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5.   **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

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INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

REFERENCES

APPENDIX/ANNEXURE

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10.   **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered &self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

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- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS
- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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CONFERENCE PAPERS
- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, KurukshetraUniversity, Kurukshetra.

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- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

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THE ICT ENABLED BUSINESS TRANSFORMATION IN THE BANKING INDUSTRY OF SRI LANKA
(A CROSS CASES ANALYSIS)

POONGOTHAI SELVARAJAN
SR. LECTURER
FACULTY OF BUSINESS STUDIES
VAVUNIYA CAMPUS OF THE UNIVERSITY OF JAFFNA
VAVUNIYA

ABSTRACT

The paper reveals the impact of Information and Communication Technology (ICT) on the transformation of banking industry in Sri Lanka. In the competitive industry, banks play a vital role since they are under a very competitive pressure to provide a high quality service and sustain in the market. In this juncture, the ICT enabled business transformation is an inevitable and essential factor for the sustainability of banks. At present the public banks have been facing a lot of problems in providing an efficient service to its customers by various reasons. Similarly the people also face difficulties in getting their services in public banks. The private sector banks on the other hand thrive in the market to capture the market share The author selected two public sector banks- Bank of Ceylon and People's bank and two private sector banks- the Commercial Bank of Ceylon PLC and Hatton National Bank PLC for this research study by using a Case study design method. Furthermore the five levels of IT induced Business Reconfiguration identified by Venkatraman (1991) has been compared with the Sri Lankan Banking industry. The findings showed though the public sector banks have more customers and the early adopters of ICT architecture, their service quality and customization are lower than private sector banks and the author recommended that the public banks should acquire new hardware and other sophisticated information systems to achieve the revolutionary levels very soon. Similarly, the private banks should follow a proper strategic plan for ICT to maintain and sustain in the revolutionary levels continuously.

KEYWORDS

Business Transformation, Evolutionary levels, Information and Communication Technology, Revolutionary levels.

INTRODUCTION

ICT is an increasingly important field in the development and growth of every organization. The availability and usage of adequate ICT components in the operation of organizations are inevitable in the current competitive business environment, since organizations want to capture the market share and sustain in the market. In Sri Lankan context, banks and financial sector has undergone rapid changes due to ICT and is one of the fast growing industries. (Central Bank of Sri Lanka, 2003) Further Ranasinghe (2000) argued that banking sector in Sri Lanka uses IT 90% on average which is the highest when compared to the other sectors. According to Mutsaers, et al (1998) financial institutions were the early adopters of IT. Kumara (2006) argued that technology will take over banking in near future. In Sri Lanka, since the banking industry is considered a very competitive and profit motive one than the other sectors, the adoption of ICT in banks also at a higher level. Moreover, the public sector banks have to compete with the private sector banks and other financial institutions in a competitive business environment. Therefore it is inevitable for the banks to adopt ICT enabled Business transformation in both the evolutionary and revolutionary levels for their survival and thrive in the market.. In order to achieve these objectives, banks continuously transform themselves to attract more customers and thrive in the market. This research study intended to identify the ICT enabled business transformation in the public and private sector banks. Since the ICT plays a major role in the operations of the banking sector, it is significant to investigate the ICT enabled business transformation in the banking industry. The main objective of this study was to compare the public and private sector banks and how the ICT enabled business transformation elevated the quality of their services to sustain in the market. In the previous studies of the researcher, findings showed that there is a need for ICT induced Organizational Transformation among the public sector banks in Sri Lanka (Selvarajan, 2010) and the recent revolutionary approaches adopted by the public sector banks. (Selvarajan, 2011) based on the Venkatraman's (1991) Framework for IT- induced business reconfiguration. As such the researcher liked to investigate the business transformation in the private sector banks and conduct a comparative study.

LITERATURE REVIEW

There are various studies conducted related with the ICT and organizational changes. The organization that can move quickly to respond to this change can gain a bigger market share and reduce customer churn purely by enhancing the experience of customers who now expect anytime, anywhere access to services (Lucent,2007)The Sri Lanka banking and financial sector is observing a significant increase in the utilization of IT. Specifically in private sector, most organizations are now heavily depending on IT related solutions to deal with the growing competition and productivity requirements by their customers (Tennakoon and Syed, 2008). The study conducted by Maldeni and Jayasena (2009), showed that there is a strong relationship between ICT usage and Bank branch performance. Robinson and Mahony (2003), further argues high technology and ISDN networks resulting in high speed data transmission. Some recent researches have studied the relationship between IT, organizational performance and productivity, has reported a positive and significant effects. (Brynjolfsson & Hitt, 2000; Oliner & Sichel, 2000; Ko & Bryson, 2004 as in Asai, 2004) From the above literature, the researcher understood that there is a need for organizations to use the ICT for various purposes. In this context, the ICT – enabled Business Transformation plays a vital role in many organizations. In order to identify various stages of Business Transformation, the researcher has selected the five stages of   IT – induced Business Reconfiguration identified by Venkatraman (1991) as a baseline for this research study. According to his finding **the stage one** was characterized by localized exploitation and at this stage IT is exploited within existing, isolated business activities normally within one function. **The stage two** can be thought of as building the internal electronic infrastructure or platform that permits the integration of tasks, processes and functions. Stage two is a necessary condition if the investments in stage one is ever to be fully exploited.

He further argued that the remaining three stages are the combination of stage one and two. Without this base there is no evidence that an organization has the necessary foundation for the future. Stages three, four and five are not sequential. Given that stages one and two have been accomplished, organizations have the option of deciding among the remaining three options. **Stage three** was the business process redesign – resulting from a fundamental rethinking of the most effective way to conduct business. **Stage four** was the business network redesign. This is the use of IT by the organization to include suppliers, customers or anyone else who can contribute to the firm's effectiveness. **In stage five**, business process redefinition - an organization decides to breakout and exploit the new technology in the market place or in products. He argued that in this level, the role of IT is very crucial and the potentiality for business scope enlargement and business scope shifts were highlighted. He further pointed out that a major challenge for organizations in the 1990s clearly lies in implementing these stages in a way that supports the degree of Organizational Transformation required to maintain effectiveness in the turbulent 90s and beyond.

There are various supportive literatures for Organizational Transformation. According to Heredero and Barahona (2004) several approaches of ICT offer us a quite common vision from different perspectives. Out of a traditional competitive advantage consideration, governments can benefit from a proper implementation of IT when the organizational change is induced according to the specific circumstances. There is a complementary focus to the "enabling one" named the "transforming effect" (Stoeltjed, 1996) he recognizes ICT as promoters in the firm's transformation process. The Spanish Tax Agency when introducing ICT, has accomplished a group of stages that coincide with the one describe by Zuboff (1988), Davenport (2000) and Quinn (2000); automation computerization and transformation.

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Venkatraman's (1994) model of IT – enabled business transformation examines the range of potential benefits from employing IT and the degree of Organizational Transformation. The model suggests, that organizations adopt a "bottom - up" approach and progress through a five stage sequential process. This model recognized organizational differences, with the view that business will engage in this linear process at different stages and in relation to internal structural changes and external competitive issues. However it did not encompass other key factors of adoption, in terms of organizational size, sector or geographic location.

Conversely the model promulgated by Poon and Swatman (1997) concurs with Venkatraman's model to the extent that a stage based transformation process occurs when SMEs use ICTs to improve their strategic position. However Poon and Swatman *(ibid*.) propose a "top - down" approach.

Hidaya and Perera (2008) also emphasized that the Business Process Reengineering (BPR) has become an inevitable item in the agenda for many public sector organizations in Sri Lanka. Although there are many cases internationally and locally highlighting the factors for failure, Sri Lankan public sector still seems to be hesitant and delayed in BPR efforts.

From the previous researches, the researcher intended to compare the public and private banks in relation with ICT enabled business transformation. It was much significant to understand the issues related with size, sector and geographic location which had not been considered by Venkatraman (1994) in his research.

METHODOLOGY

This research study followed a qualitative research methodology of Case Study Exploratory analysis by interviewing, by accessing the relevant organization's web sites and from other secondary data of banks. Since this research was a lengthy study, the judgment sampling method has been chosen in selecting the banks because it was not appropriate to study the ICT enabled business transformation of the newly established banks. Therefore the two old banks in the public sector and the private sector has been taken for this research.

FINDINGS

THE CASE STUDY OF BANK OF CEYLON

The Bank of Ceylon is the pioneer bank in Sri Lanka and it was established in 1939 and successfully completed its 71 years of age. It has approximately 8800 staff and an island wide vast network covering 307 main branches with the widest customer base of covering approximately 7.5 million customers. In the asset base, it is the largest one in the banking system. It has three overseas branches and over 700 online connected service points to its customers through the application of various information systems and ICT products.

In this way, banks face a challenge and it would be into two folds. Firstly, optimizing the productivity of employees while retaining superior expertise to drive strategic efforts and secondly, effectively managing the human capital aspect of external partnering which will require greater focus on managing vendor relationships than on actually running the operations themselves. Therefore it is inevitable that the Bank of Ceylon has to concentrate on the revolutionary approaches of business reconfiguration in order to thrive in the business.

If we take the five levels of business reconfiguration introduced by Venkatraman (1991) the first level "Localized Exploitation" was introduced by the Bank of Ceylon in late 1980s. The decentralization of banking activities was extended. The first installation of ATM (Automated Teller Machine) was held in 1988 and the "Micro banker" system was implemented within branches. Especially the 'Transaction Processing' System was in practice and it was the only information system used by the bank. The managerial implication of this level is identifying the high leverage activities and exploiting the ICT capabilities than others.

In the second level of" Internal integration" the ICBS system (International Core Banking System) was introduced as a trial version in this bank and it was practiced in the Head Office at Colombo and the Colombo based branches. Through this system, several branches were interlinked. Now this system has been extended to 300 branches. Further the Bank of Ceylon was offered an award for the fastest deployment of an on line core banking system in Asia Pacific Region from IBM/FISERV (Kodithuvakku,2010).

The above two levels have been considered as evolutionary levels since there are incremental changes occurred in the then organizational processes.

The third level "Business Process Redesign" emphasize on fundamental rethinking of most effective way to conduct the business. The ICBS was expanded in 2004 in order to eliminate the drawbacks in the previous systems. Through this online system, more than 700 service points connected throughout the island. Further at present there are more than 100,000 Internally Displaced People (IDPs) in North having their account at Bank of Ceylon and the bank is willing to provide an efficient service to these public. The bank has been providing 'safety locker' facilities to IDPs without charging any payment – Due to the inadequate space they have introduced the "safety sealed packets" system. Moreover the bank's plan to relocate its branches in their own places which were shifted to other places due to the war in the northern part of Sri Lank has been successfully in practice during the year 2010. The disaster recovery system is another new opening in this level.

The fourth level "Business network redesign" explains the use of ICT for redesigning the nature of exchange among multiple participants in a business network. The Interbank network system between Bank of Ceylon and Sampath Bank is one of the best examples for this level. Through this system, the Bank of Ceylon gain collaborative advantage and reduce the competition. Sampath bank is a private sophisticated bank with limited number of customers. Further the Bank of Ceylon has the "extranets" to link their suppliers and customers through the network and enables them for "Internet banking".

There are 337 ATM machines of Bank of Ceylon and 1600 ATM outlets, in collaboration with other banks. These have the connectivity to international networks such as SWIFT, Visa and MasterCard. To facilitate customers, a web based electronic fund transfer system named "E-cash" was introduced. The Bank also introduced "X Press Money" a network of speedier, low cost money transfer facility in Middle East. There are three overseas branches located in London, Chennai and Male. The salient feature in this level is that the London branch has been turned into a full- fledged bank on the name of **Bank of Ceylon- U.K** recently and linked with European countries for money transferring. Further, there are two additional ATM points installed at the District Secretariat, Vavuniya and at the Army Headquarters in Vanni region to cater different customers.

The last level "Business scope redefinition" is assessing the potential role of ICT in redefining the business scope in two different ways –Business scope enlargement and Business scope shifts. In this case, in future, customers will also redefine the rules of the game. Distinct shifts in demographics, attitudes and behaviors, in addition to omnipresent information, will give customers the power to demand greater responsiveness and transparency from their banks. Customer diversity and individualism will pervade buying behavior. How customers perceived value will change as a result of shifts in demographics and value systems. Therefore altering the business scope both proactively and reactively is essential to this bank.

Therefore, there is a potentiality for this bank to improve the technology to identify the new ways and potential threats. Advanced technologies will allow banks to infuse their legally operating models and infrastructures with exceptional functionality. Emerging technologies such as grid computing, service oriented architectures, virtualization of data and storage and predictive intelligence will root new dimensions of Management (Dheerasinghe, 2009).

Introduction of Automated inward Remittance Products system has the capacity to automatically process inward remittance received through multiple channels. Further a fully automated centralized treasury Bills system was developed in house and implemented with many added features and enhanced security. It has the capability of processing investments in treasury bills from prospective clients at any branch in its network. This system now caters to the script – less system introduced by Commercial Bank of Sri Lanka.

Moreover the bank has introduced *Paymate*-the SMS banking system in October 2010 (targeting 6 million customers) to enable the customers for fund transferring, bills payment and for the balance inquiry. This is an example for business scope enlargement. Further, the bank issued computers in August 2010 to its 200 corporate customers- who are the big companies involving in export and import businesses to promote the **Net banking**. This is a short term plan for three years and this task is expected to be widened to others who could be considered as corporate customers. This is considered as business scope shifts. Now the bank has taken steps to move into the Model Banking concept i.e., any time anywhere banking. The cloud computing technology will enable the bank to fulfill this task.

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THE CASE STUDY OF PEOPLE'S BANK

The People's Bank was established in 1961 with the motto of "Pulse of the people" of this country. It has been given the winning People's award in the banking and financial services sector for the fourth consecutive year. This bank has a high reputation on a strong foundation of being a bank by the people. It has been forwarding "thriving on the vision of being the bank of the aspiring people of Sri Lanka and as a partner in empowering them to become value creating, competitive and self reliant". It has over 12 million account holders serviced by an unmatched dedicated team of approximately 8900 through an expansive outreach of 329 branches. 341 service centers and 300 ATMs.

To get closer to the customers, it has unreservedly made the bank accessible not only through physical infrastructure but also using innovative ICT facets to take banking to the doorstep.

According to Venkatraman (1991), if we take up the business reconfiguration at people's Bank, as like Bank of Ceylon similar kind of system exists in this bank in the first two stages.

In the level one, the bank introduced the PABS system (People Automated Branch System) and a Centralized General Ledger was maintained by the regional offices and the summary of the branches were sent to the Head Office. This system had not been linked with branches since there was no network facility. Therefore it was practiced within an office. This could be considered as "Localized Exploitation"

In the second level of "internal integration" the bank started the 'Inter Banking Transaction' (IBT) system. Through this system the majority of branches were able to do their operations electronically. Electronic Fund Transfer and Electronic Data Interchange (certain extent) were possible in this stage. However the online updating of files were not possible in this system and time was needed for this updating.

In order to eliminate the drawbacks in the Inter Banking system, the third level in the reconfiguration– the 'SIBS' (Silver lake Inter – Banking System) system was introduced by the People's Bank. 180 branches and 300 service centers have been in operation under the 'SIBS'.

Through this 'SIBS' Bank is able to function in the 'branchless' banking status. This core banking is also now well on track, having linked 38 branches and service centers in year 2009, increasing the total number of interlinked branches to 461.Further through the application of 'SIBS' each branch can check their variance, non performing accounts and over dues. This aids their customer – service tenets considerably as response times are faster, productivity higher and information gathering is more efficient. Therefore it is the process of 'Business Process Redesign' as per the Venkatraman's (1991) classification.

The fourth level Business Network redesign shows a new platform in networking. In case of People's bank, the Chairman's statement explains thus "We have not lost sight of the fact, however, that while physical infrastructure is a vital core to our existence. Innovations like Palm Top banking and SMS banking must become a feature of everyday banking and our bank has been at the forefront of introducing these technological, innovations to our customers "(Karunajeewa, 2009). The system of "Customer Identification File" (CIF) was introduced in this level. According to this, each customer is given a "Personal Identification Number" (PIN) and through this 'PIN' number customer can do the transactions in any of the bank branches. Further Intranet facilities were used for internal communication in this level.

Moreover the bank expects to bring all the branches under the core banking system (SIBS) before first quarter of 2011 and it has been in progress. This is a kind of "Business Network Redesign". In the middle of 1990s the People's bank had the Common Interbank Network with the Hatton National Bank - a private bank, which is very successful in the banking industry. Through this 'COIN' system both People's bank customers and Hatton National Bank's customers got benefited. But now this system is not in practice.

The fifth level 'Business scope Redefinition' routes the bank to do the business by breakout and exploit new technology. In this case the People's bank is trying to adopt the 'internet banking' to avoid customer traffic and enable the customers to access the banks freely and independently. But so far this has not been practiced. Further the SMS banking is extended to the other telecommunication network- Dialog GSM and through this network, customers will get quick accessibility.

As per their corporate plan 2009-2014 it is emphasized that getting closer to customers, coupled with a state of the art ICT platform and a need to be better and bigger. Further in addition to the existing ICT – driven products, new innovations are being done for brand building and thriving. Now the country is marching towards development after the war and this bank's business scope enlargement and business scope shifts are also towards the development of northern and eastern regions of Sri Lanka.

THE CASE STUDY OF HATTON NATIONAL BANK PLC

The Hatton National Bank PLC (HNB) was established in 1970 and it is the largest private bank with 207 customer centers, 153 Students' banking centers, two mobile bank centers, one micro banking unit, 110 Gami Pubuduwa Banking centers and two overseas representative offices. It has redefined the very foundations of the banking industry through streamlining the process reengineering. At this bank over the past decade technology has been a change agent.

In case of the Venkatraman's model, the bank was in the level one- localized exploitation in 1980s and the computerization was commenced in 1994 through an in house developed system of 'COBAS'. The advantage of this system was that every branch had been functioned independently and if the system failed in one branch never affected the other branches' operations. This was the second level identified as internal integration.

In the third level- Business Process redesign, the bank acquired the Emirates bank International in 1989, Colombo branch of Banque of Indosuez in 1996 and merged the Habib AG Zurich Colombo south bank with the wellawatte branch. In 1997 the Business today Magazine ranked as the first among the top ten companies. These were the evidences for the third level of transformation.

Simultaneously, the bank had a common interbank network with People's bank in the middle of the 1990s and both the banks got benefitted. This was considered as the Business network redesign. This system is not in practice.

In September 2009, the HNB introduced its new system called 'FINACLE' and through this system the bank was able to carry out its operations efficiently and provide the e-banking services such as Tele line, Internet banking, Mobile banking and SMS banking. It has the exchange houses in Oman and Abu Dhabi and around over 300 correspondent banks all over the world. These are the evidences for the business network redesign. Further, the bank has taken initiative for strategic IT plan that supports the bank's overall 'go to market' strategy with the focus on taking the bank beyond the realm of transaction processing to utilize IT for analytics, business intelligence and optimization.(Annual Report, 2010) These are the transformations towards revolutionary level of business scope redefinition.

THE CASE STUDY OF COMMERCIAL BANK OF CEYLON PLC

Commercial bank of Ceylon PLC (CBC) is one of the leading commercial bank in Sri Lanka with over 195 branches and more than 340 ATMs. It was established in 1969. From the establishment to 1983, the bank was in the evolutionary level of localized exploitation since it had been opening the new branches. However in 1984 the computerization program was launched ad it covered the entire branch network. In 1985, the foreign department of the bank was elevated as a fully fledged branch and in 1987; Commercial Insurance Services (pvt) Ltd was formed in which the bank enjoyed 40% of equity participation. These were the transformational level of internal integration.

In 1993, the International Comprehensive Banking System (ICBS) was introduced by linking nine metropolitan branches and it was extended to other branches up to 1997. This was the Business Process Redesign. In 1998, through the sophisticated on line banking system, customers were allowed to do their transactions by using their personal telephone, personal computer or lap top. Further there are inter- organizational systems with many companies. It is the Business network redesign. Finally, The introduction of internet banking in 2000 was the example for the Business Scope redefinition and the CBC has been rated as the Best bank in Sri Lanka by 'Global Finance' for the 12th consecutive year. In 2006, the bank introduced the Island's first mobile ATM and in 2007 linked up with 'MoneyGram' for fund transfers around the world. These were the features of Business scope enlargement and business scope shifts.

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DISCUSSION CONCLUSION AND RECOMMENDATION

This research study has been conducted among the two public sector banks and two private sector banks in Sri Lanka to identify the revolutionary trend of ICT – enabled business transformation. A case study methodology was adopted in order to understand the ICT strength in these banks in a qualitative way. In Sri Lanka, researches conducted in ICT/ Information Systems are very few and the findings drawn from this study would be very much useful to these banks to gain competitive advantage and capture the market share.

The researcher has selected the five levels of IT induced business reconfiguration introduced by Venkatraman (1991) and compared with the public sector and private sector banks in Sri Lanka. According to Venkatraman (1991) if the level one and two have been accomplished, organizations have the option of deciding among the remaining three levels. But this research findings show that the levels found by Venkatraman (1991) have been in sequential order in these two public sector banks and some deviation in the private sector banks. And both the banks in the public sector have strived and entered into the fifth levels. However the accessibility of emerging technology by them was in different period. But in case of the private banks, they have already achieved the fifth level as well. Moreover, when we compared the evolutionary levels and revolutionary levels, revolutionary approaches have been adopted by these banks within a short period of time. The researcher further found that the five levels of business reconfiguration identified by Venkatraman (1991) showed that the sophistication and innovation has been increasing when these banks go into the next level from the beginning. Further Core System Report Generation, Central Clearing system and micro finance lending and also in converting branches into the core system are in progress. Public banks need computer hardware and other sophisticated information systems for better customer care and efficiency. Since a remarkable number of customers are in the resettled areas and their income level also low. Therefore it was found that rather than evolutionary levels revolutionary levels play major role in these banks to gain competitive advantage and sustain in the market. The author recommended that the public banks should acquire new hardware and other sophisticated information systems to achieve the revolutionary levels very soon. Similarly, the private banks should also follow a proper strategic plan for ICT to maintain and sustain in the revolutionary levels continuously. Since this research findings show the situation of Banks in 2010, it has opened up several avenues to the author to extend this research further by adopting recent models in quantitative way as well in future.

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