Chapter 2
Literature Review
An extensive literature review is done on the concepts and theories related to Banking, M-Banking, E-banking and Security in Financial Transaction. A review of Research papers, articles is undertaken. The Researcher has collected secondary data from Journals and Magazines, Newspapers, articles, Internet websites, Mobile APPS. The Researcher has visited to find happings in M- Market.

The researcher has identified seven research papers along with thirteen articles published in renowned journals on various topics such as Mobile Financial Application, M-commerce Play Stores even data collected from personal interviews with Mobile Application Developers.

The review of available Literature on each topic is taken into account in this chapter.

**Literature Review**

Lei SUN and Ying-jun SUN has published article in Advances in Applied Economics and Finance (AAEF). Title of article is “Analysis on Development, Risk and Security Strategy of China’s Mobile Banking Service”

As the virtual work environment of the entity bank, the potential risks of the mobile banking service are far higher than those of the traditional banks. Starting from the development history and business characteristics of mobile banking service, this paper is analyzed on the current situation of our country, and further to mobile banking risks, then based on these, puts forward the corresponding security strategies. It is significant for the authorities to develop the mobile banking service, effectively guard against and control the risks.
Dr. Fabien Ngendakuriyo has published article in Financial Sector development and reorganization project (FSDRP) Title of article is “MOBILE AND AGENCY BANKING IN THE EAC COUNTRIES: A DIAGNOSTIC ANALYSIS”

This paper analyzes the impact of the mobile and agency banking on financial insertion and economic performance in the East African Community region. After controlling for other factors known to be influencing the financial inclusion, the empirical results obtained by estimating a linear fixed effects panel data with Least Square Dummy Variable technique show that mobile phone financial services contribute positively and significantly to financial inclusion in the EAC region. Furthermore, estimating a convergence panel data growth model with fixed effects reveals that mobile phone financial transactions also exerts a positive, significant and robust impact on economic performance across the region. Thus, the mobile and agency banking industry fosters financial inclusion and increases the economic growth in the EAC countries.

V. Devadevan has published article in International Journal of Emerging Technology and Advanced Engineering Title of article is “Mobile Banking in India Issues and Challenges”

Technology plays an important role in banking sector. Banking is one of the largest financial institutions constantly explores the opportunity of technology enabled services to provide better customer experience and convenience. Mobile phone is a common technology device that became part of every individual in the information era. Mobile Banking is an emerging alternate channel for providing banking services. India is the second largest telecom market in the world, which is having high potential for expanding banking services using mobile. However, mobile banking has not become the choice of millions of people. The main objective of this study is to identify the mindset and analyse the security issues in Mobile banking among the banking customers in India.
Bamoriya and Singh (2011) found that the mobile banking has the issues and challenges like mobile handset compatibility, standardizing, software downloading, privacy & security. There are two major technical developments occurred that is GSM and CDMA technologies. The NTT DoCoMo in Japan introduced internet service on mobile phones in the year 1999.

3rd Generation (3G): The mobile phone became essential communication system for millions of users worldwide. The 3G technology developed with the concept of packet switching instead of circuit switching for data transmission.

4th Generation (4G): The fourth generation technology introduced in the year 2009 with the technology advancement like WiMAX & Long Term Evolution (LTE) technologies.

Prerna Sharma Bamoriya and Dr. Preeti Singh has published article in Integral Review-A Journal of Management. Title of article is “MOBILE BANKING IN INDIA: BARRIERS IN ADOPTION AND SERVICE PREFERENCES”

Mobile banking is growing yet there are numbers of issues and threats in mobile banking system and the major problem of mobile banking is its non-adoption by the customers. This research focuses on the barriers in adoption of mobile banking. It further focuses on preferred services by the mobile banking customers and influence of demographic variable on mobile banking service adoption. A cross section descriptive design was adopted and data collected was subject to Product moment correlation, One way Kolmogorov-Smirnov test and Frequency analysis. Findings suggest that customers’ security concern is the major barrier in adopting mobile banking services. As far as preferred services are concern balance check tops, as customers prefer information based services rather than financial services provided by the bank.

Clark (2008) suggested that as a Channel the mobile phone can augment the number of channels available to consumers, thereby giving consumers more low-cost self-service options by which to access funds, banking information and make payments. Mobile as a channel delivers convenience, immediacy and choice to consumers. But there are a large number of different mobile phone devices and it is a big challenge for banks to offer
Mobile banking solution on any type of device. Some of these devices support Java2Micro Edition (J2ME) and others support Wireless Application Protocol (WAP) browser or only SMS. Further Vyas (2009) stated that Indian banks will target non-online banking users who may lack regular access to desktop Internet but are very likely to own a mobile device, thus reporting great potential of Mobile banking in India. This report of Vital Analytics suggested huge potential of Mobile banking in India, as it found that urban Indian customers’ checking account balance is the most frequently cited reason for using Mobile banking. 40 million Urban Indians used their mobile phones to check their bank account balances followed by viewing last three transactions. Rao & Prathima (2003) finds that there is huge potential of Mobile banking in India but Indian banks offering-banking services still have a long way to go.

Sathye (1999) study focused on the capital cities of Australia where use of internet and population was likely to be high and suggested that security concerns and lack of awareness about Internet banking and its benefits stand out as being the obstacles to the adoption of Internet banking in Australia. Author suggested some of the ways to address these impediments. Further, he suggested that delivery of financial services over the Internet should be a part of overall customer service and distribution strategy. These measures could help in rapid migration of customers to Internet banking, resulting in considerable savings in operating costs for banks.

Rotchana kitumnuai & Speece (2003); Akinci, Aksoy & Atilgan (2004) stated that researchers investigated why corporate customers do not accept electronic form of banking, which can assist banks to implement this self-service technology more efficiently. Further they suggested that security of the e-channel is a major factor inhibiting wider adoption. Those already using electronic form of banking seem to have more confidence that the system is reliable, where as non-users are much more service conscious, and do not trust financial transactions made via e-channels. Non electronic form of banking users tend to have more negative management attitudes toward adoption and are more likely to claim lack of resources. Legal support is also a major barrier to electronic form of banking adoption for corporate customers.
Kolodinsky, Hogarth & Hilgert (2004) stated that millions of Americans are currently using a variety of e-banking technologies including Mobile banking. However, millions of others have not or will not. They explored factors that affect the adoption or intention to adopt three e-banking technologies and changes in these factors over time and suggested that relative advantage, complexity/simplicity, compatibility, observability, risk tolerance, and product involvement are associated with adoption. Income, assets, education, gender and marital status, and age also affect adoption. Adoption changed over time, but the impacts of other factors on adoption have not changed.

Gan, Clemes, Limsogunchai & Weng (2006) findings stated that in New Zealand the output from the logistic regression indicates that the service quality, perceived risk factors, user input factors, employment, and education were the dominant variables that influence consumers’ choice of electronic banking and non-electronic banking channels.

Comninos et al. (2008) suggested that consumers will only transact electronically (online/mobile banking) if there is convenience and security. Further Sharma and Singh (2009) found that Indian mobile banking users are specially concern with security issues like financial frauds, account misuse and user friendliness issue - difficulty in remembering the different codes for different types of transaction, application software installation & updation due to lack of standardization

V.Kumar and Denish Shah have published research paper entitled “Pushing and Pulling on the Internet this paper assesses the impact of mobile phone rollout on economic growth in a sample of african countries from 1988 to 2007. Further in light of the larger financial gap in african countries, we investigate whether mobile phone development fosters economic growth through better financial inclusion. In estimating the impact of mobile phone development on growth, we use mobile penetration rate as well as the cost of mobile local calls to capture mobile phone diffusion, while financial inclusion is measured by the number of deposits or loans per head. Using the system generalized method of moments estimator to address endogeneity issues, the results confirm that mobile phone development contributes significantly to economic growth in African
countries, part of the positive effect of mobile phone penetration on growth comes from greater financial inclusion

Kennedy Okiro and Jacky Ndungu have published an article in the European Scientific Journal. The title of the article is “THE IMPACT OF MOBILE AND INTERNET BANKING ON PERFORMANCE OF FINANCIAL INSTITUTIONS IN KENYA”

Financial institutions have been in the process of significant transformation. The force behind the transformation of these institutions is innovation in information technology. Information and communication technology is at the Centre of this global change curve of mobile and internet banking in Kenya. Rapid development of information technology has made banking tasks more efficient and cheaper.

This study sought to determine the impact of mobile and internet-banking on performance of financial institutions in Kenya where the survey was conducted on financial institutions in Nairobi. The study also sought to identify the extent of use of mobile and internet banking in financial institutions. The study investigated 30 financial institutions.

The study found that the most prevalent internet banking service is balance inquiry while the least is online bill payment. Cash withdrawal was the most commonly used mobile banking service whereas purchasing commodities was the least commonly used.

Oliver K. Kirui has published an article in the International Association of Agricultural Economists (IAAE) Triennial Conference. The title of the article is “Impact of mobile phone-based money transfer services in agriculture: evidence from Kenya”

The recent introduction of mobile phone-based money transfer (MMT) services in developing countries has generated a lot of interest among development partners. It facilitates transfer of money in a quick and cost effective way. It also offers an easy and secure platform for small savings to majority of rural populations with no access to formal financial services. However, the impact of MMT services on smallholder agriculture has not been documented. This study therefore contributes to pioneering
literature on the impact of MMT, especially in agriculture. It provides information regarding financial intermediation to the excluded through the use of new generation Information Communication Technology (ICT) tools especially the mobile phone. The study employs propensity score matching technique to examine the impact of MMT services on household agricultural input use, agricultural commercialization and farm incomes among farm households in Kenya. It uses cross-sectional data collected from 379 multi-stage randomly selected households in Central, Western and Nyanza provinces of Kenya. The study found that use of MMT services significantly increased level of annual household input use by $42, household agricultural commercialization by 37% and household annual income by $224. We conclude that MMT services in rural areas help to resolve an idiosyncratic market failure that farmers face; access to financial services. We therefore recommend that other developing countries should follow the Kenyan model and provide an enabling environment that would facilitate entry and survival of MMT initiatives.

Muhammad Bilal and Ganesh Shankar Title of article is Trust and Security issues in mobile banking and its effect on customers”

Context: the invention of mobile phones makes the human life easier. the purpose of this study is to identity security risks in mobile banking and to provide an authentication method for mobile banking transaction by using bio-metric mechanism

Objectives: Current mobile banking authentication is challenging and identified as a major security risk. the customer distrusts mobile banking due to security issues. the paper discuss security risk in current authentication method in mobile banking

Concussion: the authors concluded that only authorized person will be able to use mobile banking services by incorporating bio-metric finger-print mechanism. by literature review an interview it was found that figure print mechanisms is more suitable than other ordinary mechanisms like login, password and SMS
Md. Shoriful Islam has published article in International Journal of u- and e- Service, Science and Technology. Title of article is “Systematic Literature Review: Security Challenges of Mobile Banking and Payments System”

Mobile banking is more easily and fast banking today, but its challenges to payments security system. Many organization or financial institutions are now incorporating mobile banking and financial services as a key component of their growth strategy, and use of the mobile phone to conduct banking and financial services tasks continues to rise among early adopters. Large number of security challenge of mobile banking and payment system have been proposed in to the current research issues, our goal is to gain insight into the current status of mobile banking and payment system security challenge research issues published to date, conducted a systematic literature review mobile banking security challenges that have been claimed between January 2008 to December 2012. This paper presents the result of the systematic review, 10 publication and 20 were selected as primary studies, from which a large number of challenges were elicited. By applying qualitative data analysis methods to extracted data from the review. However among the majority of consumers, security threats are most commonly listed as the primary reason for not trying mobile banking. This review will attempt to technically address these largely unfounded consumer security fears while helping to lay a roadmap for financial institutions successful implementation of mobile banking technology. A clear and emerging new channel in the space of banking and payments is mobile. A key challenge with gaining user adoption of mobile banking and payments is the customer’s lack of confidence in security of the services. Understanding the mobile banking and payments market and ecosystem is critical in addressing the security challenges. There are new security risks introduced with mobile banking and payments that must be identified and mitigated.

Media releases from the Australian Communications and Media Authority (ACMA) and the research report ‘Community research into attitudes towards the use of mobile payment services’ (ACMA, 2010) were also useful. ACMA’s research report included qualitative data on consumer attitudes to mobile payment services including mobile premium services. The report made a number of key findings including that consumers
are more trusting of mobile payment services processed by banks, as opposed to telecommunications providers.

The Australian Communications and Consumer Action Network’s (ACCAN) 2009 report, ‘Informed Consent Research Report’, provided insight into the issue of unauthorised payments in the telecommunications marketplace, including those related to mobile premium services. The report found that ‘there is a clear link between the ease of billing individuals in the communications sector and complaints regarding the absence of consent’ (ACCAN, 2009 p14). Factors that contribute to this included charges being added to an existing bill and automated payment.

Local and international media also provided data about m-commerce uptake and insights into developments in the industry.

Mobile commerce: opportunities and challenges for consumers, businesses and regulators published by Consumer Affairs Victoria. This paper draws upon research from consumer groups, communications experts and government agencies.

The study by Kisieloweska-Lipman (2009), ‘Pocket Shopping: International consumer experience of buying goods and services on their mobile phones’, coordinated by the UK consumer group Consumer Focus, provides useful data on the consumer experience of purchasing goods and services via mobile devices. Consumer groups from across the European Union, Asia and North America participated in the study. The study made a number of findings including that the availability of information during a m-commerce transaction can be limited by technological constraints such as a phone’s small screen size the m-commerce market is still developing and is in the early stages when it comes to the range of products and services available to consumers. the most common products purchased include mobile premium rate services (PRS), e-tickets, digital content (other than mobile PRS) and physical goods purchasers faced difficulties seeking redress or accessing dispute resolution mechanisms

m-commerce transactions are susceptible to fraud and unauthorised payments. Policy guidance and conference papers issued by the OECD provide an international context for
this discussion. In particular, the 1999 Guidelines and OECD Policy Guidance for Addressing Emerging Consumer Protection and Empowerment Issues in Mobile Commerce (OECD, 2008), and the background report for the OECD’s 2009 Conference on Empowering E-Consumers (OECD, 2009), inform this paper.

The 1999 Guidelines were adopted to provide guidance to government, industry and regulators when developing protection mechanisms for consumers engaging in online shopping. The OECD’s 2008 Policy Guidance for Addressing Emerging Consumer Protection and Empowerment Issues in Mobile Commerce examined the applicability of the 1999 Guidelines to m-commerce. In general, the 2008 paper found that the 1999 Guidelines were adequate but it noted that policy makers should consider challenges within the market in relation to information disclosure, dispute resolution mechanisms and the security of transactions. Given developments in technology since 1999, and the findings raised in 2008 at the Ministerial Meeting on the Future of the Internet Economy (at Seoul), a review of the 1999 Guidelines commenced in 2009.

Communications expert Paul Budde’s paper, ‘Australia - Mobile Data – Mobile commerce and M-Payment’ (2010), provides an overview of the m-commerce marketplace in Australia and identifies factors that will be important for the growth of the market in coming years. Budde contends that the m-commerce marketplace in Australia is relatively small in comparison to Asian markets, especially Japan and South Korea.

Prof. Eduardo Henrique Diniz, Prof. João Porto de Albuquerque and Prof. Adrian Kemmer Cernev Proceedings of SIG GlobDev Fourth Annual Workshop, Shanghai, China December 03, 2011 has published Title of article is “Mobile Money and Payment: a literature review based on academic and practitioner-oriented publications (2001-2011)”

The use of mobile technology has become widespread with astonishing speed all over the world, particularly among the poor. The more mobile phones go to the hands of people who formerly lacked access to financial services, the more the notions of mobile money, mobile payment and mobile banking become pervasive as a means of financial inclusion.
Although there are more than 120 mobile money projects deployed in about 70 emerging markets (Beshouri et al. 2010), mobile payment has only taken off in a limited number of countries. This failure to disseminate a service with such a huge potential worldwide, shows that the reasons for the successful cases are not clearly understood, and as a result, are not being easily replicated. This paper seeks to fill this knowledge gap by providing a comprehensive literature review, which attempts to analyses significant experiences in this field, especially in developing countries. An investigation has been carried out of both academic, peer-reviewed articles and the available non-peer-reviewed practitioner-oriented publications, (a total of 196 papers – 94 peer-reviewed and 92 non-peer-reviewed – published in the period 2001-2011) to obtain information related to the actors and institutions involved in mobile money initiatives. In other words, the study addresses the following questions: what is the driving-force behind these initiatives, what are the obstacles and the social and economic implications of their implementation. Thus, the aim of this review is to map out the existing knowledge on mobile money by pointing out the main sources of information on the subject, and defining the topics that are most frequently researched. In addition, it examines which locations most studies focus on, and which methodologies are being applied to these studies, as well as the determining factors and contexts of the published studies.

ASSIS. PROF. DR. ELHAM FARIBORZI, ENG. HODA ANVARI KAZEMABAD has published article in International Journal of Computer Networks and Communications Security Title of article is “The Security of Information in Financial Transactions via Mobile: Algorithms”

Today, mobile commerce or m-commerce has been considered by many companies, business, and organizations. In mobile commerce, information security of financial transactions is very important. It is due to account information which exchanged including account number, password, credit accounts, etc. and the disclosure of this information will cause a lot of financial and moral losses. For this reason, it should be used algorithms for them to make and increase secure transactions. Among these algorithms, WAP, J2ME, Toolkit SIM applications are identified and described in this article based on a systematic review. In addition, there are some recommendations
regarding to suit different situations to implement a particular algorithm for this issue. More results are subsequently explained in this paper.

Eric Kodjo Afanu & Raymond Selorm Mamattah has published article Luleå University of Technology Department of Computer Science, Electrical and Space Engineering Title of article is “Mobile Money Security” Mobile money usage for transactions is steadily growing across Africa with the potential to revolutionize the cash-dominant economy of this continent to be cashless. With the increased use of mobile money services and number of business use cases designed each day, it is imperative to design a holistic approach to mobile money security that will reduce security exposures and prevent fraud, as some mobile money service providers have lost millions of dollars to this growing threat. This research, therefore examines the measures that mobile network operators providing mobile money services can employ to prevent fraud. The study also discusses the mobile money users’ perception about the linkage between mobile phone protection and security of the mobile money service on their phone.

The research was a case study of mobile money security in Ghana and used qualitative and quantitative data collected through questionnaires and structured interviews of key staff of the mobile network operator (MNO). Some of the main findings of this research include the general perception that there is no direct linkage between mobile phone protection and mobile money security. It was further identified that one of the major causes of consumer driven fraud is PIN sharing. In addressing mobile money fraud, it is suggested that the service provider should give mobile money security tips to the users at least twice in a year through short message service (SMS) to alert them of ways to enhance the security of their mobile phones.

Ms. Vaishnavi J. Deshmukh, Sapna S. Kaushik and Mr. Amit M. Tayade has published article International Journal of Emerging Research in Management & Technology Journal Title of article is “Payment Processing Systems and Security for E-Commerce: A Literature Review”
Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products. Unlike traditional commerce that is carried out physically with effort of a person to go & get products, ecommerce has made it easier for human to reduce physical work and to save time. E-Commerce which was started in early 1990’s has taken a great leap in the world of computers, but the fact that has hindered the growth of e-commerce is security. Security is the challenge facing e-commerce today & there is still a lot of advancement made in the field of security. The main advantage of e-commerce over traditional commerce is the user can browse online shops, compare prices and order merchandise sitting at home on their computers. For a developing country advancement in the field of e-commerce is essential. The research strategy shows the importance of the e-commerce in developing countries for business applications. Electronic commerce or ecommerce is a term for any type of business, or commercial transaction, that involves the transfer of information across the Internet. It covers a range of different types of businesses, from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge

James Byrne and Gary Marx has published Title of article is “Technological Innovations in Crime Prevention and Policing. A Review of the Research on Implementation and Impact” New technological innovations have been developed to prevent crime and to improve the performance of the police, but we know remarkably little about how and why certain innovations are adopted, and the consequences –both intended and unintended—of technology-driven solutions to the problem of crime. This article provides an examination of a wide range of new technological innovations that have applications in the areas of crime prevention generally, and crime control (by police) in particular. We provide a description of recent technological innovations, summarize the available research on the extent of adoption in the United States, and then review the available research on the impact – both intended and unintended – of each form of new technology on crime prevention and police performance. We also discuss three key issues – (1) militarization of crime prevention and policing, (2) coercive vs. non-coercive
technology, (3) public vs. private sector control over crime prevention and policing – raised by both proponents and critics of what has come to be known as the second technology revolution
Bibliography


Australia - Mobile Data - Mobile commerce and M-Payment. (n.d.). *Communications expert Paul Budde’s paper*.


*The Australian Communications and Consumer Action Network’s (ACCAN) 2009 report.*

*The study by Kisieloweska-Lipman (2009).*
References

2. http://aisel.aisnet.org/globdev2011/7/
7. http://repository.sustech.edu/handle/123456789/11230