



BEYOND GROWTH: MODERNISATION OF BANKS IS IMPERATIVE

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Economic Growth changes economic structure

Continuous economic growth brings in substantial changes to the structure as well as the consumer base of an economy. In the case of structure, production and employment will shift from agriculture to value-added manufacturing and services which are based on emerging technological developments in the world. New industries that will represent “the next big thing” will emerge with the dissemination of technological know-how from advanced to emerging economies and from them to less advanced economies. As theorised by the Japanese economist Kaname Akamatsu in two original papers published in 1935 and 1937, countries in the emerging world will absorb new technology in a “flying geese pattern” when the high tech economies in Asia will switch over to most modern technologies from not-so-modern technological production systems¹. Sri Lanka sitting at the lower end of the flying geese pattern is in a position to advance one step forward in the flying geese formation to grasp these new technologies. The likely production bases that may shift to Sri Lanka at affordable costs may be nano-technology based chemical and textile manufacturing and 3D Print manufacturing². In services, Sri Lanka may advance in software production and high end tourism. The change in the economic structure in this manner will pose significant challenges to all those who service the economic growth machine of the country.

Growth also brings in a rise in the middle class

In the case of the consumer base, the most likely change will be the augmentation of the middle class in the country and the emergence of what is now known as the millennials or Generation Y constituting the age group of 18 to 30.

¹ Akamatsu’s original papers have been written in Japanese and an updated version of his theory could be found in Akamatsu K(1962): A historical pattern of economic growth in developing countries. *Journal of Developing Economies*, 1(1):3–25, March–August. The issues faced by Sri Lanka in this exercise could be found in Wijewardena (2013-a) “Sri Lanka’s Future: A part of the flying geese chain or just a sitting duck” at <http://www.ft.lk/2013/08/12/sri-lankas-future-a-part-of-flying-geese-chain-or-just-a-sitting-duck/>

² However, this shift is not automatic and the challenges faced by Sri Lanka in absorbing high technology have been discussed in Wijewardena (2013) “Miracle of Technology: The second industrial revolution is in the offing” at <http://www.ft.lk/2013/07/08/miracle-of-technology-the-second-industrial-revolution-is-in-the-offing/>



These consumer groups will change in both size and quality. According to estimates made by Homi Kharas, Sri Lanka's middle class who amounted to 3.6 million or 18.5 percent of the population in 2010 is expected to rise to 6.2 million or 33 percent of the population in 2025³. Though this number is still small compared to the middle class in India or China, what matters is the change in the quality aspects of that middle class. An important feature of the middle class is that they always ask for quality services and those who provide such services to them should be ready to provide those services to satisfy their quality requirements. Banker stands at the top of the line of those service providers.

Growth offers opportunities and challenges

Thus, growth brings in both opportunities and challenges to a banker. While he has to operate in a structurally changed economy, he has to cater to a clientele which cannot be easily satisfied. At the same time, growth also generates vulnerability in the form of economic volatility from year to year. The record of the economic history of countries in the world shows that they have experienced high growth episodes for a few years followed by equally lengthy periods of economic slow-down. Sri Lanka's economic history demonstrates that the country has not attained high economic growth for more than four years at a stretch. What has happened is that the high growth which has started to build up hopes in people as well as bankers begins to taper off generating eras of low growth⁴. Bankers normally ride on the bandwagon of high economic growth planning for high performance in activities but are not prepared to take economic slumps that invariably follow the high growth eras. This has posed new challenges to bankers.

Modernisation is imperative to face challenges

These challenges have made modernisation of banks imperative today. The need for modernisation has loomed large on banks due to several other reasons as well. Competition among financial institutions has become tough, customers have become demanding, knowledgeable and quality-concerned and markets and products have become more sophisticated. On top of this, bank regulators have become hawkish on every move of banks being ready to impose severe penalties on banks when they detect any irregularities in their operations⁵. Thus, the choice before a banker today is clear: Modernise or perish.

³ Kharas, Homi (2012) "The Rise of the Middle Class" in Ejas Ghani (ed) (2012) "Is South Asia Ready for the Next Big Leap?" World Bank, Washington DC.

⁴ The best example is the most recent growth episode which started with a high growth rate of 8.0 percent in 2010 which accelerated to 8.2 percent in 2011. But since then, the economy has been slowing down with a growth rate of 6.4 percent in 2012 and an estimated growth rate of less than 6 percent in 2013 according to international agencies.

⁵ The recent fine imposed jointly by the British and American regulators amounting to \$ 960 million on J.P. Morgan Chase Bank for the reported loss of \$ 4 billion due to so called "London Whale Trade" is a good example of the readiness of regulators to discipline wrong-doers.



This paper looks at the bank modernisation issue from the perspective of technological development. It will present how technology should be absorbed in the modernisation process and the key challenges faced by a banker in conducting that enterprise.

Modernisation: Attaining several objectives simultaneously

Modernisation is defined in the Business Dictionary as the “process by which a society achieves modernity”⁶. The same dictionary defines modernity in the context of the new capitalist society that has emerged in advanced Western countries after the World War II with all their social, consumption and entrepreneurial features⁷. When applied to a bank it means the action to be taken by a bank to attain several objectives simultaneously to meet the requirements of modernity. These objectives, not presented in any order of importance, could be as follows:

- To provide the best services to the customers and retain their loyalty in a competitive market;
- To remain relevant in a changing banking world;
- To build a bridge to take the bank seamlessly to the future;
- To attain resilience to withstand adverse as well as favourable external shocks;
- To satisfy the stakeholders, specifically the shareholders and creditors
- To comply with the requirements of regulators.

To attain these objectives simultaneously, a bank will have to implement an action programme to modernise three types of important infrastructures, namely,

- Human infrastructure
- Physical infrastructure and
- Technological infrastructure

In this paper, attention will be paid only to the technological infrastructure that is needed to be modernised in a bank.

Technological Infrastructure in Banks

Consider the following hypothetical situation which is most likely given the present technological developments relating to the delivery of knowledge.

⁶ <http://www.businessdictionary.com/definition/modernization.html>

⁷ <http://www.businessdictionary.com/definition/modernity.html>



A student travelling in a high speed train from Shanghai to Beijing in China communicates with his professor at a US university who is also riding a cable car whilst holidaying in Switzerland at that time. Both are using hand-held devices to communicate with each other. The other passengers on the train could see only the lip movement of the student since he is talking very softly to a thin wire that has been extended from the hand-held device and plugged to his ears. They are discussing the solutions to a problem which the professor has assigned to students following his course. There has been a difference of opinion about the possible solutions and the student is arguing with the professor for his case. The professor's face appearing on the hand-held device shows signs of irritation because the student does not listen to his well-reasoned argument. This debate is being watched by several of the other students who also have similar hand-held devices with them but living in Africa and Australia. Thus, a university class room has been extended to the wider global village where all students can discuss issues of interest real time with each other and with their professor. The limitation of time and space in human interactions has been completely won over⁸.

What this means is that students in the future will demand knowledge from any part of the world at any time of the day. Universities are now getting ready to meet that demand⁹. Similarly, bank customers too will demand the same facility from his bankers. If their banker is not ready to meet with that demand, they will simply change their loyalty to another banker who is ready to provide this service.

In fact, similar banking transformation based on mobile phone technology that uses location specific services has been the imagination of those who plan for the future of banks. What is imagined here is a technology where the mobile phone will use the location specific service so that it performs multiple functions depending on where the bank customer is located. If he is in a supermarket, the mobile phone assumes the role of a credit or debit card. If he is at a bank branch, it immediately becomes the customer's identification and his entry to bank services which are numerous in nature.

He could look at his account, negotiate a loan with the bank manager, and avail himself of other services available to a customer. There is no physical contact with any of the bank employees but only a digital contact.

⁸ In fact this situation is highly likely within the next few years with the Corning Glass Technology that is being developed by Corning Incorporation of USA. A good exposition of what this technology can do can be found in the following video::

<http://www.bing.com/videos/search?q=youtube+corning+glass+future&view=detail&mid=404F08A9F63ABFE1E5A3404F08A9F63ABFE1E5A3&first=0&FORM=NVPFVR&qvt=youtube+corning+glass+future>

⁹ Already several leading universities have introduced distance learning modules in which students from all over the world have been linked to the university through a digital black board which is served by a university professor at appointed times of the day. For a sample of such a system, visit: <http://www2.le.ac.uk/study/ways/distance>



The traditional signature of the customer is replaced by his thumb impression on all documents and authorisations made¹⁰.

These are just glimpses of what awaits banks of the future as far as the technology is concerned. If banks are not ready to accept this technological revolution and change themselves, it is inevitable that banks will become irrelevant in a technology savvy world. What banks should recognise is that the bank of the future is technology-driven and the bank should be ready to accept that technology and be a partner of the technological advancement rather than an outside observer.

The competition, the need for making a wider out – reach at low costs and thinning interest margins will compel banks to find ways of reducing costs and still offering quality services to customers. To accomplish this feat, there is no other way than using modern technology freely. As the current state of technology stands, it is not a substitute for human beings. Technology, being the servant, has to be under the care of a master. Therefore, though banks have embraced technology ardently, they have not displaced the human masters completely. That is why when banks grow they have to hire new workers in increasing numbers to take care of the growing business, on the one hand, and to succeed the retiring workers, on the other. Hence, both the technology application and the human capital engagement go hand in hand in current banking. But, this may not be the trend in the future.

The current research in ICT field is expected to lead the world to ground – breaking discoveries. At present, we live in a world in which machines cannot replicate human brains. Intelligence is still the monopoly of humans and all that machines can do is to work according to the commands given by their human masters. It is still a world where machines do not have intelligence of their own.

¹⁰ The imagination can be viewed at the following site:
<http://www.bing.com/videossearch?q=video+bank+of+the+future&docid=4783078608274894&mid=378BF89D293C2E729C6E378BF89D293C2E729C6E&view=detail&FORM=VIRE1>



Distributed Artificial Intelligence is within sight

But the current research on ICT has focussed on developing a 'new intelligence' known as 'distributed artificial intelligence' or DAI which could replicate human brain to a very close degree¹¹. While at present, human brain cannot know of itself, so is a machine. But, new technological developments will help, through processes like 'recursion', a computer programme to loop back on itself and use its own information to do tasks over and over until it gets a result. In other words, in the future, a machine can know of itself and work according to the functioning of different parts; when one part falters, it could send message to another part to repair it and bring the machine to a working order. This is using artificial intelligence distributed over different parts of a body.

Just like the ICT revolution in 1960s helped banks to innovate themselves, the new 'distributed artificial intelligence revolution' will certainly carve out a new paradigm for banks. It will bring about a new banking model: the use of human brains will be reduced to a minimum and the use of artificial brains will be maximised. With computers gaining capability of replicating certain functions of human brains, the entertainment, appraisal, approval and monitoring of loan accounts will be handed to machines. Like human beings, these machines will be able to learn, recognise patterns in data, understand peculiarities, talk and use natural languages and prioritise and switch tasks accordingly. The reminding services which a boss gets from his secretary today will be performed with equal or perhaps, greater efficiency by a computer tomorrow.

Banks will love to employ this new technology to the maximum. That is because it will provide them with a competitive edge, help them to cut labour costs, improve efficiency by timely delivery and reduce hassles of managing labour. Overall, the new technology will rescue banks by helping them to make a quantum leap into the next generation of banking.

Bankers' Dilemma with Intelligent Machines

Imagine the predicament which a banker may run into when he is confronted with an intelligent machine as a co - worker in his bank.

The machine will do everything which a banker composed of flesh, blood, bones and sensuousness can do. It can entertain customers, interview them politely, appraise his suitability, examine him in terms of his past records already stored in its memory, approve or disapprove his application for service in double quick time and produce all the services needed by customers.

¹¹ A collection of articles on Distributed Artificial Intelligence (DAI) reviewing its theoretical foundation and practical applications can be found in Nicholas M Avouris and Les Gasser (eds) *Distributed Artificial Intelligence: Theory and Praxis*, Springer (1992). The impact of DAI on banks has been reviewed by Los Angeles Times in 1990: available at: http://articles.latimes.com/1990-01-17/business/fi-233_1_artificial-intelligence

The application of DAI in ATMs by Bank of America is found here:
<http://www.bostonglobe.com/business/2013/04/04/bank-america-roll-out-new-atms-boston/4olcXYhN4bflwhcBovQsgL/story.html>



The advantage of working with such an intelligent machine is that all the delays, inefficiencies, abuses of authority and corrupt practices about which customers have innumerable complaints will be things in the past. The disadvantage is whether the banker will be able to work in collaboration with a machine which is faster and more efficient than the bankers made up of flesh and blood. More precisely, it would mean whether a banker can be a good 'team partner' with a machine. This question does not arise at present since the banker is the master and the machine is the servant. Yet, in future, it will be a serious issue, since the banker and the machine are co-workers with same intelligence and skills.

How could Bankers overcome the problem?

An intelligent machine is always in an advantageous position compared with a banker. It can learn new subjects quickly, acquire new skills and can upgrade itself in response to the emerging needs. Its memory capacity and ability to retrieve information stored therein quickly and efficiently are superior to the memory power possessed by individuals. The banker, on the other hand, is subject to quick depreciation and learning defects with the advancement of age. He may find his memory failing him quite often when he becomes older. In a situation where individuals and machines have diverse skills and abilities, it is to the advantage of the banker to accept his defects and place himself on a continuous learning programme.

A weakness which can be seen in many individuals in the present society, especially in Sri Lanka, is that they stop learning new skills after they reach certain stability or position in the organisations they are working. They give more priority to work and less priority to skills build up. However, unknown to them, the society's knowledge base is advancing rapidly and when they come out of the little capsules in which they have lived safely all that time, they find themselves totally unfit to perform new duties that require new knowledge. Compared to them, the younger generations are fitter to perform these duties by using the new knowledge, but if the young people when they become older practice the same apathy with respect to knowledge build up, the same cycle is repeated ad infinitum.

The solution therefore lies in an individual putting himself in learning on a continuous basis. All individuals will have to go back to school again and again and if it is not practicable, should undertake learning by resorting to non-formal and informal methods. There is nothing like keeping oneself updated on the specific types of skills that are necessary to perform a job in a new knowledge environment.

This requirement is equally applicable to bankers. Since the banking industry undergoes the fastest change compared to other industries, the continuous learning requirement is more relevant to bankers than to workers in other industries. If bankers made up of flesh and blood desire to beat their new co-workers who come in the form of intelligent machines, there is no other alternative except learning better skills and becoming abler workers than those machines. Hence, the greatest challenge for bankers in the future is to acquire new skills and knowledge on a continuous basis to make them fit for undertaking new tasks and duties.



Technology has also shrunk and displaced bank branches

Another trend which can be observed in banks with high technology application is the shrinking and displacement of bank branches. Technology makes the individual bankers more efficient by helping them to produce a greater output with the same effort and costs. Thirty years ago, when all operations in banks were done manually, the daily output of a worker was rather limited. Today, with advanced ICT, they have been able to serve more customers, produce a bigger output and earn more revenue per hour of employment of a worker. Hence, the necessity for additional staff in bank branches has been effectively curtailed making bank branches smaller and smaller. It is equivalent to shrinking of the bank branches. With the availability of the next generation technology to banks, all bank branches will become virtual offices without a specific geographical location. This will eventually displace the bank branch altogether¹².

The advantage of having such a virtual bank branch¹³ is that it cuts the costs of banks significantly and permits banks to have a wider outreach without being constrained by geographical limitations. It will obviously obviate the necessity for opening bank branches in remote areas, because customers in those areas now can be serviced from a central location by resorting to advanced ICT. It gives flexibility to staff, more revenue to the bank and greater satisfaction to customers. Educational institutions like universities have already utilised this advanced ICT to create virtual class rooms and have a greater outreach for students across the globe.

Banks have to cater to next generation or Gen-Y customers

It is now clear that the banks of the future have to meet the aspirations of not the present generation but the future generation. This generation in the age category of 18 to 30, born immediately before the new millennium and therefore called 'millennials', has been named Generation Y or Gen Y by Oracle Financial Services or OFS in a report submitted along with European Financial Markets Association or EFMA under the title "Are Banks Ready for the Next Generation Customers?"¹⁴. Gen Y customers are different from other customers and therefore a different approach has been necessary to win them over to banks. There are five distinctive features to distinguish them from the older generation.

¹² The launch of a virtual bank branch by ASB Bank in New Zealand in 2010 by using Facebook is given here: <http://www.visiblebanking.com/asb-bank-launches-a-virtual-branch-1-0-on-facebook> HP's virtual bank innovations are found in the video at the following site: <http://www.youtube.com/watch?v=Gpi2kXbVbbg>

¹³ Advantages of virtual banking have been presented by many writers. One such presentation could be found at <http://moneyfor20s.about.com/od/financialinstitutions/tp/Online-Banking.htm>. The benefits to customers of doing virtual banking have been presented at <http://www.thechristiandollar.com/the-benefits-of-virtual-banking/>. A discussion at academic level highlighting both advantages and disadvantages have been presented at http://www.academia.edu/2635617/ELECTRONIC_BANKING_-_ADVANTAGES_FOR_FINANCIAL_SERVICES_DELIVERY

¹⁴ Available at <https://www.google.com/#q=related:www.oracle.com/us/industries/financial-services/gen-y-survey-report-165297.pdf+Oracle+report+on+bank+modernization>



Gen Y people are independently dependent, practically motivated, tech savvy, socially mindful and financially freshmen. They are also highly educated and more entrepreneurially-oriented than their parents. They live for the day and assign a low value to savings. A report by KPMG conducted in September 2008 has revealed that 57 percent of Gen Y population spends half their salaries on social purchases like holidays and technology¹⁵. As a result, it has been found that bankruptcy is on the rise among this group¹⁶

Since Gen Y is more credit friendly, they expect more from the banks. They use internet, social networks and mobile technology as a daily routine and expect their bankers too use these devices to serve them.

Their education in colleges and universities has exclusively been on the basis of this technology and therefore it is not unusual for them to demand the same from their bankers as well¹⁷. Accordingly, many banks in USA have now developed 'Click to Chat and 24 by 7 knowledge base' for better collaboration with this young group of customers. Thus, text messages with them should be short and in accordance with the language used for texting. According to an example presented in the OFS report under reference, a letter to a traditional customer may start in the normal form like "Welcome, Thank you for giving us the opportunity to present our case to you today". But the same message when texting will look as follows: "wlcmm, thk U 4 givN us d opRtunET 2 presnt our case 2 U 2day"¹⁸. To write such a message requires substantial relearning and change on the part of the banker.

Social media today is increasingly used by young millennials. It is a medium of choice among them. According to OFS Report "They are a sociable generation and their interest in building and maintaining relationships is shown in how they blog, text-message, upload photos and videos, tweet about their activities, post their thoughts and opinions and look for updates on recent developments"¹⁹. Thus, a bank instead of dismissing social media as a waste of time and resources should accommodate them in order to communicate effectively with their future customers. Since this generation is not interested in savings as their predecessor, any bank product promoting savings habits will not be popular among them. Instead, they would ask for 'cool' products which the banks should be prepared to produce and market among them. According to the survey results, 31 percent of banks have said that they have developed such cool products for Gen Y requirements while 38 percent has said that they are in the process of developing the same²⁰.

¹⁵ Ibid p 10.

¹⁶ Ibid.

¹⁷ A professor attached to Monash University in Australia recently confided with this writer that she has accommodated Facebook chatting and messaging as a part of her teaching because it has become more effective to communicate with her students through that medium.

¹⁸ Op cit p 13.

¹⁹ Ibid p 15.

²⁰ Ibid p 20.



Summary and Conclusions

Banks today are facing a serious challenge when they look beyond economic growth. Growth brings in changes and changes will occur not only in the economic structure but also in the customer base. Hence, a bank with a proper strategy for the future should think of the type of customers it has to serve not today but in the future. This customer base consists of two categories. The augmented middle class which is the outcome of economic growth and the new generation young people who are born immediately before the new millennium and called 'millennials' or Generation Y or simply Gen Y. Middle class is difficult to satisfy; it is more difficult to satisfy the Gen Y type customers. That is because they are technically savvy, rely on internet and social media and think of living today only giving low priority to savings. To serve this customer base, banks have to change not only their marketing approach but also the types of products they should offer to them. In their own language those products should be 'cool' products.

In order to survive in a world of changes, banks have to change themselves. That change is called modernisation or directing the bank to meet the requirements of modernity. Introducing new technology to a bank based on mobile technology is imperative in this modernisation process. In addition, banks have to be mindful of the emergence of the Distributed Artificial Intelligence or DAI as a potential substitute for workers in certain categories of employment. Technology will help banks to cut expenditure, have a wider out-reach, depend less on human resources and serve better to the new generation of customers. Therefore, modernisation with appropriate technology is an imperative for a bank today. That requires making plans beyond economic growth.

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