 4.2.1, the questions were formulated in a way so as to be easily understood by the respondent. By asking questions I tried to figure out how factors such as the market orientation, vision of the future, banks culture of innovation, government support and

other elements could be prerequisites for implementation of online banking in Cameroon. A copy of the questionnaire is attached at the end of this thesis.

#### **4.2.4 Data collection**

Due to the facts that online banking is a recent phenomenon in the Cameroonian banking environment and the unavailability of materials on this subject, both primary and secondary data were collected.

The primary data for this study were collected through a questionnaire distributed to practicing bankers in Cameroon. Due to the long geographical distance between me in Finland and the subjects in Cameroon, I could not use traditional face to face interviews. The data collection process for this study lasted 4 months and two techniques were used to collect data from the respondents. The two techniques used were e-mail and telephone.

With regard to secondary data, I collected valuable material from five articles published in four online Cameroonian newspapers: Eden Newspaper, The Entrepreneur, Armelopost and African Press International. From the above papers, I came across articles with viable information about banks that have started some new technology and innovations to serve their customers. In addition, I collected viable information from articles published in four different online magazines: Balancing Act News Update, Africa Internet Usage and Population Statistics, C.I.A World Factbook and ICT Works, 2009. From these magazines I collected information on the telecommunication infrastructures in Cameroon. With regard to government's effort to improve on information technology infrastructures, I collected viable information from two professional articles: M. Government study groups and Nembot Consulting. Finally, regarding the efforts made by the government to improve on the use of information technology in the society, I collected materials from one online article: Rocare Cameroon, in which the author discusses the integration of information technology in the education sector in Cameroon. Collecting secondary data is economical since it is saving both time and money (Ghuri, Gronhaug, 78, 2002). Moreover, secondary data provide a base from which primary data can be easily interpreted and understood (Ghuri, Gronhaug, 78, 2002).

#### 4.2.5 *Data analysis*

After the collection of the necessary data, the next stage was to analyze the data. There are two approaches by which a text can be analyzed: the instrumental and the representational approach (Shapiro, 1997). In the instrumental approach, the text is interpreted according to the researcher's theory. When the representational approach is applied, the text is used as a means to understand the authors meaning (Shapiro, 1997). For the text to be analysed, the occurrence of those themes are counted which provide answers of the respondents. Classification and comparison are essential ingredients of any type of data analysis (Ghauri, Gronhaug, 123, 2002).

For the purpose of this study, coding has been used to analyze the text. Coding can be seen as some sort of classification (Ghauri, Gronhaug, 123, 2002). Coding requires a coder to find some specific answers to an explicit question. It also involves locating relevant information within a larger context. Coding also requires the coder to locate relevant information and also to evaluate the relative importance of two or more possible responses to arrive at a single answer (Ghauri, Gronhaug, 123, 2002). In this study, after the interview was conducted, the data was transcribed and organized. The transcribed data was systematically analyzed by grouping together comments on similar themes and they were then interpreted and conclusions drawn. With regard to the analysis of secondary data, in this study secondary data was collected and documented. Then the secondary data that provided necessary background for the various contexts (culture of innovation, vision of the future, market orientation, customers, infrastructures and society), in which I was analyzing the results of this study, were grouped based on the different contexts. The data was then interpreted and conclusions drawn.

## **5 RESEARCH RESULTS**

This chapter will explain the prerequisites for the implementation of online banking in Cameroon based on the data collected from the study. As discussed before, this study is a qualitative study. The results of the findings are presented based on the research process. The results are presented based on the major headings as outlined on the questionnaire. The results are discussed below.

### **5.1 Brief country overview**

Cameroon is a country located in west of Africa having a population of 18,879,301 with an annual growth rate of 2.19% (All Africa.com, 2009). About 40% of the population is of the age group 0-14 years and 55.9% is of the age group 15-64 and 3.3% is age 65 and above (C.I.A World Factbook, 2009). The country is made up of 279 ethnic groups and 57% of the population lives in the cities (C.I.A World Factbook, 2009). Cameroon is having a literacy rate of 67.9% with male having 77% and female 59.9% (C.I.A World Factbook, 2009).

Unlike most economies in west Africa, Cameroon's economy is less dominated by petroleum, even though petroleum products make up more than half of Cameroon's total export. Besides petroleum, agriculture is the most significant sector in Cameroon's economy. Agriculture provides employment to 60% of the population with timber, coffee and cocoa being the country's non-oil exports (Balancing act news updates, 2007). Cameroon is having a labour force of 6.716 million with agriculture having 43.5%, industry 13% and services 17% (C.I.A World Factbook, 2009). The gross domestic product (GDP) is US \$ 42.76 billion and per capita GDP is US \$ 2,300 (C.I.A World Factbook, 2009).

The size of the country is 475,442 square kilometers and it is triangular in shape, with a coastline border to the west by the gulf of Guinea with access to the Atlantic Ocean (Rocare Cameroon, 2005). Cameroon is bordered to the west by Nigeria, northwards by the plains of the Lake Chad basin, to the east by Central African Republic and the republic of Chad, to the south by Equatorial Guinea, Gabon, and Congo Brazzaville. Plateaus and mountain chains characterize the relief of Cameroon.

The four types of vegetation are the savannah, humid grassland, rich volcanic soil and equatorial forest (Rocare Cameroon, 2005). The climate is of the equatorial, tropical and sahalien types with two major seasons, dry and wet (Rocare Cameroon, 2005).

Taking all these into consideration, there is a great potential in Cameroon for development and economic growth and innovations.

## **5.2 Infrastructure and society**

The degree to which customers and the community as a whole will accept the online banking system is determined by other factors such as communication infrastructure, internet network, government policy, legal requirements and the culture of the community. With respect to Cameroon, the availability of these factors will act as a prerequisite for the implementation of online banking system in the country.

### **5.2.1 Communication Infrastructure**

Cameroon telecommunication infrastructure has been managed by four different state operated monopolies. *ACTEL* provided the billing and local switch management, while *Bull Cameroon* was responsible for laying the cables and the *Societe des communications internationales du Cameroun (INTELCAM)* manages the international network, the x.25 service (Campac) and the internet services. By 1999 the four different companies were merged together to form a new group called Camtel which included Camtel Mobile-a small cellular network in Douala, Yaoundé, and Bafoussam (about 28% of the population). In 1999 the government sold camtel mobile to MTN (70%) and local partner broadband Ltd (30%) (Balancing act news updates, 2007). MTN invested US \$ 300 million over a period of five years and also upgraded the network and increased subscriber base to 50,000 during the first year of operation (Balancing act news updates, 2007). However, Cameroon's telecommunications infrastructure is at a very low level of development (Balancing act news updates, 2007). There are long waiting lists for prospective subscribers (Balancing act news updates, 2007). By 2006, only 130,700 telephone main lines were in use (C.I.A World Factbook, 2009). Moreover, the telephone network is limited to some big cities like Douala and Yaoundé

which harbour 57% of the total population (C.I.A World Factbook, 2009). Douala has about 17 km of fibre optic links (Balancing act news updates, 2007). In 1998 GSM-900 Digital cellular telephony service was initiated which was to include national and international services and by 2007, 4.5 million Cameroonians had a mobile phone (C.I.A World Factbook, 2009)

### **5.2.2 Internet network**

One of the main drivers that can facilitate the implementation of online banking in Cameroon is the internet network of the country. In Cameroon, the international telecom operator, *societe des telecommunication du Cameroun*, provides both the international internet link as well as selling dialup and leased line internet access, web hosting and domain name registration under the name *CamNet* (Balancing act news updates, 2007). The Government internet service provider, IntelCam, provides internet services to the political capital, which has a population of about one million, and also to the commercial capital Douala. However, the poor microwave links to the telecom hub in Yaoundé makes it difficult for Cameroonians to access internet services (Balancing act news updates, 2007). To solve the problem of poor internet connections, Intelcam initiated a project in 2007 to install large VSAT-based internet of over 100 ground stations to create nationally available network (Balancing act news updates, 2007).

Besides Intelcam, there are six private internet service providers scattered in the different towns of Cameroon: 1) *Ditof* a private ISP, which is a joint venture of Cameroonian, French and American interests (Balancing act news updates, 2007), 2) *ICC*, 3) *AfriCom*, 4) *Sercom*, 5) *CKT Distribution Informatique* and 6) *Virtual Cameroon* (Balancing act news updates, 2007). Despite the number of internet service providers, Cameroon is one of the countries in the world where access to the internet is difficult. In 2006 less than 1% of the population had internet access (Nembot Consulting, 2006). As of June 2009, 547,600 Cameroonians had access to the internet increasing the percentage of Cameroonian having access to the internet to 2.9% (Africa Internet Usage and Population Statistics, 2009). In 2008, there were 400 broadband subscribers (All Africa.com, 2009). The very few people who had access to the internet depended on the private ISPs, whose services were rather expensive: dialup costed US \$ 4 per hour, analogue lease line costed US \$ 894 per month, web hosting 1-5 MB cost

US \$ 78 per month, and 50 MB cost US \$ 447 per month (Balancing act news updates, 2007). Internet services were severely restricted to small geographic zones (Nembot Consulting, 2006). However, to remedy this situation, in 2005 Global net (an ISP) and MTN Cameroon went into a partnership to explore the possibility of providing better internet services to a larger number of Cameroonians (Nembot Consulting, 2006). This partnership resulted in the creation of a new company called MTN Network solutions.

In 2006, huge investment was carried out by MTN Network solution to provide wireless internet solutions to 10 cities (Regional headquarters). These new generation networks were expected to provide signals that cover a radius of 25 kilometers in each city (Nembot Consulting, 2006). It had a capacity of 34mb/second, and the internet source was the SAT3 fiber, a fiber optics underwater cable that has been hooked to Cameroon for years but grossly under-utilized (Nembot Consulting, 2006). With this new project, consumers get a bandwidth usage of between 64kb to 2 megabits per user and the pricing depends on whether the bandwidth is dedicated or shared (Nembot Consulting, 2006). Moreover, this project also involves delivering internet to consumers via mobile telephones. The advantage is that it will cover a larger geographical area because MTN mobile telephone signals do reach most part of Cameroon (Nembot Consulting, 2006). This will facilitate the delivering and consuming of online banking services in Cameroon

Furthermore, because of competition in the ICT sector, there has been a drastic drop in internet cost in Cameroon and an increase in the number of internet service providers and subscribers. In 2009 one internet service provider, Ringo, announced it had 5000 broadband subscribers whereas the total number of broadband subscribers in the country was 400 in 2008 (ICT Works, 2009). There has been an increase in ISPs from four in 2007 to 25 in 2009 including major telephone companies like Orange Cameroon and MTN, and this has caused a drop in the prices of internet by 90% (ICT Works, 2009). Orange Cameroon has introduced a flat rate of US \$ 21 per month (ICT Works, 2009).

### **5.2.3 Government policy**

For online banking to become popular among Cameroonians, it will depend on the effort of the government in encouraging information technology. The government of

Cameroon has embarked on a series of projects aiming at transforming the administration into interconnected groups of modern digital-age institutions (M-Government study group, 2004). The main objectives are to 1) increase the quality of services rendered to citizens, 2) be more transparent, 3) pave the way to good governance, 4) accelerate and sustain economic development and 5) digitalize and ease access to information (M-Government study group, 2004). The head of the state has been mentioning his vision of information technology in his speeches and this has to be transformed into a technical working document which will set immediate, medium and long term goals. As of now, the Cameroonian government has three major e-government initiatives, which are in the taxation (website), public finance (intranet) and human resources (career management and salaries) (M-Government study group, 2004).

In order to carry out a smooth execution of these initiatives, the Cameroonian government has made a good number of arrangements by creating some institutions. The institutions are Ministry of Post and Telecommunication, National Center for Informatics Development, Telecommunications Regulation Agency, Information and Communications Technology Observatory, National Information and Communication Technology Agency and the Communication Council (M-Government study group, 2004). However, because of the absence of coordination, these arrangements may in some situations stand as major road blocks to the initiative. That notwithstanding, the government has set up a good ICT Human development policy. The higher education has been opened to private investors and clear rules have been set for the environment to be conducive for business. There are 10 institutions providing training in ICT and from their mission it is clear that the government's human capacity development policy is on track (M-Government study group, 2004). Nevertheless, much still has to be done. It needs to be strengthened and adjusted to job the market's requirements (M-Government study group, 2004)

To carry out this initiative, the Cameroonian government has been receiving continuous assistance from the World Bank and International Monetary Fund (IMF) to fine-tune its budget management. Financing an e-government project involves a lot of issues. Besides conducting studies, there is the deploying of infrastructure and the need for man-power to operate it and provide the awaited services and information (M-Government study group, 2004). This has been a new financial burden to the government which stresses the budgets. Nonetheless, as of now the government has

been on the right track to implement ICT in the country which will be a prerequisite for banks to start offering banking services online.

With respect to this study, when asked if the Cameroonian government promotes technological innovations, subjects #3 (which has online banking system), #4 (which does not have online banking system) and #2 (which has online banking system) said yes, which means the government encourages organizations to come up with new innovations and online banking is not excluded.

#### **5.2.4 *Legal requirements***

For a bank to start a new system such as online banking there must be clear laws regarding such innovations. The laws on e.g. copyright and patent issues have to be explicit so as to facilitate the implementation of the system in any country. With regards to this study when asked if the Cameroon legal environment facilitates the adoption of online banking, subject #3 stated, “yes” while subject #4 stated, “no” and subject #2 stated, “*the legal requirement must be defined clearly*”. However, the government of Cameroon is making efforts to improve on the legal environment which will facilitate business in the country. In October 1993, Cameroon was one of the 16 member states that signed the OHADA (Organization of business law in Africa) treaty (Barthelemy-Aude). The OHADA treaty aims at creating a uniform, secure and modern legal environment for the stimulation of business activities among member states (Barthelemy-Aude). With this treaty, Cameroons domestic legal provisions are being replaced with harmonized regulations (Barthelemy-Aude).

#### **5.2.5 *Culture***

The culture of a community affects the way that community will adopt a particular technology (Sukkar, Hasan, 2005, 392). Culture consists of variables such as language, geography, social norms, currency and tradition. Cameroon is having a diversified cultural heritage with 279 ethnic groups. There are two official languages in Cameroon: English and French. This has made the French and English cultures to be reflected in the society. On how the Cameroonian culture will affect a technology like online

banking, subject #4 stated, *“it is fascinating and many enlightened people always endeavor to try”*, while subject #2 stated, *“the environment is dominated by the fear of being fouled so people are cautious”*. On whether the Cameroonian culture is receptive to online banking, subject #2 stated, *“Yes, but there remains some anxiety”*, while subject #4 stated, *“yes, if proven accurate”*. It is clear that Cameroonian culture is receptive to online banking if the people are made to be aware of the technology. One could say that the culture of Cameroon does not provide a hindrance to the development of online banking, but it contains great challenges.

### **5.3 Culture of Innovation**

As was the case with some western countries like the UK and Finland, the culture of innovation, which is typical for banks, played an important role in the implementation of online banking system. The same holds in the banking sector in Cameroon. Due to tight competition in the banking sector, some Cameroonian banks have adopted a strategy of coming up with new innovations so as to own a greater niche of the market. This culture of innovation has lead banks to develop online banking systems and other technologies to serve customers. When I analysed the data of this study I discovered that most of the subjects highlighted how the innovative culture of their banks helped for the adoption of online banking. Subjects #2 and #3 are already using the online banking system to serve their customers. Moreover, due to their innovative culture, both subjects #2 and #3 have been using some other form of electronic system to serve customers such as ATM and telephone banking. While subject #1 (which has no online banking system) has not started offering online banking services, subject #4 pointed, *“we are currently making studies on ATM and online banking”*.

Some other innovative technologies like E-pay boxes (Electronic pay boxes found in sales points in shops, hotels and other business centers where credit cards can be used to make purchases through them) have become the main channels through which banks can deliver their services. BICEC (International bank of Cameroon for Savings and Credit) offers three visa electron cards (The Entrepreneur, October 10, 2007): (1) BICEC visa electron, with a maximum weekly withdrawal capacity of 1,000,000 fcfa (The Franc of the French Colonies in Africa) (US \$ 2000), (2) BICEC Classic, with a withdrawal capacity of 2,500,000 fcfa (US \$ 5000) in just one week and (3) BICEC

Gold, that provides opportunity to withdraw up to 5,000,000 fcfa (US \$ 10,000) per week (The Entrepreneur, October 10, 2007). In addition, BICEC Bank recently launched an electronic payment program whereby merchants are allowed to use the E-pay box to accept payments from customers using any visa card (Armelopost, 2009). However, before BICEC bank could come up with the E-pay box, Afriland First Bank's I-Card had been very popular in Cameroon among suppliers and retailers (Armelopost, 2009).

According to Cameroon post of October 17 2007, *“the Afriland i-card can be credited at any moment from bank counters using the loading methods chosen by cardholder when he or she subscribed. The cashier explains that, this could be cash-load or autoload. The cash-load method does not require the card holder to hold an account. The holder simply needs to report to one of the designated counters and hand cash to the attending agent who performs the loading operation. Meanwhile, the autoload method requires the cardholder to hold an account with Afriland first bank. When subscribing, the client is expected to specify the amount to be debited from the account at a choosen frequency. The customer then reports to the bank counters at any moment to reload the i-card with an amount less or equal to the amount specified at subscription.”*

The culture of innovation of some banks in Cameroon had been one of the motives for them to adopt the online banking system.

### **5.3.1 Size of the bank**

According to theory, the size of an organization will usually affects the adoption of innovative technology. It has been noted that the smaller the size of the organization, the more willing will the organization adopt innovative technology so as to have economies of scale (Kamal, 2006, 212). However, larger organizations are in a better position to adopt online banking system since they will have sufficient inputs to justify the adoption of such a technology (Kamal, 2006, 212). When asked why they adopted the online banking system subject #3 therefore pointed, *“to make sure that customers manage their cash efficiently by making information available at their finger tips about their account situation”*, while subject #2 said, *“to satisfy our business and Diaspora customers”*. With regard to changes that the online banking system brought to various

banks, subject #3 highlighted, *“our online banking system covers our banking network in 18 countries in central and west Africa”*. On how the online banking system affects the way customers are served, subject #3 highlighted, *“easy, reliable and convenient”* while subject #2 pointed, *“decongestion of cashier, and satisfaction of the customers”*.

One of the main reasons that cause banks in Cameroon to adopt the online banking system is the size of the bank. Big banks with lot of transactions will obviously want systems that will facilitate their transactions. When a bank is large with many customers and transactions it becomes cumbersome to satisfy all the customers using the conventional banking channels. In this regard, they will go for an online banking system which is fast, convenient and time saving.

### **5.3.2 Managerial style**

The system in which an organization operates will determine how the organization can easily adopt an innovation. If the management of an organization is innovation inclined, then it becomes very easy for members of the organization to introduce a new innovation. With respect to this study, some banks have an open management style which is good for innovations like online banking to be adopted. When asked how management of the bank influenced the adoption of online banking, subject #2 pointed, *“they completely agreed with the information system department and gave their ok for the implementation”*. However, not all organizations have an open management style, there are some management that are too conservative and resistant to change. Subject #4 highlighted, *“management is still reluctant to embrace the implementation of ATM”*.

### **5.3.3 Managerial capability**

The availability of personnel, who is capable of producing innovative ideas, is very important for an organization which wants to be innovative. With respect to this study, some of the Cameroonian banks are having a pool of technical experts who are contributing for the implementation of online banking system. Subject #4 pointed, *“An IT expert who is a MS certified specialist is already recruited to develop e-banking”*.

*solutions*". Staffs in some banks that are already offering online banking services participated in the adoption process by offering their services, for instance, subject #3 stated, "*Staff carried out user acceptance tests before the actual implementation of the new channel*", while subject #2 stated the technical expert in the bank assisted the technical partner in the implementation of online banking system. Some banks have a separate affiliate in charge of technical innovations, for example subject #3 stated, "*the bank has a technical and operations affiliate called E-process in charge of deploying all new software, applications and platforms across the entire group*". For a bank to adopt an innovation such as online banking system it must have a pool of technical experts that are ready and willing to offer their services for the adoption of the system. Moreover, the management style of the bank should be conducive so as to facilitate the co-ordination amongst the members of staff into the implementation process.

#### **5.4 Market orientation**

Market orientation has been described as the act of companies to listen to the needs of their customers and supplier services to satisfy their needs (Daniel, 1999, 74). Cameroonian customers have been very receptive to information on technology related innovations in the banking sector. To show that the Cameroonian market is in need of online banking services is the fact that all international banks that come to Cameroon offer online banking services. Subject #3 stated, "*Almost all international banks in Cameroon offer online banking services*". It is crystal clear that the market is in need of the services but some banks don't have the resources and technology to offer the services. Moreover, when asked if customers have shown need for banks to offer their services online, subjects #4 and #1 (which have not started offering online banking services) accepted that their customers have requested for online banking services.

Furthermore Banks have come up with successive electronic banking systems and customers have shown their needs for these systems. There has been a proliferation of electronic bank cards and the spread of ATM in every nook and cranny of the cities in Cameroon (The Entrepreneur, October, 2007). Bank customers are using cards such as visa electron card, making payments and withdrawals at anytime and anywhere (The Entrepreneur, October, 2007). Though electronic banking is new in Cameroon, over the last three years customers in commercial banks have been increasingly receptive to the

electronic banking system in Cameroon (The Entrepreneur, 10, 2007). In order to satisfy the increasing need of Cameroonian customers, banks in Cameroon have come up with varied options. Some banks offer mobile telephone banking service and visa electron card. There is *carte visa electron essential* with a maximum withdrawal capacity of 250,000 fcfa (US \$ 500.00) a day and 500 fcfa (US \$ 1000) a week (The Entrepreneur, October 10, 2007).

## 5.5 Vision of the future

The increase in the number of internet users in Cameroon is an indication that online banking has a future in Cameroon. There has been an increase in the number of internet users in Cameroon from 2008 to 2009 (CIA the World fact book, 2008). Banks have been able to recognize this trend of the growth in internet users. When asked if online banking has a future in Cameroon, three subjects agreed that it has. Banks have also recognized the role online banking will play in their prosperity in the future and they have started investing in online banking systems. According to this study, subject #2 stated that 75% of their total budget is on information technology related investment, while subject #4 stated 12% of their budget is on information technology related investment. When asked why the percentage of investment in IT related products is in increase, subject #2 stated “*we need to accommodate with the market and even innovate*”, while subject #4 stated “*there is a growing awareness of the need of IT by decision makers of the company*”. Furthermore, when asked if online banking may become the main channel of delivering banking services, subject #3 stated, “*yes, due to the increasing vulgarization of internet and information technology, GPRS internet connectivity on mobile phones etc*”

Moreover, the government of Cameroon is presently making efforts to ensure that the citizens have the basic computer knowledge. The government has implemented an ICT policy in education (Rocare Cameroon, 2005). In the year 2000, during the drafting of the strategic plan of the education sector, the minister of national education asked for the first time that experts in charge of the computer sector should take into account the phenomenon of globalization into their proposals. In other words, they should include a strategy of integration of ICT in schools (Rocare Cameroon, 2005). Also, in his message on the 10/02/2001 to the youth of Cameroon, the president of the republic

promised “*the introduction and the generalization of the learning of computing in schools, and the endowment of at least one computer room with access to the internet network*”. To put this promise into action, there was the introduction of ICTs in schools of general secondary and teacher training institutions in 2002 (Rocare Cameroon, 2005). Furthermore, to concretize his pronouncement, the head of state personally inaugurated two multimedia centers in two secondary schools. In 2003 five other institutions were added to the list of those who received this presidential gift (Rocare Cameroon, 2005). Presently, the rest of the schools in the country are in the process of being equipped with ICT equipments with the pioneer schools providing the essential conditions to meet successful integration of CT systems. In 2003 ICT programmes were given to secondary schools while teachers training colleges offer ICT courses, particularly as a pedagogic tool (Rocare Cameroon, 2005). With all the effort being made by the government to equip the youth with computer skills, it is very obvious that in the future there will be lot of Cameroonians who are computer literate and these will be potential consumer of online banking services.

## **5.6 Customers**

As stated before there have been an increasing number of customers using online banking technology in some Cameroonian banks. Most customers have realized that in the nearest future they will start receiving banking services online and they are now learning how to work on the computer. When this study was conducted, subject #4 mentioned that 45% of their customers are computer literate, which is a good position for the bank to start offering online services. Subject #4 further mentioned that 30% of their customers have access to the internet. However, despite efforts made by government and banks to encourage the use of the internet and online banking respectively, the use of this technology is still very low. The customers share part of the blame. When asked how customers perceived the online banking system, subject #4 stated, “*they are conservatives and thus consider online banking the level of technology in Cameroon inadequately secured*”, while subject #3, on the other hand, stated, “*a huge majority welcome it. The older generation is still skeptical*”. More and more

customers are becoming familiar with online banking due to the increase availability of internet network in Cameroon.

## 6 CONCLUSION

### 6.1 Limitations

When writing this thesis I had some unavoidable limitations to face and to be aware of. The first limitation here, like in any other study using a qualitative research method, is the validity question. In qualitative research, validity concerns are challenging to handle (Ghauri, Gronhaug, 123, 2002). With lot of variables to describe, I had to use both primary and secondary data so as to have a greater insight to the phenomenon in this study.

Secondly, this is a study that concerns the whole country and the subjects are workers in banks. The study is about whether Cameroon has the prerequisites to implement online banking in the banking context. Critics may say, that the information obtained from the bank workers is not enough to support the study since there are other sectors that directly or indirectly concern with the implementation of online banking in Cameroon, like the government, IT companies, educational organizations and customers. However, in order to lessen this pitfall, I had to include some articles, magazines and official documents about the legal environment, presidential and Government encouragement of online banking system in Cameroon. In addition to the variables received from the data in the questionnaire, the variables from other sources are also analyzed and interpreted so as to show their connections to the study.

Finally, since this is an academic research on a master's level, the findings in this study are tentative and should not be treated as something definitive at this stage. Even though there are limitations to this study, it may still have some useful implications as explained below.

### 6.2 Implications

Just like any new innovation will need some prerequisites to be implemented in a community, it is the same with the online banking system. The topic of this study, *Prerequisites to implement online banking in Cameroon*, is a very broad and open question. In this study a qualitative research method was adopted in order to come to the

core of the issue. As a consequent some factors were identified, which stand as prerequisites to implement online banking in Cameroon.

### **6.2.1 *Theoretical implications***

Due to the fact that the phenomenon of online banking is new in Cameroon, I have adopted both induction and deduction methods of research to draw conclusions on the findings. The induction method is the method of drawing conclusions based on empirical observations (Ghuri, Gronhaug, 13, 2002). This process starts from certain assumptions, coming finally to concrete conclusions (Ghuri, Gronhaug, 13, 2002). In this study, since the concept of online banking is new in Cameroon, the observations drawn are based on the relations and connections among the variables identified in the findings. The deduction method is the method of drawing conclusions through logical reasoning (Ghuri, Gronhaug, 14, 2002). As explained before the concept of online banking is new in Cameroon and the available facts are used to come up with conclusions about the phenomenon. For instance, there has been efforts made by the government to increase the level of internet connectivity in the country, and since internet and online banking go together, one can conclude that the government is making efforts to implement online banking.

Accordingly, this thesis adopted some factors to stand as prerequisites for the implementation of online banking system in Cameroon. Based on the various theories, the following factors were identified as being crucial for the development of online banking in Cameroon: the bank culture of innovation, the market orientation, the vision of the future, the customer, the infrastructure and the society

### **6.2.2 *Practical implications***

As discussed in chapter five, this study provides a basis through which factors, which pose as prerequisites for the implementation of online banking in Cameroon, can be identified. Consequently, by using qualitative research method, valuable insights were derived from these factors which can be used to implement online banking in Cameroon

banks. For Cameroonian bankers, the identified factors can help them to understand the prerequisites for the implementation of online banking. Cameroonian banks could use this as a base from which to start implementing online banking systems. Moreover, the study strives to explain how the activities of non banking organizations like the government and IT companies pose as prerequisites for the implementation of online banking. For instance in the case of infrastructure and society, it can be seen that the government is making efforts to increase the availability of internet network in the country which will in effect lead to an increase of the consumers using online banking. The study also showed the similarities in the stages taken by Cameroonian banks to implement online banking and those of the UK, Finland and Malaysia. For instance in Cameroon, banks start by introducing some sorts of electronic payment systems as discussed in chapter 5.2 and there has been a spread of bank cards and ATMs. It was the same starting point that banks in the UK and Finland had.

Before doing this research, I thought banks and other financial institutions have not started offering their services online. I was surprised to find out in the course of this study that some Cameroonian banks have started offering banking services online. As discussed in chapter 5 some banks already have online banking systems and they are in the process of marketing the services so that it will have a large market.

I could also identify how the market is an important requirement or prerequisite for the implementation of online banking. One of the conditions for banks to offer a service like online banking is that they must be sure of the market. As discussed in chapter 5.3, the Cameroonian market has been very positive to new information technology, and online banking being one of such technologies, it is obvious that the market will be there for it. In addition, the customers of the banks also act as prerequisites for the implementation of online banking. Some banks testified that they were forced to implement online banking by their customers living out of Cameroon.

Finally, as has already been mentioned, this study has been able to identify factors like the culture of innovation among Cameroonian banks, their vision of the future, their market orientation, their customers and the infrastructure and the society as prerequisites for the implementation of online banking in Cameroon. However, since online banking is still in its developmental stage in Cameroon, it is obvious that new factors and conditions will be found. This means that the factors found in this study are not regarded as the only or final prerequisites for the implementation of online banking

in the Country. Therefore, additional research is still needed to examine the phenomenon of online banking in Cameroon with the focus on different factors that influence its implementation. At this point, prerequisites such as the bank culture of innovation, the market and the customer has been the main drivers for the implementation of online banking systems in Cameroon. However, prerequisites such as the bank's vision of the future, management styles and the infrastructures of the society would help to facilitate the implementation process if made available.

### **6.2.3 Conclusion**

Even though the internet has tremendous potential, it is not sufficiently utilized in most developing countries. Consequently, for business organizations using or being interested in using the internet to carry out their business transactions, especially those in the financial sector, the need is great to know more about how to go about offering their services through the internet. In order to know how financial institutions can benefit from the internet, the online banking aspect has to be fully researched. In this study, the prerequisites that are necessary for a bank to start offering online banking services are highlighted. As a consequence, many factors are identified which pose as guides upon which banks can make decisions on how to implement an online banking system. I hope this study will contribute to speed up the slow process in the implementation of online banking in a developing country like Cameroon.

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## APPENDIX

### QUESTIONNAIRE

#### RESEARCHER

The purpose of this questionnaire is to obtain data necessary for my master's thesis. The feedbacks will enable me to analyze the requirements necessary for adoption of online banking in Cameroon. The questions below are set based on the subheadings from A to E which are the factors necessary for the adoption of online banking in Cameroon. All estimates and opinions given by respondents (Cameroonian bankers) are for the researcher to get a picture of the situation in the field and see what can be done to improve the performance of Cameroonian banks by applying the online banking system.

#### SUPERVISOR

Tikum Bertrand Mbah is a master's student in Turku School of Economics, Finland in Global Information Technology Master Program. As the supervisor of his thesis I am pleased to see the fast progress of his master's thesis titled "Prerequisites to implement online banking in Cameroon, which will be useful and interesting also to Cameroonian banks. According to ethical rules in scientific work, anonymity of respondents is secured; no names will be published in the master's thesis, only summaries will be used.

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#### RESPONDENT (BANKER)

##### I) COMPANY PROFILE

Name of bank:

Address:

Number of branches:

Number of employees:

Number of private account holders:

Number of business account holders:

#### A) CULTURE OF INNOVATION

- 1) What kind of channels (ATM, brick and mortar, telephone banking, online banking) do you use for?
  - a) Private customers:
  - b) Business customers:
- 2) Which channel did you adopt last?
  - a) When did you adopt the channel?
  - b) Why did you adopt that channel?
- 3) What kind of changes did the adoption have on your (customer service) operations?
- 4) How did the innovation change the way you serve your customers?
- 5) Did the size of your transactions influence the adoption of the new channel and how?
- 6) How did management of your bank influence the adoption of the new channel?
- 7) How did the staff contribute in the adoption of the new channel?
- 8) How did the technical experts in your bank contribute in the adoption?
- 9) Who did contribute most in the adoption idea and in which position was that person in your organization?

#### B) MARKET ORIENTATION

- 10) Have your bank started offering banking services (bill payment, account to account transfer, checking of account balance, opening of account etc) online?
  - a) If yes, what are the services that you offer?
  - b) If no, have your customers demanded for banking services online?
  - c) Are you interested in starting to offer banking services online?
- 11) If you start offering or increase your banking services online, do you think you will have a competitive advantage over other banks on the market?
- 12) Do any of your competitors offer some sort of electronic banking services (ATM, Telephone banking, online banking and Electronic fund transfer at point of sale (EFTPOS))?
- 13) If yes, do they have a competitive advantage?

#### C) VISION OF THE FUTURE

- 14) Do you think online banking has a future in Cameroon?
- 15) Do you think online banking might become the main channel to deliver banking services in the future in Cameroon? When?
  - a) If yes, why do you predict that?
  - b) If no, why?
- 17) What is the percentage of information technology related investments in your budget?
- 18) Is that percentage on a decrease or increase and why?

#### D) CUSTOMERS

- 19) Do you have an estimate of the percentage of your customers who are computer literate?
- 20) Do you have an estimate of the percentage of your customers having access to the internet?
- 21) In your opinion how do your customers perceive online banking?

#### E) INFRASTRUCTURE AND SOCIETY

- 22) Can you describe the state of internet network in Cameroon?
- 23) Does the present state of internet availability in Cameroon facilitates or would facilitate the offering of banking services online?
- 24) Has Cameroon the infrastructure necessary for effective take off of online banking?
- 25) Is the Cameroonian culture receptive to new technology in the banking sector?
- 26) How does the Cameroonian culture affect the introduction of an innovation like online banking?
- 27) Does the Cameroon government promote technological innovations?
- 28) Does the Cameroonian legal environment facilitate adoption of online banking?
- 29) Has the Cameroonian government encouraged the adoption of online banking?