Review of Literature

In this field few studies were conducted in India. The researcher reviewed many researches conducted in India and abroad to find out the correct area to carry out the research work, which will fruitful for the professionals and country.

The case describes in detail the workings of two mobile banking operators in Africa- WIZZIT in South Africa and M-PESA in Kenya. It explores the dimensions of strategy that make for success in the market for the unbanked. It raises questions regarding the portability of the model to other countries and settings.

This paper is an attempt to explore the various levels of internet banking services provided by banks using the secondary data. It also compares the traditional banking systems with net banking. It lists out the various advantages of internet banking and the successful security measures adopted by different banks for secured banking transactions. It also analyzes how E-banking can be useful for banking industry during this global financial melt down.

This paper examined the extent to which users in emerging economies innovate, and whether these innovations are meaningful on a global stage. To study this issue, the researcher conducted an empirical investigation into the origin and types of innovations in financial services offered via mobile phones, a global, multi-billion dollar industry where emerging economies play an important role. The researcher used the complete list of mobile financial services, as reported by the GSM Association (GSMA), and collected detailed histories of the development of the services and their innovation process.
Analysis of this study shows that 85% of the innovations in this field originated in emerging markets. The researcher also conclude that at least 50% of all mobile financial services were pioneered by users, approximately 45% by producers, and 5% jointly by users and producers. Additionally, services developed by users diffused at more than double the rate of producer-innovations. Finally, the researcher observed that three-quarters of the innovations that originated in emerging markets have already diffused to OECD countries and that the (user) innovations are therefore globally meaningful.

Nel J., Boshoff C., Raleting T., (2012), “Exploiting the technology cluster effect to enhance the adoption of WIG mobile banking among low-income earners”
This study investigated the attitude formation of low-income, non-users of Wireless Internet Gateway (WIG) mobile banking, by including use of the Short Message Services (SMS) as a moderator of attitude formation. A non-probability sample of 465 South African non-users of mobile banking was drawn and clustered into High users and Low users of the SMS, based on the average number of text messages sent in a week. The moderating effect of "use of the SMS" was investigated by means of a structural equation modelling multi-group analysis. The findings revealed that the influence of Ease of use on Attitude and of Self-efficacy on Ease of use were stronger for High users and significantly different from Low users, while the opposite was true for the influence of Facilitating conditions on Usefulness.

Fond that 55% of today's computerized commercial banking services were first developed and implemented by non-bank firms for their own use, and 44% of today's computerized retail banking services were first developed and implemented by individual service users rather than by commercial financial service providers. Manual precursors to these services – manual procedures that carried out functions similar to computerized services in our sample – were almost always developed by users as self-services.
Retail payment systems require scale to get off the ground and struggle to grow incrementally. This is due to three factors: (i) Network effects: when it comes to payment systems, the value of joining a network is directly proportional to the number of people already on it; (ii) Chicken-and-egg trap: in order to grow, these systems must aggressively attract both customers and cash-in/cash-out merchants in tandem, otherwise, merchants will stop offering the service due to low transaction revenue and customers will not join the system because they cannot access a convenient outlet; (iii) Trust: customers have to become comfortable going to non-bank retail outlets to meet their cash-in/out needs and initiating transactions through their mobile phones. Until a deployment serves a large number of customers, people will lack trust in the new system, because they know few who can vouch for it. To overcome these barriers, mobile money deployments need to reach a critical mass of customers as quickly as possible, lest they get stuck in the ‘sub-scale trap’. To do this, they need to get three things right. First, they must create enough urgency in customers’ minds to learn about, try and use the service. Second, they must invest heavily in above and below the line marketing to establish top of mind awareness of (and trust in) the service among a large segment of the population. And, third, they must incur considerable customer acquisition costs (beyond marketing and promotion) to ensure that their cash-in/out merchants are adequately incentivized to promote the service.

Mobile phones have evolved from simple voice terminals into highly-capable, general-purpose computing platforms. While people are becoming increasingly more dependent on such devices to perform sensitive operations, protect secret data, and be available for emergency use, it is clear that phone operating systems are not ready to become mission-critical systems. Through a pair of vulnerabilities and a simulated attack on a cellular network, we demonstrate that there are a myriad of unmanaged mechanisms on mobile phones, and that control of these mechanisms is vital to achieving reliable use. Through such vectors, mobile phones introduce a variety of new threats to their own applications
and the telecommunications infrastructure itself. In this paper, we examine the requirements for providing effective mediation and access control for mobile phones. We then discuss the convergence of cellular networks with the Internet and its impact on effective resource management and quality of service. Based on these results, we argue for user devices that enable predictable behavior in a network—where their trusted computing bases can protect key applications and create predictable network impact.

This study revealed that 61% respondents think it saves time than traditional banking, the highest number of respondents use mobile banking for “Air-time top-up” service, that is 21%, out of 120 respondents 56% replied it is less costlier than traditional banking, 100% respondents did agree that it is speedy, and 38% respondents are upper class. Although this concept is new in Bangladesh but its potentiality is high. From this research, other researchers and policy makers will get an insight about the problems and prospects of mobile banking in Bangladesh.

This study developed a research model to examine the effect of innovation attributes (perceived relative advantage, ease of use and compatibility) and knowledge-based trust (perceived competence, benevolence and integrity) on attitude and behavioral intention about adopting (or continuing to use) mobile banking across potential and repeat customers. Based on a survey of 368 participants (177 for potential customers and 191 for repeat customers), this study uses a structural equation modeling approach to investigate the research model. The results indicate that perceived relative advantage, ease of use, compatibility, competence and integrity significantly influence attitude, which in turn lead to behavioral intention to adopt (or continue-to-use) mobile banking. Additionally, by using multi-group analysis with t-statistics, the results found that the antecedents of attitude toward mobile banking differ between potential and repeat customers.
Mas I., (2011), “Capturing the Potential of M-Payments for the ‘Unbanked”, This article discusses the potential of using mobile phones to greatly increase access to financial services in developing countries, and reviews the main success factors in a mobile banking project.

The findings showed that although SMS banking was first launched in 2004, the service was still in its infancy. Evidence showed that accessibility and affordability were the major drivers to the adoption of SMS banking. The research confirmed the assertion that the appeal is more about accessibility and affordability in developing countries. This has been exacerbated by the lack of regulation for electronic banking in Zimbabwe. The study recommended an increased awareness campaign by banks and development of policy and regulation for electronic banking in Zimbabwe.

With broadband communication technological developments and mobile phones penetration(481 million by June 2009) into common man's life have triggered major thrust in the Banking service sector of India. With Mobile Banking- a revolutionary approach to banking transactions has created a strong connectivity between customers and the banks as both will transact with minimum cost and in minimum time. It is a timely and its cost effective services can deliver mobile money to non-banked poor people and will induce economic growth of the country. This article discusses the status of Mobile Banking in India and other countries with emphasis on data security and standards and its implication on banking sector.

Murillo R. H., Llobet G., Fuentes R. (2010) “Strategic online banking adoption”, found out that bank-specific characteristics are important determinants of banks’ adoption decisions, competition also plays a prominent role. The extent of competition is related to
the geographic overlap of banks in different markets and their relative market share in terms of deposits. In particular, banks adopt online banking services earlier in markets where their competitors have already adopted this technology. This paper is one of the first to construct local banking markets using the geographic market definitions delimited by the CASSIDI® Database compiled at the Federal Reserve Bank of St. Louis.

Alain Y. C., Keng B. O., Binshan L., Boon I. T., (2010) "Online banking adoption: an empirical analysis" showed that perceived usefulness, trust and government support all positively associated with the intention to use online banking in Vietnam. Contrary to the technology acceptance model, perceived ease of use was found to be not significant in this study.

Kenneth B. Y., David H. W., Claire L., Randall B, (2010) "Offline and online banking - where to draw the line when building trust in e-banking?", found that Traditional service quality builds customer trust in the e-banking service. The size and reputation of the bank were found to provide structural assurance to the customer but not in the absence of traditional service quality. Web site features that give customers confidence are significant situation normality cues.

Determining factors affecting customer perception and attitude towards and satisfaction with e-banking is an essential part of a bank’s strategy formulation process in an emerging economy like India. To gain this understanding in respect of Indian customers, the study was conducted on respondents taken from the northern part of India. The major findings depict that customers are influenced in their usage of e-banking services by the kind of account they hold, their age and profession, attach highest degree of usefulness to balance enquiry service among e-banking services, consider security & trust most important in affecting their satisfaction level and find slow transaction speed the most frequently faced problem while using e-banking.

Demographic analysis of data reveals that gender is hardly a bias for use and evaluation of service quality of i-banking in most of the cases across various categories of customers. A valid mathematical model is proposed to assess the overall service quality using regression analysis. The results show that customers are satisfied with quality of service on four dimensions such as reliability, accessibility, privacy/security, responsiveness and fulfilment, but least satisfied with the 'user-friendliness' dimension. The empirical findings not only prioritise different parameters but also provide guidelines to bankers to focus on the parameters on which they need to improve.

The analysis showed that three variables (relative benefits, propensity to trust and structural assurances) had a significant effect on initial trust in mobile banking. Also, the perception of initial trust and relative benefits was vital in promoting personal intention to make use of related services. However, contrary to our expectation, the reputation as a firm characteristics variable failed to attract people to mobile banking.


The impact of social and cultural factors on the adoption of technology still requires much research. To investigate it more fully, we examine the reasons for the adoption and non-adoption of mobile banking in Ghana. Through a survey of 271 people in Ghana, it has been found that social and cultural factors in the form of perceived credibility, facilitating conditions, perceived utilisation and demographic factors do play a significant role in adoption decisions. It has been found that utilisation of technology and services can be a positive influence for adopters whilst being a negative influence for non-adopters. In addition, perceived credibility and facilitating conditions also influence attitudes towards the technology. When these factors are added to a range of demographic factors, the impact of the social and cultural features of the context of studies can be seen as significant.
Factors associated with adopting and resisting mobile banking technologies were investigated among university students in Taiwan. Adoption factors included the belief that mobile banking helps fulfill personal banking needs, provides location-free conveniences, and is cost effective. The primary factors associated with resistance included concerns over system configuration security and basic fees for mobile banking web connections. The theoretical and applied implications of these findings are discussed.

It has become common in literature to compare India and China two remarkably growing economies but these comparisons often do not take into account the institutional differences between two countries. We have in this paper done a comparative analysis of banking institutions in China and India taking into accounts the contentious issue of nonperforming loans along with the issue of use of banks to provide countervailable subsidies to exporting organizations. Our research shows that the efficiency differences between banks in these two countries can be directly related to institutional difference between two countries and any comparative study between two countries not taking into consideration these institutional differences may lead to misleading results.

The results indicate that perceived usefulness and perceived ease of use are strong determinants of behavioural intention to adopt online banking. There is also an indirect effect of computer self-efficacy and prior general computing experience on behavioural intention through perceived usefulness and perceived ease of use.
The survey results support three constructs (content, ease of use, accuracy) from the original model, indicating that the modified EUCS model labelled EUCS2 can be utilized in analyzing user satisfaction with online banking among private customers.

Sylvie L., Xiaoyan L., (2005) "Consumers’ attitudes towards online and mobile banking in China", The results showed Chinese online and mobile bank users were predominantly males, not necessarily young and highly educated, in contrast with the electronic bank users in the West. The issue of security was found to be the most important factor that motivated Chinese consumer adoption of online banking. Main barriers to online banking were the perception of risks, computer and technological skills and Chinese traditional cash-carry banking culture. The barriers to mobile banking adoption were lack of awareness and understanding of the benefits provided by mobile banking.

Walfried M. L., Chris M., Sharon S. L., (2005) "The relationship between consumer innovativeness, personal characteristics, and online banking adoption", While results confirm the positive relationship between internet related innovativeness and online banking they also surprisingly show that general innovativeness is negatively related to online banking.

Luarn P., Lin H. H. (2005), “Toward an understanding of the behavioral intention to use mobile banking”,
Although millions of dollars have been spent on building mobile banking systems, reports on mobile banking show that potential users may not be using the systems, despite their availability. Thus, research is needed to identify the factors determining users' acceptance of mobile banking. While there has been considerable research on the technology acceptance model (TAM) that predicts whether individuals will accept and voluntarily use information systems, limitations of the TAM include the omission of an
important trust-based construct in the context of electronic/mobile commerce, and the assumption that there are no barriers preventing an individual from using an IS if he or she chooses to do so. Based on literature relating to the theory of planned behavior (TPB) and the TAM, this study extends the applicability of the TAM in a mobile banking context, by adding one trust-based construct (“perceived credibility”) and two resource-based constructs (“perceived self-efficacy” and “perceived financial cost”) to the model, while paying careful attention to the placing of these constructs in the TAM's existing nomological structure. Data collected from 180 users in Taiwan were tested against the extended TAM, using the structural equation modeling approach. The results strongly support the extended TAM in predicting users' intentions to adopt mobile banking. Several implications for IT/IS acceptance research and mobile banking management practices are discussed.

Laukknen T., Lauronen J. (2005), “Consumer value creation in mobile banking services”
The paper presents findings of the study that explored consumer value creation in various mobile banking services. New electronic channels are replacing the more traditional ones. Mobile devices represent the recent development in electronic service distribution. An exploratory study was conducted on experienced electronic banking customers by using a qualitative in-depth interviewing method. The findings increase the understanding of customer-perceived value and value creation on the basis of attributes of mobile services and customer-perceived disadvantages of mobile phones in electronic banking context. The findings allow practitioners to improve their services and marketing strategies and pass on information to the academics about interesting future research areas.

Suoranta M., Mattila M. (2004), “Mobile banking and consumer behaviour: New insights into the diffusion pattern”, provided an indication of the characteristics of potential subsequent adopters of mobile banking, and of differences between user segments. Consequently, the authors are able to comment on the influence of certain demographic characteristics and the preferred communication mode of customers on the adoption and future usage of mobile banking services. The quantitative survey that sheds
more light on this researched issue employed a traditional method of postal questionnaire. The data were collected in Finland during May–July 2002 and include 1,253 survey responses.

Avinandan M., Prithwiraj N., (2003) "A model of trust in online relationship banking", observed that shared value is most critical to developing trust as well as relationship commitment. Communication has a moderate influence on trust, while opportunistic behaviour has significant negative effect. Also finds higher perceived trust to enhance significantly customers’ commitment in online banking transaction. An important contribution concerns how trust is developed and sustained over different levels of customer relationship in online banking. The future commitment of the customers to online banking depends on perceived trust.

Sarel D., Howard M. (2003), “Marketing online banking services: The voice of the customer”, revealed significant differences in attitudes and opinions between early users and those that banks hope will adopt next. Most importantly, future prospects could be characterised as indifferent about online banking; many were not convinced about its benefits and the value it provides. While the potential to expand the market for online banking services exists, banks need to re-examine their marketing approach.

Heikki K., Minna M., Tapio P., (2002) "Factors underlying attitude formation towards online banking in Finland", The study explored the effect of different factors affecting attitude formation towards Internet banking (online banking) in Finland. The purpose of this paper is to determine those factors that influence the formation of attitude towards Internet banking on the one hand, and their relation to the use of online banking services, on the other. To attain these, a large survey (1,167 responses) was carried out during the summer of 2000 in Finland. Attitude formation was studied by the use of a structural equation model. The results are expected to provide both theoretical and practical contributions in the area of electronic retail banking and understanding of consumer behaviour in the turbulent financial services industry.
Aladwani A. M. (2001), “Online banking: a field study of drivers, development challenges, and expectations”, the results of a quantitative study of the perceptions of banks’ executive and IT managers and potential customers with regard to the drivers, development challenges, and expectations of online banking. The findings will be useful for both researchers and practitioners who seek to understand the issues relevant to online banking.

Chou D. C., Chou A. Y. (2000), “A Guide to the Internet Revolution in Banking”, shown that Banking is an industry that is expected to undergo drastic change because of the E-commerce revolution. This article maps out the direction of the Internet revolution in banking by surveying the phenomenon's history, its technological development, and associated managerial and technological issues.

Furst, K., Lang, William W. and Nolle, D. E., (2000) “Internet Banking: Developments and Prospects”, addresses significant gaps in existing knowledge about the Internet banking landscape. Using information drawn from a survey of national bank examiners, we find that while only 20 percent of national banks offered Internet banking in Q3 1999, these transactional Internet banks accounted for almost 90 percent of national banking system assets and 84 percent of the total number of small deposit accounts. All of the largest national banks offered Internet banking, but only about 7 percent of the smallest banks offered it. Among institutions offering Internet banking, large banks are more likely than small banks to offer a broad range of services on the Internet. Matching call report data to the examiner survey information, we also find that banks in all size categories offering Internet banking tend to rely less on interest-yielding activities and deposits than do non-Internet banks, and institutions with Internet banking outperformed non-Internet banks in terms of profitability. Excepted from the superior performance of Internet banks versus non-Internet banks are de novo Internet banks, which were less profitable and less efficient than non-Internet de novos. Projections based on banks’ plans as of Q3 1999 indicate that 45 percent of all national banks will be offering Internet banking by the beginning of 2001. While most of the
growth in new Internet banking will be due to small banks coming online, almost half of all national banks had no plans to offer Internet banking. Large banks have more aggressive plans to offer business Internet banking services in the future than small institutions.

Milind S., (1999) "Adoption of Internet banking by Australian consumers: an empirical investigation", Shows 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. Suggested some of the ways to address these impediments. Further suggests 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.

Madhukar G. Angur, R. N., John S. Jahera Jr, (1999) "Service quality in the banking industry: an assessment in a developing economy", examines the applicability of alternative measures of service quality in the developing economy of India and assesses related issues in that context. Based on data gathered from customers of two major banks, overall results support a multidimensional construct of service quality and suggest that the SERVQUAL scale provides greater diagnostic information than the SERVPERF scale. However, the five-factor conceptualization of SERVQUAL does not seem to be totally applicable, and no significant difference was found in the predictive ability of the two measures. Further, although SERVQUAL and SERVPERF have identical convergent validity, SERVPERF appears to have higher discriminant validity than SERVQUAL.

With the deregulation of the telecommunications industry, a variety of industry structures have been created in hopes of increasing competition. One example is the licensing of cellular telephone services in the United States, where the FCC created duopolies in which two firms were granted licenses to compete in strictly defined product and geographic markets. Taking advantage of the unique regulatory environment, we test to what degree duopolistic competition leads to competitive market outcomes. We find that cross-ownership and multimarket contact are important factors in explaining noncompetitive prices.


Major structural changes have affected the French banking industry during the second half of the 1980s, what suggests that the French banks were operating with a significant level of inefficiencies before this period. The purpose of this study is to present estimates of X-Efficiencies and Scale-Efficiencies in French banks for the 1988–1992 period which followed this wave of changes. The data are annual accounting data for corporate, mutual and savings banks. The sample contains 375 depository banks. By using the “distribution free” method of efficiency estimation, our estimations show that average X-efficiencies of the French banks are in the range of 70% to 90%. Our results confirm also the existence of scale economies in French banking industry. Scale efficiency estimates show clearly that French banks could reduce average costs by about 15% on average by increasing size in order to reach the efficient size. Note that this result is also in conformity with the hypothesis that some excess capacity could exist in French banking industry.


India's supply-led approach to agricultural credit paid off in non-farm growth, employment and rural wages. The impact of expanded credit on agricultural output has
been modest, and the benefits of agricultural income exceed the costs of the programme only if optimistic assumptions are made about repayment rates on farm credit.