



Committed to
professional excellence

बैंक क्वेस्ट

Bank Quest

Rs. 40/-

(ISSN 00194921)

The Journal of Indian Institute of Banking & Finance (ISO 9001:2015 Certified) खंड / Vol 89 / अंक / No 03 जुलाई - सितम्बर 2018 July - September 2018

**SPECIAL
EDITION**

BANKING

STEPPING INTO THE NEXT DECADE



IIBF - PUBLICATION LIST

Sr. No.	Examination	Medium	Name of the Book	Edition	Published By	Price (Rs.)
1	JAIIB / Diploma in Banking & Finance	English	Principles & Practices of Banking	2015/ Re-printed in 2017	M/s Macmillan India Limited	Rs. 550/-
2	JAIIB / Diploma in Banking & Finance	Hindi	Banking ke Sidhanth Avam Vyavahar	2015	M/s Taxmann Publications Private Ltd.	Rs. 870/-
3	JAIIB / Diploma in Banking & Finance	English	Accounting & Finance for Bankers	2015/ Re-printed in 2017	M/s Macmillan India Limited	Rs. 440/-
4	JAIIB / Diploma in Banking & Finance	Hindi	Bankeron ke liye Lekhankan Avam Vittya	2015	M/s Taxmann Publications Private Ltd.	Rs. 600/-
5	JAIIB / Diploma in Banking & Finance	English	Legal and Regulatory Aspects of Banking	2015/ Re-printed in 2017	M/s Macmillan India Limited	Rs. 440/-
6	JAIIB / Diploma in Banking & Finance	Hindi	Banking ke Vidhik Paksh	2015	M/s Taxmann Publications Private Ltd.	Rs. 700/-
7	CAIIB	English	Advanced Bank Management	2017	M/s Macmillan India Limited	Rs. 690/-
8	CAIIB	Hindi	Unnat Bank Prabandhan	2011	M/s Taxmann Publications Pvt. Ltd.	Rs. 575/-
9	CAIIB	English	Bank Financial Management	2018	M/s Macmillan India Limited	Rs. 790/-
10	CAIIB	Hindi	Bank Vittiya Prabandhan	2012	M/s Taxmann Publications Private Ltd.	Rs. 725/-
11	CAIIB	English	Corporate Banking	2018	M/s Macmillan India Limited	Rs. 430/-
12	CAIIB	English	Rural Banking	2018	M/s Macmillan India Limited	Rs. 500/-
13	CAIIB	English	International Banking	2018	M/s Macmillan India Limited	Rs. 400/-
14	CAIIB	English	Retail Banking	2018	M/s Macmillan India Limited	Rs. 500/-
15	CAIIB	Hindi	Khudra Banking	2012	M/s Taxmann Publications Private Ltd.	Rs. 495/-
16	CAIIB	English	Co-operative Banking	(2018 edition under printing)	M/s Macmillan India Limited	Rs.525/-
17	CAIIB	English	Financial Advising	(2018 edition under printing)	M/s Macmillan India Limited	Rs. 375/-
18	CAIIB	Hindi	Vittiya Pramارش	2013	M/s Taxmann Publication Ltd.	Rs. 450/-
19	CAIIB	English	Human Resources Management	2018	M/s Macmillan India Limited	Rs. 600/-
20	CAIIB	English	Information Technology	(2018 edition under printing)	M/s Macmillan India Limited	Rs. 525/-
21	CAIIB	Hindi	Suchna Prodhयोगiki	2013	M/s Taxmann Publications Pvt. Ltd.	Rs. 510/-
22	CAIIB / Certified Banking Compliance Professional Course / Certificate Examination in Risk in Financial Services	English	Risk Management	2018	M/s Macmillan India Limited	Rs. 450/-
23	CAIIB	English	Central Banking	2018	M/s Macmillan India Limited	Rs. 450/-
24	CAIIB	English	Treasury Management	2018	M/s Macmillan India Limited	Rs. 600 /-
25	Certificate Examination in Customer Service & Banking Codes and Standards	English	Customer Service & Banking Codes and Standards	2017	M/s Taxmann Publications Pvt. Ltd	Rs. 400/-
26	Certificate Examination in IT Security	English	IT Security	2017	M/s Taxmann Publications Pvt. Ltd	Rs. 425/-
27	Digital Banking	English	Digital Banking	2016	M/s Taxmann Publication Ltd.	Rs. 295/-
28	Banking An Introduction	Hindi	Banking An Introduction	2016	M/s Taxmann Publication Ltd.	Rs. 235/-
29	Banking An Introduction	English	Banking An Introduction	2016	M/s Taxmann Publication Ltd.	Rs. 195/-
30	Certificate Examination in MSME Finance for Bankers	English	Micro Small & Medium Enterprises in India	2017	M/s Taxmann Publications Private Ltd.	Rs. 375/-
31	Certificate Examination in Customer Service & Banking Codes and Standards	English	Customer Service & Banking Codes and Standards	2017	M/s Taxmann Publications Private Ltd.	Rs. 525/-
32	Certificate Examination for Debt Recovery Agents	English	Hand Book on Debt Recovery	2017	M/s Taxmann Publication	Rs 325/-
33	Certificate Examination in Rural Banking Operation	English	Rural Banking Operation	2017	M/s Taxmann Publications Private Ltd.	Rs.545/-
34	Advance Wealth Management Course	English	Introduction to Financial Planning	2017	M/s Taxmann Publications Private Ltd.	Rs.390/-
35	Certificate Banking Compliance Professional Course	English	Compliance in Banks	2017	M/s Taxmann Publications Private Ltd.	Rs. 1,135/-
36	Certified Information System Banker	English	Information System for Banks	2017	M/s Taxmann Publications Private Ltd.	Rs. 645/-
37	Certificate Examination in International Trade Finance	English	International Trade Finance	2017	M/s Taxmann Publications Private Ltd.	Rs. 255/-
38	Advanced Wealth Management	English	Risk Analysis, Insurance and Retirement Planning	2017	M/s Taxmann Publications Private Ltd.	Rs. 240/-

From the Editor Special Features

Section I: Articles from Banking Experts (India)

Banking: Stepping into the next decade -- Rajnish Kumar.....	8
Banking as we see on the turn of decade -- Rajkiran Rai G.	13
Risk Management in Banking in the next decade -- Anil Kishora	19
Banking Technology in the next decade from SMAC TO FABS -- Dr. A. S. Ramasastry.....	24
Banking in next decade: Resolve first before planning... -- Madan Sabnavis	33
Banking in the next decade: An Economist's Perspective -- Dr. Soumya Kanti Ghosh/Dr. Tapas Kumar Parida/Sumit Jain.....	38
Capital Flows and External Vulnerabilities of EMEs -- Dr. Barendra Kumar Bhoi/Dr. Jang Bahadur Singh.....	43
Risk Management in the next decade -- V. R. Iyer/Arun Kumar	52
Role of Technology in Banking in the next decade -- S. Mukhopadhyay.....	57
Ethics in Banking – The Way Forward -- Rakesh Kaushik.....	64
Stepping into the next decade – Emerging Areas in International Banking -- Sugata Kumar Datta	69

Section II: Articles from Banking Experts (International)

Banking : Stepping into the next decade – Human Capital, Green Finance, Professionalism & Ethics -- Simon Thompson	74
Korea Banking: Stepping into the next decade -- Dr. Jae Woo Moon	78
Banking: Stepping into the next decade – Engagement with Customers the key -- Sanjib Subba	82
Banking: Stepping into the next decade – Professionalism holds the key -- Lewis Panther	85
Banking: Stepping into the next decade – Reinvention -- Pijush Kanti Das.....	89

Bank Quest



Volume 89, Number : 3

July - September 2018

(ISSN 00194921)

HONORARY EDITORIAL ADVISORY BOARD

Mr. V. K. Khanna

Dr. Sharad Kumar

Dr. Rupa Rege Nitsure

Mr. Mohan N. Shenoj

HONORARY EDITOR

Dr. J. N. Misra

The views expressed in the articles and other features are the personal opinions of the authors. The Institute does not accept any responsibility for them.

लेखों तथा अन्य रचनाओं में व्यक्त किए गए विचार लेखकों के निजी विचार हैं। लेखकों द्वारा व्यक्त किए गए विचारों के लिए संस्थान किसी प्रकार से उत्तरदायी नहीं होगा।

INDIAN INSTITUTE OF BANKING & FINANCE

Kohinoor City, Commercial-II, Tower-I, 2nd Floor, Kiro Road, Kurla (W), Mumbai - 400 070.

E-mail : admin@iibf.org.in

Website : www.iibf.org.in

GOVERNING COUNCIL MEMBERS

PRESIDENT

Rajnish Kumar

VICE PRESIDENTS

Shyam Srinivasan

Sunil Mehta

MEMBERS

**Malvika Sinha
Prashant Kumar
Smita Sandhane
V. G. Kannan
Y. K. Bhushan**

**H. Krishnamurthy
K. L. Dhingra
A. S. Ramasastry
Pawan Bajaj
V. G. Mathew**

**Ravindra Marathe
Zarin Daruwala
R. A. Sankara Narayanan
Jai Kumar Garg**

MANAGEMENT

J. N. Misra, Chief Executive Officer

Sudhir M. Galande, Deputy Chief Executive Officer

S. Muralidaran, Director - Academics

T. C. G. Namboodiri, Director - Training

S. P. Nair, Director - Member Services

Francis Xavier A. , Director - Operations

MISSION

The mission of the Institute is to develop professionally qualified and competent bankers and finance professionals primarily through a process of education, training, examination, consultancy / counselling and continuing professional development programs.

ध्येय

संस्थान का ध्येय मूलतः शिक्षण, प्रशिक्षण, परीक्षा, परामर्शिता और निरंतर विशेषज्ञता को बढ़ाने वाले कार्यक्रमों के द्वारा सुयोग्य और सक्षम बैंकरों तथा वित्त विशेषज्ञों को विकसित करना है ।

Printed by Shri J. N. Misra, **published by** Shri J. N. Misra on behalf of Indian Institute of Banking & Finance, and **printed at** Onlooker Press 16, Sasoon Dock, Colaba, Mumbai-400 005 and **published from** Indian Institute of Banking & Finance, Kohinoor City, Commercial-II, Tower-I, 2nd Floor, Kiro Road, Kurla (W), Mumbai - 400 070. **Editor** Shri J. N. Misra.



Dr. J. N. Misra
Chief Executive Officer,
IIBF, Mumbai

The Indian Institute of Banking & Finance (IIBF) has completed 90 years of dedicated service to the banking industry in 2018. The journey has indeed been eventful and illustrious. During this journey, the Institute has constantly reinvented itself to effectively serve the banking fraternity. Owing to the unstinted co-operation by all stakeholders, IIBF has emerged as the largest Banking Institute in the world offering a whole bouquet of services for meeting the needs and aspirations of the serving and potential bankers.

To commemorate the occasion of completing 90 years, IIBF will be organising an International Conference on 25th September 2018. The theme of the conference is “Banking: Stepping into the next decade”. The present issue of Bank Quest is a Special Edition dedicated to the theme of the International Conference.

We had invited articles from Banking experts, both in India & abroad, covering different domains of Banking & Finance.

Section I: Articles from Banking Experts (India)

The first article of this issue is authored by Mr. Rajnish Kumar, Chairman, State Bank of India, on “Banking: Stepping into the next decade”. According to the author, the trajectory of Indian Banking, in the next decade, will be shaped by several forces viz. balance sheet restructuring, reducing share of corporates in banks’ lending books, IBC, role of technology, laws on privacy, ownership of digital data and its storage, cyber security etc.

The second article is authored by Mr. Rajkiran Rai G., Managing Director & C.E.O., Union Bank of India, on “Banking as we see on the turn of decade”. Mr. Rai through his article has given us a picture of Indian Banking at the Onset of Decade 2010s, “how we all came here”, and “where do we go from here”. The author has summed up by saying that there are positive vibes which could propel India to double digit growth trajectory in the coming decade.

The third article is by Mr. Anil Kishora, Deputy Managing Director and Chief Risk Officer, State Bank of India, on “Risk Management in Banking in the next decade”. Mr. Kishora has given an in-depth perspective about Risk Management and concluded that Risk Management will likely be a source of competitive advantage in the next decade.

The fourth article is by Dr. A. S. Ramasastry, Director, Institute for Development and Research in Banking Technology (IDRBT) on “Banking on Technology in the next decade: From SMAC to FABS?”. Dr. Ramasastry has explained that Banks have adopted the SMAC technologies – Social, Mobile, Analytics and Cloud – very innovatively and has identified four technologies, namely FABS – 5 G, Artificial Intelligence, Blockchain and Smart things which have great potential for a meaningful impact on the banking sector in the next decade.

The fifth article is penned by Mr. Madan Sabnavis, Chief Economist, CARE Ratings on “Banking in next decade: Resolve first before planning...”. Mr. Sabnavis has very perspicaciously expressed his views on various issues of Banking as we see today & its transition to future. He has also, inter-alia, mentioned banks should get into CLAP (Capital, Lending, Asset Quality and Profits) mode.

The sixth article of this issue on “Banking in the next decade: An Economist’s Perspective”, is jointly contributed by Dr. Soumya Kanti Ghosh, Group Chief Economic Adviser, State Bank of India, Dr. Tapas Kumar Parida, Economist, State Bank of India and Mr. Sumit Jain, Economist, State Bank of India. They have concluded that future of Indian banking depends upon a number of factors like economic and regulatory environment, entry & exit of players, customers behaviour & others. In order to remain sustainable in the banking business, banks need to innovate their products, services and delivery channels, rather than simply depending on core banking areas like accounts, deposits & credits. Going forward, banks need to leverage their portfolio of solutions in a personalised way to cater to the needs of individual consumers at any given point.

The seventh article on “Capital Flows and External Vulnerabilities of EMEs”, has been jointly authored by Dr. Barendra Kumar Bhoi, Former Principal Adviser and Head of Monetary Policy Department, Reserve Bank of India (RBI) and currently, Visiting Fellow at Indira Gandhi Institute of Development Research and Dr. Jang Bahadur Singh, Director, Department of Economic and Policy Research, Reserve Bank of India. According to the authors, financial globalisation has opened up new opportunities & challenges for Emerging Market Economies (EMEs). Portfolio flows to EMEs have been more volatile in the post GFC period. Such flows are likely to be constrained. The authors have outlined measures for improving the resilience of the EMEs so that they can have least disturbance in the event of sudden reversal of capital flows.

The eighth article of this issue on “Risk Management in the next decade” has been jointly authored by Mr. V. R. Iyer, Former General Manager, Oriental Bank of Commerce and Mr. Arun Kumar, Faculty, NIIT University, Neemrana (Former Assistant General Manager, UCO Bank & Former Deputy General Manager, IIFCL). This article gives us a deep insight about major risks which have impacted banking in India in the last decade and banking changes in the next decade warranting risk management. Emerging risks, major risk management challenges and measures for countering the challenges have also been outlined.

The ninth article is written by Mr. S. Mukhopadhyay, Former General Manager & Chief Information Security Officer, State Bank of India, on “Role of Technology in Banking in the next decade”. According to the author, technology will be the

enabler, the tool, the creator of differentiating edge over competition, and also the driver of business in the years to come.

The tenth article is authored by Mr. Rakesh Kaushik, Faculty, Indian Institute of Banking & Finance and Former Senior Vice – President, SBI Mutual Funds on “Ethics in Banking – The Way Forward”. He has emphasised on the significance of rightful, ethical behaviour in Banking Industry. As the cost of unethical conduct and its implication could be huge and would involve both financial & non-financial costs, improvement in corporate governance, review of compensation structure, regular review of code of conduct may go a long way in improving ethical behaviour. Standards of corporate governance also need to imbibe the highest possible culture of honesty, integrity and ethics.

The eleventh article is by Mr. S. K. Datta, Faculty Indian Institute of Banking and Finance and Former Chief General Manager, Bank of India on “Stepping into the next decade - Emerging Areas in International Banking”. Mr. Datta has discussed prospects of Blockchain technology in the International Banking arena. As technology has the potential of being a definite and disruptive game changer, technologies like Blockchain have to be reckoned seriously by banks.

Section II: Articles from Banking Experts (International)

The first article in this section is authored by Mr. Simon Thompson, Chief Executive, The Chartered Banker Institute on “Banking: Stepping into the next decade – Human Capital, Green Finance, Professionalism & Ethics”. Mr. Thompson has emphasised that banking even in the future will continue to depend more on human capital than financial or technological capital. Threat and reality of climate change (Green Finance) and achieving a successful transition to a low carbon world will be the greatest global challenge for the present and future generations. According to the author, if we are to restore trust in banking, professional standards will need to remain a key priority over the next decade. For ethics and professionalism to succeed, global cooperation will be a key driver. A mention has also been made regarding the establishment of the Global Banking Education Standards Board (GBESTB).

The second article in this section is penned by Dr. Jae Woo Moon, President, Korea Banking Institute on “Korea Banking: Stepping into the next decade”. The author, in his opening paragraph has outlined the special strategic relationship between Korea and India. The author has then discussed the roles and challenges of financial authorities and market participants to enhance the competitiveness of the financial industry through the development of the Korean fintech industry.

The third article in this section is contributed by Mr. Sanjiv Subba, Chief Executive Officer, National Banking Institute, Nepal on “Banking: Stepping into the next decade

– Engagement with customers the key”. According to the author, the key challenge would be the engagement with customers. Products will have to be so developed so as to meet the needs and wants of customers, at an affordable price and at a delivery location of their choice. At a broader level, macro-economic issues, regulatory compliance will continue to pose challenges to the banking industry. Globally, Banks will therefore have to gear themselves to meet these challenges.

The fourth article in this section is written by Mr. Lewis Panther, SA FIN, FINSIA, on “Banking: Stepping into the next decade – Professionalism holds the key”. He has discussed the importance of professionalism in the Banking sector and FINSIA’s approach towards fostering professionalism in the sector.

The fifth article in this section is written by Mr. Pijush Kanti Das, Senior Lecturer, Emirates Institute for Banking & Financial Studies on “Banking: Stepping into the next decade - Reinvention”. Mr. Das has discussed the importance of Fin –Tech, Artificial Intelligence Distributed Ledger Technology (DLT) and the Internet of Things (IoT). According to the author, while banking and financial services will grow exponentially, will the banks survive? This will depend on the way banks reinvent themselves. Reinvention is therefore the key.

I am sure you will find this issue interesting, engaging and stimulating.

I also invite banking experts, researchers and academicians to use this platform and share their knowledge by contributing articles for the upcoming issues of Bank Quest.

Dr. J. N. Misra



Section I
Articles from Banking Experts
(India)





Banking: Stepping into the next decade

 **Rajnish Kumar***

Banking in the new millennium has seen transformational changes and the next decade is all set to accelerate the trend. Globalization of banking which started a few decades back will accelerate to the new levels in the coming decade. Like all major sectors, the growth of the banking industry will be determined by the 5 important mega trends, transcending borders:

- Changing Demographics
- New age workforce
- Digitalization of services
- Unified and global marketplace; &
- Regulatory Landscape

As banks step into the new decade, they need to evolve – both in their product portfolio and business models. They will need to serve a new set of customers – the unbanked in the emerging and developing economies and the underserved in the developed worlds, and the hugely and digitally literate new age customers across the globe actively aided by path breaking technology. Further, the regulatory landscape emerging in the aftermath of 2008 financial crisis and constantly adjusting to the new age demands will decide the direction that Banks will take in the next five to ten years.

In the coming decade, banks will increasingly focus on profitability rather than revenues. On one hand, they will introduce new products more aligned to emerging client needs, on the other they will deconstruct the existing ones to make them

tailor made to customer needs. Partnership with other financial players, like fintech companies and outsourcing less profitable businesses, like the back-office functions that no longer provide competitive advantage will be common phenomena. The role of bank branches will shift from being delivery channels to being facilitators of financial services and banking no longer will be confined to the existing “brick and mortar” model.

Indian Banking – The Next Decade

In India, the growth story somehow has taken a slightly different trajectory. With a mix of population from the digital age and a huge unbanked population, the growth has been uneven, but rapid. The change has been more rapid during the last 10 years, triggered by the global factors like technological enhancements, changing customer needs, Regulatory interventions etc. Some of the key changes are:

- wide adoption of digital banking channels like online and mobile banking.
- faster and convenient payment options for both wholesale and retail payments.
- rapid increase in retail loans (Housing, Auto, Student, Credit cards etc.).
- increased competition from private sector banks, NBFCs and new players like FinTechs.
- increased regulations that called for improvement in risk management practices of the Banks.

In the light of above transformational changes that

*Chairman, State Bank of India.

occurred in such a short time frame, visualizing banking landscape 10 years from now, is not easy. However, one thing is certain, the banking 10 years hence, will definitely not be the same as what we see today.

Looking at current trends as well as the changes that occurred in the advanced countries, I believe the transformation would be seen both in the technology as well as the products and also the way they are delivered.

Changes for the Next Decade: Technological Changes

Massive Investments in Digital Transformation

As customers become more digital, more demanding and more tech-savvy, existing bank infrastructure will be unable to support new modes of engagement and digital expectations. Banks are expected to re-define their digital roadmap and overcome the silos created by various channels, such as mobile, data analytics, cloud etc. into a consolidated digital plan. They are supposed to ensure a consistent experience across all channels while directing customers to their channels of choice. Banks will have to implement customer-centric technology and operational platforms to support a co-ordinated channel strategy. Cultivating a customer-first culture throughout the banking industry will be a priority. This is going to be a playing field where the winner shall be decided based upon path breaking innovation, flexibility to adapt and successful implementation of ideas.

In response to increasing competitive pressures and people's rising expectations, financial institutions around the world will have to invest aggressively in digital transformation projects. Experiences with non-banking industries such as retail and communications will shape consumers' expectations from banks and credit unions.

Blockchain and artificial intelligence (AI) will continue to disrupt the financial services industry. AI development will focus on cognitive use in the sales,

marketing, investments, wealth management and compliance sectors of the financial services industry. This is a critical step in moving from advanced robotic technologies like machine learning and predictive analytics to real growth in cognitive computing.

With the entire banking industry shifting to digital channels, digital-only players will pose more and more challenges to the historical dominance of traditional banks and credit unions. According to Capgemini's Top 10 Technology Trends in Retail Banking, this new breed of banking providers has defied the conventional model with highly innovative products and services with mass appeal to today's digitally-savvy consumer. These challenger banks will fuel increased competition in the industry, forcing traditional financial institutions to improve their digital offerings and extend their reach to fend off these disruptors.

Moreover, adoption of the cloud in banking will increase, but with enhanced focus on security and regulatory compliance. We can expect to see enterprise-wide middle- and back-office applications start to move into the cloud. Banks and credit unions will feel the push to create more cloud-enabled business models in next couple of years which will drive consumer applications to the cloud even more.

In the future, banks will have to deliver intelligence by using data to learn more about customer behaviour and preferences and then use AI-powered processing to produce real-time insights that offer customers the services they want just as they need them. We're moving from the age of mobile banking to the age of digital voice-enabled banking, where (with consumer consent) banks can use AI-based, digital voice-enabled devices to execute processes, like information about balances, payments and loan processing—instantly, 24/7. To be as responsive as customers expect will mean pushing processing from the center to the edge of the network. While still mastering the journey to cloud, banks will also need to master the journey to the edge and think

about how analytics and processing can be done on phones, wearable devices and static contact points like ATMs to ensure that customers get the 'in the moment' experience that will truly delight them.

As all of this plays out, there will be successes and failures. But, by planning ahead and spending time peering into the future, banks can avoid the type of rapid reversal of fortunes suffered by Nokia, Blockbuster, Blackberry, MySpace and Kodak and have a true technology vision.

Changes in the Product and Delivery

Securitization of Retail Loans

Indian economy is growing at a healthy clip of 7% plus and is expected to grow at same or better rate for next few years. The burden of supporting growth will still be on the banking system, mostly PSBs, as other sources like capital markets, debt markets are still not deep enough. While, it is a fact that currently PSBs and some of the large private sector banks are grappling with asset quality issues, the recent resolution of a few large loans through Insolvency & Bankruptcy Code (IBC) framework, offers a glimmer of hope that soon banks will be out of this and start growing. While, so far, Government has been infusing additional capital in PSBs as needed, this cannot be taken for granted and hitting the path of positive earnings only, will be the long-term solution for PSBs.

This situation may force the Banks to increasingly look for securitization of loans or 'originate to sell'. In developed economies like US and UK, securitization of mortgage loans and other retail loans by pooling loans and issuing securities for various investors is quite common. This will enable the banks to earn fee income from servicing rights, without needing a significant amount of capital with an added benefit of retaining the customer relationship. However, this will require development of eco system like title insurance companies, which insure title to the property, agencies that guarantee the repayment of

loan and also investment bankers who pool the loans and securitize. Development of suitable accounting norms and uniform under-writing standards will be the pre-requisites.

Trading of Corporate Loans

There is an established model for trading in Shared National Credit loans in US, which are loans syndicated by banks for large corporates with strong cashflows (not project finance). The lead bank, based on the term sheet agreed with the borrower, prepares information memorandum, underwrites the loan and provides the required finance to the corporate subject to the corporate meeting certain due diligence standards. It then scouts for interesting banks for participation and assigns the loan in their favour, while choosing to keep the loan administration with itself for fee. These banks can then either retain the loan in their books or in turn sell them to other interested banks in secondary market. So, loans can be bought and sold for meeting the liquidity and managing the earnings.

In the light of large exposure norms going to be effective soon, Indian Banks under the auspices of RBI, can create suitable mechanism for trading of corporate loans on the above lines. This will help the large banks who sell the loans, in unlocking their capital, while offering a chance to smaller banks, who do not have the expertise to underwrite large loans, to participate in such loans for diversification of their portfolio. However, the pre-requisites would be development of

- regulations around minimum under-writing standards that are expected for the loans;
- standard loan documentation;
- Periodic scrutiny of the loans by RBI at one place i.e., lead bank and disseminating the information among the participating banks, i.e. common asset classification among the banks.

Partnership with FinTechs

FinTechs with their innovative technology based and convenient offerings, have the potential to nibble into the traditional customer base of banks whether in payments or small loans. While banks are heavily regulated, Regulations on FinTechs are almost non-existent. Banks can't afford to ignore their potential and face the difficult choice of either competing against them which will call for large investments in technology and skilled man power or collaborate with them for mutual benefit. Similarly, there is a huge threat from entities like FANG (Facebook, Amazon, Netflix and Google), which are increasingly blurring the line between pure technology companies and banks. So, eventually Bank account may be reduced to a mere holding unit for parking surplus funds for safety and liquidity needs, while other needs of the customer are serviced by different FinTechs in payments, wealth management, securities trading etc. Only a few large banks may afford to provide all the services required by the customer.

Data Privacy, Cyber Security Risks

One major challenge, which all the organizations will be facing, is securing their data and information assets. Data security has become one of the highest concerns for any financial institution today. With the increase in digitalization and ease of banking services, the instances of ransomware attacks and other cybercrimes are expected to increase exponentially. A secure Information Security & Cybersecurity Policy and a Framework to protect the organization's information asset is a priority for organizations. The increased concerns around data privacy and cyber security risks will warrant huge investments by banks in strengthening their IT systems, fine tuning the way data is collected, shared etc. Already, regulations are catching up in this area and punitive monetary penalties cannot be ruled out in case of breaches.

Human Capital

Banks will continue to be attractive places to work for the new generation of employees. However, meeting

the high standards of credit delivery, digital banking and otherwise also, will require a highly motivated, trained and professional workforce. To achieve this, it will be necessary to transform employee propositions. A proper "succession plan" will be needed, for mentoring and nurturing of future leaders. It won't be the pay-package anymore, but compelling HR policies that will help secure and retain talent.

New Avenues of Credit Growth: At present banks' exposure to innovation and R&D is through the VC route. Whatever direct exposure exists, is very small. However, increasingly the demand for capital to directly finance innovation will rise, most of which will be from the proprietors and partnerships firms. Banks also have to gear up quickly, lest they lose this space to other sources of funding like peer-to-peer funding or the crowd funding.

As the income generation gathers pace, retail banking will be one of the most important segment from where banks will generate substantial revenue. The opportunities for banks will come on both sides of the balance sheet. The factors that augur well for robust retail banking business include a sizable young population with 47% in unmarried category. The average house-hold size in India is 4.8 persons per house-hold. With nearly 95% marriage rates in India by age 35, the number of house-holds will rise dramatically from the current level of 24.8 crore.

This will fuel demand for financial products of various kinds and can be promoted using the aid of technology. On the liability side, banks will have to provide innovative life cycle based savings products, bank accounts for minors, girl child etc. On the advances side, banks will be lending for consumer durables, housing (given the thrust for low cost housing and smart cities), education loans etc.

Consolidation in Banking Industry

At the broad industry level, consolidation in banking industry is imminent. Large banks reap certain advantages in terms of efficiency, risk diversification

and capacity to finance large projects. The efficiency gains resulting from lower cost of services and higher quality of services are too attractive to ignore. It is also felt that a larger bank may be less risky than a smaller bank as the larger bank will have a more diversified portfolio resulting in less volatility in its earnings. Consequently, a large bank may command higher credit rating than a smaller bank.

Conclusion:

In a nut shell, I summarise below, the current and future states of future Indian banking

Current state	Future State
1. Asset Growth	➡ Value Creation
2. Transactions	➡ Relationships
3. Products	➡ Customers
4. Advertising	➡ Targeted Marketing
5. Brick and Mortar	➡ Targeted Delivery
6. Disaggregated Risk	➡ Integrated ERM
7. Human Resources	➡ Talent Management
8. People Intensive	➡ Digital Intensive

The trajectory of Indian banking in the next decade will be shaped by the forces of balance sheet restructuring to tide over the stress asset problem. In doing so,

the banks' lending will get directed to those sectors which have high priorities in terms of increasing the share of manufacturing in overall GDP to 23% and also generate substantial employment opportunity. The importance of corporate lending will reduce not as a sector, but, in terms of the share in overall bank lending books. Financial dis-intermediation due to RBI guidelines and IBC will also alter the composition of banks' balance sheet.

The role of technology is going to increase undoubtedly. The Report of Artificial Intelligence Task Force has identified Fintech and retail and customer relationship as important areas where India can use the technology for meeting its development goals. At the same time laws on privacy, ownership of digital data, and its storage and cyber security will also get priority and attain desired clarity.

Lastly, the famous quote that says, 'banking is important, banks are not'; it is not clear whether global banking and banking in India will reach this state in the next decade. Interestingly, the role of brick and mortar banks has not diminished and very few brick and mortar banks have become totally virtual.





 **Rajkiran Rai G.***

Banking as we see on the turn of decade

Next year, India will mark half-a-century of Bank Nationalization, one of the most defining events of Indian banking. It marked a seismic shift in not just ownership of banking assets, but also the very purpose of banking in India. It heralded an era of democratizing finance by expanding reach across length and breadth of country. India witnessed an eclectic mix of policy ventures for last mile delivery of banking & financial services. However, the decades of 1990s and 2000s witnessed a resumption of faith in market forces for achieving the policy objectives. Accordingly, there was a manifest shift in operating procedures, with regulatory thrust changing from 'allocation' of credit to 'enabling' the flow of credit to productive sectors of economy. Policy increasingly turned ownership neutral as the regulator, Reserve Bank of India, defined similar goalpost of priority lending for both public sector and private sector banks. The decade of 2010s witnessed convergence of public policy and firm economics as banks pursued financial inclusion fervently.

The Indian financial ecosystem today is rich with variety, both in terms of scale and scope. It has grown varied, yet more inclusive. It has become tech-driven, yet remains human centric. It has become younger and gender diverse. Industry has turned competitive with entry of new and distinct kind of players. It has transformed from being the privilege of urban few to become a universal right of all citizens in our country. Customer service standards have also risen across the board with efforts to deepen access and awareness of banking & finance. Access

to financing has never been so easier; people now bank at a place, time and medium of their choosing. It's reflective of the progress made in banking penetration, advances in information technology, evolution of credit information companies, analytics, and deepening digital footprints of consumers. It has made risk underwriting holistic yet economical for lenders.

However, when we speak of banking affairs today, the dominant narrative is of elevated stressed assets, provisioning cover and weak capital adequacy. There is increased divergence in efficiency ratios, viz. Return on Assets, Return on Equity, Net Interest Margin and Cost to Income Ratio, etc., at the banks in public sector and private sector. There is popular anger about rising instances of fraud at banks. Likewise, governance standards in making large ticket loans have also come under scrutiny. We hear about public sector banks (PSB) being too many, and arguments for having fewer and stronger banks. With more than half of PSBs under regulatory care (Prompt Corrective Action), indeed, there are questions galore about role and relevance of state ownership.

Indian Banking at the Onset of Decade 2010s

The narrative today is a stark contrast to the state of affairs at the turn of decade 2000s. Indian banks were praised effusively for prudence. The PSBs, in particular, emerged as a force stabilizer, providing cheaper liquidity when it was scarce and costly, as also increasing the credit flow to productive sectors of economy. With a little nudge from the Government,

*Managing Director & CEO, Union Bank of India.

Infrastructure sector received solid backing from the PSBs. Infrastructure share in loan outstanding of Scheduled Commercial Banks thus nearly doubled within a decade. Economic growth rebounded and India started flirting with the idea of double digits growth. The PSBs were hailed as vehicle of prosperity and Nation builders in immediate aftermath of Global Financial Crisis 2008-09.

This happy state of affairs didn't last long however, as post crisis exuberance came back to haunt Corporate-focused banks. With inflation zooming in double digits, Reserve Bank turned into inflation fighting mode, raising policy rates 13 times in succession. Externally, there was brewing nervousness in financial markets over Euro zone sovereign debt crisis and its implications for common currency union. India's fragile macro-fundamentals with inflation high and twin deficits at unsustainable level meant its currency came under speculative attack in early 2010s. Corporates, who had borrowed heavily, both at home and overseas, were in a difficult tangle as their incomes were falling while interest cost were rising. Exchange rate gyrations only aggravated their pain.

This deterioration in debt servicing ability of corporates started reflecting in asset quality of banks. In the early years, bankers and borrowers both seemed sanguine that economic rebound will cure much of the stress, and there's nothing structural to worry about. Gradually, however, it became clear that India was caught in debt crisis, aptly named as 'twin balance-sheet syndrome', which, left to itself, will take years to deleverage. It would mean prolonged growth slowdown with consequences in terms of lost opportunities for a young and aspirational India.

How we all came here?

Bad debt, it was found, was understated by banks due to their misplaced hope in economic recovery as also systemic constraints in dealing with powerful deviants. Consequently, the stressed assets continued to pile on bank balance-sheets, disguised as restructured assets. Banks were caught in a vicious

circle of low capital, low profitability, and therefore, limited ability to provide if they were to recognize stressed assets as NPAs. Deferment seemed to be wise option than recognition. However, doing so was becoming increasingly costly with realization prospects dimming further. Economy was feeling the effects of leveraged corporates, slowing credit, and thus, private investments turned stagnant. Banking sector stress was gradually acquiring a systemic scale with several private sector banks, which were also corporate focused, showing stress build-up in their books.

With change in political helmsmanship, meanwhile, there came a change in approach towards dealing with the problem. There have been three manifest shifts under the new regime. First is about building legal capacity to deal with failures. It was important to solve the crisis of exits, by enabling closure of firms which had lost the economic race. Failure to do so meant capital remained locked in unproductive assets with creditors haplessly seeing their assets deteriorate and labour caught in non-remunerative jobs. The erstwhile system seemed to work well for the connected and deep pocketed promoters at the expenses of creditors and Nation at large.

It needed a holistic approach to bankruptcy to complete the market mechanism which has gained prominence in public policy since early 1990s. Insolvency & Bankruptcy Code (IBC) with its attendant infrastructure in National Company Law Tribunals (NCLTs), Insolvency Resolution Professionals (IRPs), etc., are the essential building blocks of creating a sound credit culture.

Second is about building capacity of banks to absorb losses, in eventuality, and build provisions in the interim, to expedite resolutions. As Basel 3 transitions were also underway, earnings driven capability building was inadequate. There was need for external infusion of capital, preferably by distributed ownership through markets, if not, from promoters. Markets and investors however were

suspicious of extent of stress problem in bank books, and accordingly they bid down banks' valuations to historical lows. To make any meaningful head-start in the fight against NPAs, Government infusing capital in the PSBs was an imperative. Government, however, has to balance the competing claims of fiscal rectitude vis-à-vis capital imperative of banks it owns. Besides, it would have been waste of opportunity if capitalization was not packaged with reforms in the very working of banks, so that there is no recurrence of current issues. Accordingly, there came Project Indradhanush, followed by the EASE Reforms, which are aimed at addressing both capacity and capability issues at the PSBs.

With legal ecosystem and player capacity rebuilt, the Third shift came in terms of the changed regulatory attitude towards banks. Government empowered the Reserve Bank to issue directives to banks on resolution of stressed assets. Accordingly, the regulator tightened noose around Top 40 defaulters, which cumulatively accounted for nearly half of the stressed assets of banking industry, directing banks to initiate resolution proceedings under newly enacted IBC. The IBC has well defined mechanism of time-bound resolution, failing which, enterprise would be forced towards liquidation. It reset the bank-borrower power symmetry and brought deviant borrowers back on negotiating tables. More importantly, it ushered a culture of responsible lending by articulating costs to both parties if they fail to honor their terms while banking. Encouraged by the response, the Reserve Bank finally wound –up all its regulatory forbearance and unveiled a sector agnostic asset qualification and resolution framework, which promises to usher a sound credit culture, going forward.

Where do we go from here?

The economic transformation of India, supported by demographics, urbanization and industrialization will provide holistic opportunities for the banking sector – be it retail, corporate or rural banking. India

is a fast growing economy. Newcomers can grow without making it a zero-sum game for incumbents. Business opportunities notwithstanding, there will be considerable heterogeneity in terms of relative contribution to bottom-line. A focused pursuit of business will differentiate winners from laggards.

With new entrants like payments banks and small finance banks enhancing competition for low cost CASA resources, loans will increasingly become bigger driver for bank profitability. McKinsey estimates that loan share in revenue pool of banking sector could rise by 11 percentage points to 58% by 2022 from 47% presently while resources share could come down to 22% by 2022 from 30% presently. It is estimated that Retail and Small & Medium Enterprises (SME) together will be largest contributor in revenue pool of Indian banks by year 2022. Within corporate, mid-sized corporate will bring significant revenue opportunities for banks which have better bargaining power and more cross-sell opportunities. Indian banks have to seize this dynamic while outlining priorities from next three to five years' perspective.

For a banker gazing the crystal ball today, s/he would like to know answer of three questions: a) who all are/will be my customers at the turn of decade b) what do they need/wish for, and c) How do I bring value to him/her.

Prospecting customers, there are three categories to look at: a) digitally ignorant/illiterate, which prefer the conventional way of doing things, b) digitally literate, which do surfing on web for entertainment and social connectivity but are conservative when it comes to transacting money, and c) digital savvy, which leverage connectivity for everything from entertainment to social sharing to shopping, etc. India is a youthful country with average age about 28 years. About half of the population falls in the age group below 25 years. They make the future pool of customers for banking industry. They are/would be digital savvy. They like to experience banking

digitally to the extent of never visiting a brick & mortar branch ever. Of the remaining half, however, the need and expectations of banking will be varied.

Banks have broadened the scope of delivery channels to ATMs, internet banking, mobile banking and call centre apart from traditional interfaces such as branches. They have rolled out technology to the advantage of the customers. With mobile being already ubiquitous, internet usage will deepen faster and so will be usage of banking services. Digital channels already account for greater share of customer induced transactions than brick & mortar branches.

Going forward, customers looking for bank product would likely visit an online market platform, and choose the best offering from number of banks listed there than visiting a particular bank and choose among number of products offered there. We are already witnessing this phenomenon in retail products like home loan, car loan, personal loan, etc. Similar thing could happen with SME products. It will further squeeze down pricing and asset driven margins of banks. For winner banks, competitive advantage is more likely to come through expenditure optimization than product pricing. Banks, therefore, need to re-think their operating expenditure mix; rationalize investment in favor of digital interfaces as against brick-mortar structure as hitherto.

Next phase is about enhancing digitization and leveraging data for business efficiencies. Banks need scaling up portfolio of digital offerings and workflow management, both credit and operational aspects. They should also look at co-opting fin-techs in making a holistic offering for customers. It should help them withstand the competitive pressure from growing tribe of unconventional players.

Banks also need to re-think their workforce strategy by hiring specialist manpower directly and ushering a performance centric culture with right mix of incentives & rewards. The conventional approach of hiring generalists and grooming internally for

variety of purposes slows down banks' adaptability and responsiveness to fast changing times. Encouragingly, there is good supply of specialized resources turning out of academic campuses, which banks can tap for their purposes.

Indian banks have been a messenger of hope for larger masses, democratizing finance and empowering poor & underprivileged to shape their destiny. Now there is at least one member in every Indian household, who is having a bank account. We have a lot of ground to cover in deepening the financial habits and servicing of newly bankable class, however. Besides, there is another aspect of inclusiveness in financing of millions of micro & small enterprises. Promoting entrepreneurship at the bottom of pyramid through timely and adequate finance could be biggest enabler in jobs creation. It's still a work in progress.

With demonetization and goods & services tax, the process of formalization has expedited. We are becoming a data-rich society. It is time we build on to these gains. Banks have massive customer base; this wealth of information on customers could be harnessed through data analytics. For example, our banks may shift from conventional balance-sheet / cash-flows analysis based lending framework to transaction based appraisal and now to alternative information footprints with data pooled from ones' social media imprints, mobility data, utility service behaviors, etc. Likewise, by leveraging technology, banks may bring down cost of credit, making more enterprises economically viable. Banking & financial industry could be more responsive in grievance redressal, building mutually beneficial relations with customers.

Union Bank: Becoming a preferred bank for New India

Union Bank has been navigating a challenging business milieu, while building strengths in our chosen areas. The Bank has the distinction of rising five notches in ranking of nationalized banks by

assets to become fifth largest nationalized bank as against 10th ranked couple of decades ago. The Bank achieved another landmark last year by crossing ₹ 7 lakh crore business mix; our growth has been capital light as reflected from 1.7% decline in risk weighted assets as against 4% growth in advances. It reflects that we are also growing qualitatively better. We aspire to break into Top 3, in domestic business, by year 2020; however, our primary goal is to grow profitably by enhancing efficiency of current business as well as extending presence in new revenue lines. Accordingly, last year, the Bank made decisive shift in strengthening the balance-sheet, increased the provisioning cover significantly while being compliant of capital adequacy norms.

Taking our horizon little farther; we are building our people's capabilities, in terms of knowledge, skills and technological support to serve customers with responsibility. There are interventions in making our processes efficient and people accountable. Take for example, credit underwriting. If it is done diligently, the chances of default are low. However, in our system, processing used to be dispersed across branches, and proposals escalate through layers like region/zones/corporate offices. It is a time-consuming exercise, with quality subject to capabilities across different layers. Branches, in particular, have little time to attend to details, with diligence. Our most day-time is consumed in managing routine transactions. As a result, new business as well as asset quality often gets compromised. This needed to be changed through centralisation, to ensure speed of service, and quality through specialisation.

The Bank has centralised 50% of credit processing already, which cuts through size and sectoral exposure be it retail, agriculture, MSME or corporate business. We undertook special efforts in strengthening capacity of current processing centres, deploying skilled manpower and equipping with right kind of tech support, while also setting-up new centres across country. Agri processing centre, namely

Union Sammridhi Kendras is a pioneering initiative for improving quality of underwriting in agriculture sector. Taken together, our aim is to scale-up credit centralization to 80% by next year.

Centralisation works in both ways, by making branches free for monitoring and mobilizing new business also improve quality of processing & enhanced due diligence. For effective monitoring & collections, the Bank has developed in-house model for early warning signals (EWS) to detect stress even earlier than accounts turn due. The EWS builds on 28 parameters, both internal and external, and gives us head-start in managing asset quality. The EWS is mapped with recovery teams constituted at all Regional Offices, which act upon stress signal, devising and implementing the corrective actions.

As an organization, we are committed to providing holistic environment for growth and well-being of our employees. The Bank is investing in mentoring youngsters with right kind of soft skills and customer service attitude. Union Bank has accordingly re-imagined its approach to institutional learning. The learning management system called Moodle (Modular Object Oriented Dynamic Learning Environment) leverages digital infrastructure to provide customized and progressive learning solutions for all employees. Over 100 plus e-learning modules have been developed. Employees have to pursue the relevant modules to keep abreast of developments in their field as also equip themselves for future roles. The learning progress is being mapped to their annual performance appraisal. It would complement the conventional campus based learning to make more informed and skilled workforce.

The Bank has been vibrant with initiatives in Digital Banking. Digital channels account for 76% of transactions, one of the highest in Indian banking. Every month, the Bank is coming with new products with unique features. Our focus is to speedily scale-up usage of the digital channels, like U-Mobile, Internet Banking, PoS and ATMs, etc. as these are big cost-

savers for the Bank and add convenience to customers resulting in higher satisfaction level. Internally, the Bank is leveraging digital for business analytics, performance monitoring and stress management. Going forward, the Bank aims to create a Digital Bank of its own, independent of the conventional bank, catering to the needs & expectations of digital savvy customers, while the parent organization continues servicing all types of clientless, especially digital illiterates and digitally literate who prefer to use conventional ways of banking.

To conclude,

There are positive vibes gathering force across the country as we approach the turn of the decade.

Business performance has started gaining momentum. Investment activity is joining force with consumption which, in a favorable external milieu, could propel India on double digits growth trajectory in coming decade. It's important that we have the right mechanisms and structure in place so that we do not repeat the mistakes made earlier. We cannot be too conservative given challenges as well as too aggressive in light of opportunities. Union Bank is building right structures to benefit from India story. Also, the Bank is entering its centenary year this year and we are confident of becoming a preferred bank for New India.



¹Mastering the New Realities of India's Banking Sector; June, 2017; McKinsey.



 **Anil Kishora***

Risk Management in Banking in the next decade

Barings, Lehman, Northern Rock and Washington Mutual; what's the common thread underpinning these names? All have ceased to be part of today's financial landscape. Risks, albeit of different genres, hit these banks hard. Operational risk brought Barings down. Credit and Market related risks liquidated Lehman. Liquidity challenges rocked Northern Rock. And Washington Mutual fell flat when home prices collapsed; subprime mortgages turned out to be too fragile.

Taking Deposits to Lend Inherently Risky

The business of banking is inherently risky. In a classical sense, banks' basic business is to take deposits to lend. Depositors stay entitled to their money regardless of whether the money lent out comes back to the bank or not. Repayments, let alone interest on the monies lent, almost always remain somewhat uncertain. Businesses may and do fail. Individuals lose their jobs and earning streams. Industries get disrupted. Environmental or even political issues force closure of functional units. Economies experience downturns, sinking many boats. As prices drop, valuations tumble. Credit mitigation measures turn ineffective. No surprises why banking remains risky not only under stressed economic conditions, but even in the best of times.

The odds stack up high when banks fund ventures chasing a bandwagon idea or finance business models with fault lines that are not well understood. PPAs in the power sector are a case in point.

Choices made by Counterparties too impact risk

Banks usually carry out comprehensive pre-lending due diligence. Likewise, entrepreneurs too vet their business models before committing funds. And yet, on the way, ambitious growth, forays into new areas and other bets at times lead the otherwise thriving enterprises astray.

An occasional Enron or a Satyam nearer home also underline the risk that credit underwriters may unknowingly assume, when they lend to apparently successful, growth oriented companies that decide to unhinge themselves off the usual conduct standards.

Operational Risk Flare-ups

We are all familiar with frauds, near-misses and other operational hazards that banks face. External fraudsters are always a threat. A few black sheep here and there within the system are also a given. A certain amount of such risk is therefore inevitable. But, at times, a single soul could just bet the house; lock, stock and barrel. Remember Nick Leeson at Barings, Jerome Kerviel at Societe Generale, Kweku Adoboli at UBS and Bruno Iksil at JP Morgan – all marquee names that, one thought, were well equipped to handle the operational risks, but ended up taking huge hits.

RCSA & Best Practices

Risk literature teaches us to carry out RCSA (Risk & Control Self Assessment) exercises to spot cracks in controls to prevent mishaps. We are also encouraged to learn and implement best practices from the industry.

*Deputy Managing Director and Chief Risk Officer, State Bank of India (SBI).

The author wishes to acknowledge the inputs from his colleagues, Dr. M. S. Sastry, Deputy Managing Director, SBI and Shri. S. Naryani, Chief General Manager, SBI in writing this article.

Views expressed in the article are the author's own.

And in any case, it's better to learn from others' mis-steps. Let's now take a look at the timelines of these major risk incidents and figure out if risk management practices changed for the better. Barings debacle happened in 1995. JP Morgan (JPM) got hit by what's popularly known as London Whale in 2012. Nearly two decades apart, the banking industry majors' capacity to handle risk perhaps remained static as incidents continued to recur and losses continued to surge. A loss of USD 1.3 billion reportedly sunk Barings. London Whale incident is said to have dented JPM to the extent of USD 6.2 billion. Reputation risk consequences were of course an additional downside.

GFC showcases what Risk build-up can lead to

Leaving aside the various incidents that have periodically popped up from nowhere, it would probably be in order to say that the 2008 Global Financial Crisis (GFC) surfaced all sorts of risk and unravelled a stark reality. Risk Management proved to be totally inadequate. In fact, one could argue that in 2008, Risk function either played along or failed big time in influencing business verticals to follow the right path, despite all the complex models and contribution of smart theorists. Tanking economies made it real scary.

Wave of Regulatory Reforms

GFC triggered a wave of regulatory reforms and risk acquired an altogether new dimension. Perhaps, realising that banks, in their pursuit of revenues and ROI, may not listen to their own Risk function, regulators started mandating independence and access to Boards for Risk. Dual hatting got thrown out of the window. Risk-based supervision became the norm. Role demarcations acquired clarity. Three lines of defence approach gradually took centre stage. Business or Line I not only turned more compliant (did hefty penalties help?), but also started listening better to Risk function (Line II). Internal Audit, called Line III, turned rigorous, at times hawkish in testing controls and flagging deviations. The era of lofty policies and lax practices probably ended for good.

Basel bolsters Capital Framework

In tandem, the Basel Committee on Banking Supervision (BCBS), backed by G-20 decision-makers, substantially enhanced the Capital Framework. A variety of approaches and models got developed to determine the capital required by banks vis-à-vis credit, market, operational and other risks. Internal Capital Adequacy Assessment Process or ICAAP in short became the fulcrum around which a bank's business had to be run. Pillar 2 scrutiny acquired unprecedented heft. Pillar 3 disclosures gained currency amongst investors and analysts.

Liquidity steps up the risk hierarchy

Alongside capital, liquidity emerged as a major issue. Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) got included in the risk tracking menu. Internal Liquidity Adequacy Assessment Process or ILAAP kicked in to account for liquidity risk.

What if Risk management fails to protect the bank?

Risk function is expected to provide the alerts and pointers when thresholds are breached and risk levels get elevated. The idea is timely course correction. However, a bank could still fail for want of responsive action or a variety of other reasons, necessitating resolutions. Concern for orderly resolution of banks in case of failures generated concept of living wills. Option of bail-ins as against bail-out by taxpayers' money also got considered and practised at least in one case in Cyprus.

Bouncing back

Post-GFC, two narratives are clearly discernible. The American Banks which recognised losses quickly and benefitted from TARP have bounced back faster and are firmly back in business. Banks in some other jurisdictions have not been as lucky, maybe partly due to differences in the underlying economic conditions. The other storyline relates to the complex web of regulations and requirements that has developed

for adherence by banks. Complexity is writ large all across. CET1, AT1, MTC, CCB, CCCB, BIA, TSA, AMA, IRB-F and many other acronyms rule the world of banking today. “Bankers’ plight versus consultants’ delight” could well be the headline that summarises risk management scenario in many banks.

No doubt, thanks to the combined efforts and inputs of all stakeholders, Risk Management has evolved and evolved rapidly into a full fledged discipline in its own right, but are we there yet? The honest answer is ‘No’. Risk function therefore is set to develop and evolve as years go by.

Looking into the crystal ball

In view of the prevailing scenario in banking, what’s next is a natural question to ask. How does the ecosystem steer banks to safety and stability? One approach could be to convert banks into utilities, but others could argue that a ship may be safe in harbour, but that’s not what ships are built for. Risk function must find ways to support the voyage better. Crystal balling into the next decade, one can list out a range of issues, approaches and ideas that would occupy Risk professionals. Here are the Top Twelve strands that might define the risk management landscape in banking:

- i. The buy-in for what Risk function does would considerably improve. The ‘tone at the top’ is already set by the leading CEO’s and the next decade would see it percolate down to the last mile. Going forward, Risk professionals would play a broader leadership role in the overall scheme of governance and, more importantly, in building the right culture.
- ii. Hand-in-hand the regulatory overreach could also recede as BCBS tackles complexity and opts for effectiveness via simplicity. Basel has kind of already started the re-alignment, if not roll back. The Advanced Measurement Approaches (AMA) for operational risk stand withdrawn. All the three variants of the Standardised Approaches have been replaced by a newly devised Standardised Approach. It’s akin to Basic Indicator Approach (BIA) in simplicity and yet augmented adequately for risk sensitivity via a concept called Internal Loss Multiplier (ILM). Credit Risk Framework too is simplified. The Advanced-Internal Rating Based (A-IRB) approach is practically out. Introduction of Input and Output floor would make the Foundation-IRB (F-IRB) approach quite akin to the standardised approach (SA) in terms of RWA levels. The new approach recognises the pitfalls of reliance on internal modelling alone. Old fashioned due diligence for credit risk is sure to supplement reliance on external ratings.
- iii. Markets would probably play a greater role in funding enterprises, yet credit risk is unlikely to be dethroned from being the dominant risk that banks face. Credit would remain a capital guzzler.
- iv. Risk function is likely to be spending more time managing risks and less generating data and modelling risk. Analysis and judgement will prevail over measurement as data collection will increasingly become routine. Data analytics would provide sharper insights to Risk management. Banks that develop skills in data / risk analytics would be better off.
- v. The previous decade has augmented capital, reduced leverage, enhanced liquidity and improved identification, measurement and disclosure of risks. Heavy lifting has happened in creating historical databases, writing policies, drafting processes, building models, back-testing, stress testing and putting in place the

various components of the risk framework. The next decade has therefore, got the space to move away from routine 'production' to value-added goals and containment of emerging risks.

- vi. We are set to grapple with elevated levels of risk in terms of cyber challenges, technology, data leakage, talent availability and, possibly, a few more risks that are still in formative stages. Digital threats could be a recurrent challenge. So called 'black swans' might also manifest more frequently as an outcome of butterfly effects, digital ecosystem and yet unknown risks, raising demanding asks in terms of long term and yet agile risk management practices. Disaster Recovery (DR) and Business Continuity Plans (BCP) may acquire an altogether new dimension. Developments in the currency arena, including potential currency wars and crypto currencies gaining currency under Central Bank aegis, could lead to exciting times in market risk management practices as well. With data turning into a hot commodity, privacy concerns will call for effective safeguards against any leakage. Data protection, a la General Data Protection Regulation (GDPR) in Europe, is likely to emerge as a major theme soon. It is time risk function started studying and preparing for these risks.
- vii. Reputation Risk in the context of the always-on information culture would likely acquire zero tolerance in its true sense. Risk-Reward equations might take a back seat when it comes to preventing reputation incidents. Next decade is sure to witness sharper action on this front. Banks would do well to remind their staff that the Internet never forgets. Right conduct is critical, each time and every time.
- viii. Risk function would move beyond measurement and quantification of capital charge to explore, suggest and generate buy-ins for improvements in risk management by Line I. Risk is best managed where it originates. Risk function would therefore, need to invest in creating a sharper risk awareness among business verticals. As a Line II function, risk is well positioned to create a feedback loop that regularly pipes actionable insights and foresights into risk originating business units for follow-on action.
- ix. Line III, i.e. Internal Audit currently generates a huge amount of data on deviations and control breaches that are routinely addressed by Line I and 'closed' as 'complied with'. These data points are likely to be the 'fodder' for risk to digest and come up with patterns, trends and insights that business verticals need to make processes efficient, underwrite credit better, identify and contain operational risk hotspots or manage talent risk. So look for sharper synergy between risk and audit in data flows in the next decade.
- x. Another emerging synergy – the linkage between Risk and Finance would strengthen. These functions would be talking more often. With ICAAP evolving into a strategy document, it's only natural that finance consults and draws inputs from risk to drive the target ROA, RAROC and RORWA. In a broader context, the connect between Line 1 and Line 2 is also likely to improve as the perception about Line 2 as a spoilsport would change. Risk will play a major coordinating and value enhancing role.
- xi. Fin Techs, Reg Techs, AI, Big Data, Chat Bots, Robotic Process Automation (RPA) and other technologies would likely help drive Risk Management costs down as also enhance risk management at scale, but banks would need to stay alert to the risks of continuing with legacy processes, harbouring surplus resources due to replication of processes across the three Lines of Business, and even drowning in data lakes. It would be critical to maintain prudence and judgement via expert overlays who are skilled at

mixing small data and big data the right way to get the right foresights. And that brings us to the biggest risk staring at us; talent risk.

- xii. The best defence against risk is a knowledgeable and skilled manpower that understands how to follow processes, learn fast and exercise prudence. Risk may need to work with HR to create the content that's compact and impactful. Mantra got to be to drill the 'Need to Know' stuff into muscle memory, while digital library supports 'Nice to Know' bits. Risk function would also spend time learning 'communication' or collaborating with Internal Communication experts to spread the risk awareness across the organisation. Risk professionals will work to ensure risk sensitivity gets into the DNA of the bank's culture. That's what will drive the ROI in a sustainable way over the long term.

Conclusion

To conclude, risk management in the next decade is likely to build on the processes, policies and frame-works already in place to step up to substantive management of risks - existing, emerging and new, as against data dicing and tick-box process compliance. Collaboration and communication spanning the three lines of defence plus the platform functions

would in all probability drive the building of the right operating culture and embed risk into the way a bank operates. Appetite for Reputation Risk is likely to tend to zero. Talent Risk would remain a big issue. Credit would continue to guzzle capital, but occasional high impact operational risk events may continue to surface. Technology usage in managing risk might help streamline routine processes, but might also lead to data deluge that leads to incorrect inferences, making us miss the forest for the trees. Data would remain susceptible to leakage too.

Basel reforms would most likely impose lesser complexity and better illumination. We can also expect convergence between Risk and Business functions in approaching opportunities. Risk focus is likely to invariably underpin search for revenues. Business will look for Risk-adjusted Return on Capital (RAROC) in all it does.

Risk function will be equally conscious of the ROI demands of business and, hopefully, lead the way to a scenario when all employees, to borrow a phrase from Kenny Rogers, would 'know when to walk away, and know when to run.' That's the time when Risk Management would be a source of competitive advantage.





Banking Technology in the next decade from SMAC TO FABS

 **Dr. A. S. Ramasastry***

1. Introduction

In the past decade, disruptive technologies have shrunk the world leading to location agnostic production and consumption of services. This has transformed the banking industry to a great extent, altering the way the business is conducted.

Banks have created digital infrastructure to offer various solutions like mobile banking, e-wallets and virtual cards, for successfully fulfilling the changing needs of the modern-day customer. Wholesale banking is also catching on this trend of designing and delivering the right mix of products and services to corporate customers, harnessing digital technologies.

Banks have adopted the SMAC technologies – Social, Mobile, Analytics and Cloud – very innovatively.

Social media has become integral in the daily routine of a large number of human beings across the globe. Banks have used the reach of social media to spread awareness of their products to potential customers. Social media has also helped to assess the public sentiment about the functioning of a bank. Some banks have also been offering a few products through social medial platforms.

Mobile payments have transformed financial services, with customers now expecting to make transfers and transact through their phones as first choice. Multiple stakeholders are coming out with various innovative products to make mobile banking useful and exciting.

Analytics, along with big data, has become part of

banking lingo. Banks are making all efforts to put in place analytics infrastructure – both in terms of technology and human resources. The banks which could achieve a fair degree success in implementation of analytics based solutions are reaping benefits in terms of better CRM, risk profiling and fraud analytics.

Cloud technology has matured and banks have been finding suitable adoption models in terms of private, public and hybrid clouds for varying requirements. Some of the banks, including urban cooperative banks (UCBs) have been using the Indian Banks Community Cloud (IBCC) a unique community cloud experiment initiated by IDRBT.

While the SMAC technology developments will continue to be exploited by banks, there are several new technologies emerging in the realm of quantum computing, high speed networks, biometrics, machine learning, robotics and smart wearables.

Among them, the four key technologies we identified to be having a great impact on banking are FABS – Five G, Artificial Intelligence, Blockchain and Smart things. We feel that in the next decade, Banking will witness a continued trend of reinventing itself, riding on FABS in addition to SMAC.

2. Five G

The next generation telecom network (5G), an evolution of broadband technology having disruptive capabilities, is expected to be in place by 2020. The Tokyo Olympics in 2020 are supposed to present the very first showcase of the full range of what 5G technology can offer [1]. The 5th generation wireless

*Director, Institute for Development and Research in Banking Technology (IDRBT).

The views expressed in this article are of the author's and are not necessarily that of the organization he represents. The author acknowledges the inputs from Shri Parthasarathi, Shri Ramnath and Dr. Narendra in the preparation of the article.

system will have dense, virtualized and optimized network delivering up to 10 Gbps data rate with 1 ms latency, with a possibility of connecting 100x devices per unit area in the spectrum range of 3-30 GHz. The technology is expected to have a life term of 20+ years and make the whole world as Wi-Fi zone. The massive and burgeoning IoT ecosystem may well be served by 5G by providing communication services to billions of connected devices at an appropriate speed, latency and cost. As per 5G Infrastructure Association's 5G vision document [2], by its unique network and service capabilities, it will ensure user experience continuity in challenging situations such as high mobility (e.g. in trains), very dense or sparsely populated areas, and journeys covered by heterogeneous technologies. It further states that "5G will be an economy booster by fostering new ways to organize the business sector of service providers, as well as fostering new business models supported by advanced ICT. In addition, 5G should pave the way for a larger number of partnerships and Business to Business (B2B) business models through APIs deployed at different levels (assets, connectivity, enablers)".

Other features of 5G include:

- 99.999% availability
- 100% coverage
- 90% reduction in network energy usage
- Up to 10-year battery life for low power IoT devices

The ability to send and receive large data at a high speed opens new opportunities. As mentioned in the wire article, self-driving cars have to communicate with each other, road signs, traffic signals, guardrails and other elements human drivers simply see. The low latency and high speed of 5G can cater to such needs.

Figure 1 presents the developments in IMT in the coming future citing use scenarios in critical applications and automation.

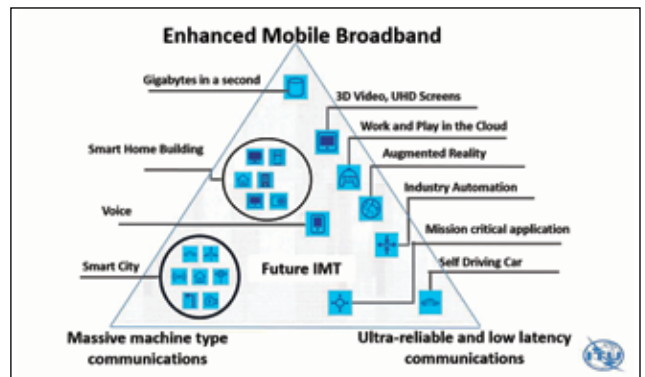


Figure 1. Usage scenarios of IMT for 2020 and beyond (Source: ITU Report [3])

Because of these technical features, some of the possible benefits of 5G are:

- Pervasive network availability facilitates people to use their communication devices concurrently anywhere anytime.
- High peak bit rate and larger data volume per unit area.
- Higher reliability of the communications.
- Cognitive radio technology will facilitate different versions of radio technologies to share the same spectrum efficiently.
- Better connectivity irrespective of the geographic region.
- Provide uniform, uninterrupted, and consistent connectivity across the world.

2.1 Banking Applications

Based on the technical features and the related technical benefits, we see banking and financial services in India and across the world benefitting from 5G. Some of the possible use cases are:

- Low latency and ultra-reliability lead to revisit the need of near shore DCs.
- Better control of fraud detection and other monitoring activities.

- ATM monitoring can help in further reducing the transaction failure rates.
- Financial inclusion.
- Biometric based authentication.
- Better connectivity to remote banks / branches and deeper coverage for rural banking.
- Enhanced customer experience through Omni-channel implementation.

Adoption of 5G technologies can benefit the customers in several ways some of which are:

- AR and VR based banking, reducing to a greater extent the need for visiting branches for KYC, issuing clarifications and providing personalized attention.
- IoT related use cases including usage of drones for monitoring fields, capturing images of accident sites for genuine insurance claim settlement etc.
- Artificial intelligence and Robo-advisors in the branches.
- Mobile trading

2.2 Concerns

Any disruptive technology is expected to have some risks. As 5G usage is yet to be in place, some of the issues gathered from the literature are:

- The speed, this technology is claiming seems difficult to achieve in the near future because of the incompetent technological support in most parts of the world.
- Many of the old devices would not be compatible to 5G, hence, all of them need to be replaced with new ones, which may prove very expensive.
- 5G would have a huge task to offer services to heterogeneous networks, technologies, and devices operating in different geographic regions. The challenge is of standardization to provide dynamic, universal, user-centric, and data-rich

wireless services to fulfil the high expectation of people.

- These services largely depend upon the availability of radio spectrum, through which signals are transmitted. Though 5G technology has strong computational power to process the huge volume of data coming from different and distinct sources, it needs larger infrastructure support.
- 5G needs to ensure the protection of personal data and will have to define the uncertainties related to security threats including trust, privacy, cybersecurity, which are growing across the globe.

3. Artificial Intelligence

AI though several decades old, is marching fast with many innovations in the recent past. Some of the applications of AI include understanding natural language, speech recognition and translation, vision systems, intelligent robots, expert systems, chatbots, game playing etc.

Organisations and countries are now vying for control and are investing money, time, and energy to advance in AI. A recent McKinsey report [4] says that Alphabet invested roughly \$30 billion in developing AI technologies, and that Baidu invested \$20 billion in AI last year. It is reported [5] that China is planning to build a \$1 trillion AI industry by 2030.

Forbes [6] mentions about the City Brain project of Alibaba, which help cities, run their operations by AI. City Brain uses a cloud-based system where data about a city and everyone in it is stored and processed through AI algorithms. The project's success in reducing traffic jams by 15% was achieved by monitoring every vehicle in the city.

Some AI applications in China being used by Ali Baba, as per the report are:

- T-mall Smart Selection: This AI-powered algorithm backed by deep learning and natural

language processing helps recommend products to shoppers and then notifies the retailers to increase inventory to keep up with the demand.

- Dian Xiaomi: This AI-powered chatbot can understand more than 90 percent of customer's queries according to Alibaba and serves more than 3.5 million users a day. The latest version of the chatbot can understand a customer's emotion and can prioritize and alert human customer service agents to intervene.
- Robots to pack, drones to deliver: More than 200 robots in automated warehouses can process 1 million shipments each day. In some cases, their efficiency allowed same-day shipment. Alibaba also used drones for some deliveries.

According to Gartner [7], "Over the next few years every app, application and service will incorporate AI at some level. AI will run unobtrusively in the background of many familiar application categories while giving rise to entirely new ones. AI has become the next major battleground in a wide range of software and service markets, including aspects of ERP".

3.1 Banking Applications

AI can play an important role in helping banks understand their customer behaviour patterns and risks associated with them, and take "smart actions". Banks initially invested in data analytics to understand customers' needs and offer new services. They are now going further to adopt AI in various areas such as:

- Fraud detection.
- NPA analysis.
- Detection of suspicious transactions.
- Personalised customer interaction through chatbots.
- Efficient credit assessment.

HDFC bank, ICICI bank, and Canara bank have introduced chatbots for customer service. Accenture's

recent Accenture Banking Technology Vision 2018 [8] reports that 83% of Indian bankers believe that AI will work alongside humans in the next two years.

3.2 Concerns

Some of the concerns of AI are:

- Availability of trained resources.
- Non-availability of data or data spread across disparate systems.
- Supporting large number of languages in speech recognition, speech to text etc.
- Legal challenges related to the consequences of wrong decisions made by algorithms.
- Privacy-preserving machine learning products in compliance with GDPR.
- Safety of robotic apps.
- Training data sets may make AI algorithms biased due to the inherent socio-cultural biases. For critical decision making such biases need to be avoided.
- One of the biggest barriers to the adoption of AI for regulated entities is the difficulty in showing exactly how an AI reached a decision.
- AI audit trails become essential.

Fairness, transparency, and ethics are essential in adoption of AI. Efforts are on to create a responsible AI. Monetary Authority of Singapore brought together a group of thought leaders and practitioners called the Fairness, Ethics, Accountability and Transparency (FEAT) committee [9], to develop a guide that will set out key principles and best practices for the use of AI and data analytics for financial institutions and FinTech firms in Singapore.

4. Blockchain Technology

Blockchain is a type of decentralized distributed database that is spread across multiple computers in a network. Its decentralised nature eliminates the need for an intermediary to process, validate or authenticate

transactions. Each computer keeps its own copy of all transactions on the network, and works directly with other computers to check a new transaction's validity through a process called consensus. Each of these transactions is encrypted and sent to every computer on the network to be verified and grouped into a timestamped block of transactions. The new block is chained to the previous block, forming a "Blockchain" – an immutable / tamper-resistant record of historical transaction data.

Key benefits of Blockchain technology:

- Disintermediate
- Secure
- Immutable

Blockchain technology is not a panacea, but quite useful in certain scenarios / applications. According to the World Economic Forum report [10], the characteristics of high-potential Blockchain use cases are as follows:

- A shared repository of information is used by multiple entities
- Multiple entities generate transactions that require modifications to the shared repository
- A level of mistrust exists between entities that generate transactions
- Intermediaries or central gatekeepers are present to enforce trust
- Transactions have inter-dependencies

4.1 Banking Applications

Banking and finance industry is the front-runner in experimenting with Blockchain technology, mainly because of the security and immutability aspects provided by it. IDRBT, in its Blockchain technology whitepaper [11] identifies the following potential areas:

- Trade Finance
- Cross-border Payments

- KYC
- Securities Servicing
- Loan Syndication
- Supply Chain Financing
- Consortium Accounts

The three main advantages of Blockchain technology in banking and finance are:

- Transparency
- Efficiency
- Cost Savings

Transparency is brought about due to the elimination of information asymmetry. Further, the technology is by design such that it provides for: (i) immutable transactions, (ii) information provenance, and (iii) ease of audit, all of which contribute to enhancing transparency.

Naturally, transparency coupled with ready availability of trusted information leads to efficiency. Some of the factors through which Blockchain enables efficiency are: (i) resilience through redundancy, (ii) reduced time through high availability, (iii) faster settlements, and (iv) savings in decision making time through smart contracts.

Transparency and efficiency often result in cost savings. Adopting Blockchain technology results in cost savings in the form of: (i) savings in reconciliation costs, (ii) prevents losses due to documentary frauds, (iii) saves costs on forex volatility, and (iv) saves costs over delayed settlements.

4.2 Concerns

The most impactful applications of Blockchain technology will require deep collaboration between incumbents, innovators and regulators, adding complexity and delaying implementation. Further, there are business concerns, technology concerns and risks that need to be understood before adopting the technology.

Business concerns: (i) application of Blockchain technology yields expected results only when there is a critical mass of participants, (ii) adopting Blockchain technology requires a number of changes to existing practices, which may increase costs and risks, and (iii) flexible settlement timeframes may be preferable to perform compliance checks or to fund positions.

Technology concerns for adopting Blockchain technology: (i) must achieve sufficient scale of operations and interoperability with legacy systems and other Blockchain systems, (ii) effective management of cryptographic keys and access credentials, (iii) security and privacy, and (iv) thorough testing of smart contracts for preventing malicious behaviour that can undermine the entire network.

Risks posed by the adoption of Blockchain technology: (i) cryptography could be used to conceal identities and undertake fraudulent activities, (ii) cyber risk, risk to fair competition and orderly markets, risk to financial stability through increased market volatility, (iii) quick propagation of errors due to high automation, and (iv) privacy risk due to the presence of competitors in the network.

5. Smart Things

Smart things are electronic appliances and other physical objects enriched with smartness – ability to operate interactively and to an extent autonomously. Examples include smart phones, watches, bands, key chains and speakers.

According to the Harvard Business Review article [12], smart things have three primary components; physical, smart, and connectivity.

- Physical – made up of mechanical and electrical parts
- Smart – made up of sensors, microprocessors, data storage, controls, software, and an embedded operating system with enhanced user interface
- Connectivity – made up of ports, antennae, and protocols

These components work to enhance the capabilities of one another resulting in a virtuous cycle of value improvement. First, the smart components amplify the value and capabilities of the physical components. Then, connectivity amplifies the value and capabilities of the smart components. These improvements include:

- Monitoring the conditions, external environment, operations and usage
- Control of functions to better respond to changes in the environment, as well as to personalize the user experience.
- Optimization of the overall operations based on actual performance data, and reduction of downtimes through predictive maintenance and remote service.
- Autonomous operation, including learning from the environment, adapting to users' preferences and self-diagnosis and service.

Smart things enable businesses to evolve from making products to offering complex value-added services through “an intelligent system of systems” the Internet of things (IoT). IoT is the network of smart things – reflects the growing number of smart things and highlights the new opportunities they represent.

5.1 Banking Applications

Deloitte report [13] suggests that banks can analyse the data collected from customer's smart things and use it for:

- Lending
- Transaction services
- Risk management
- Fraud analysis
- Assess creditworthiness
- Monitor debts
- Micropayments
- Recordkeeping

Infosys' white paper [14] identifies the following benefits of IoT in banking services:

- Increase / decrease the installation of ATMs depending on usage volumes
- Bring on-demand services closer to customers
- Increase the accessibility of services to customers
- Identify customers' business needs
- Gain customer insights for providing value-added services, financial assistance, and customized products
- Estimate the value of the crop output and provide flexibility in financial terms for loans
- Analyse fraud in debit / credit card transactions
- Track raw materials and inventory stocks to identify borrowers indulging in fraudulent practices in loan repayment

5.2 Concerns

One of the key drivers of the IoT is data and, therefore, success of the idea is dependent upon secure storage, processing and retrieval of data. This leads to privacy and security concerns, including issues relating to consumer consent, ownership of data and its usage.

A report published by the Federal Trade Commission (FTC) [15] made the following recommendations

- Data security – businesses must ensure that data collection, storage and processing would be secure at all times
- Data consent – users should have a choice as to what data they share for what purposes, and must be informed if their data gets exposed
- Data minimization – businesses should collect only the data they need, use the data only for the purposes for which it was collected, and retain the collected information only for a limited time

Big data infrastructures such as the IoT and data mining are considered by many to be inherently

incompatible with privacy. These technologies could not only result in the invasion of public space, but can also be used to perpetuate normative behaviour.

6. Innovation Ecosystem

Many entities play a key role in the banking technology innovation as depicted in the figure below.



Figure 2. Technology Innovation Ecosystem

(Source: Hitachi Inspire the Next [16])

Academic institutions provide the research inputs necessary to propel the advances in technology, and supply trained human resources required for the industry. Big IT companies and new FinTech companies build on these inputs and develop innovative products.

For certain technologies, there will be a need for a scalable large infrastructure support. The Central and State Governments are taking many initiatives such as the Digital India Programme, National Knowledge Network etc. towards enabling the necessary

infrastructure for the development and adoption of these technologies.

An important overarching concern with all the new technologies is the risk of cyber security they pose. Cyber security experts are constantly innovating new ways for protecting the cyber space from being misused.

Banks and FIs engage with the solution providers to benefit from the advances in the technology. When there is large scale adoption of a technology across an industry, the regulators have to watch out for systemic risks posed by the technology while not unduly impeding their adoption. To this end, some actions taken by the regulators include: proactive engagement with existing firms and new entrants, research and publishing papers, modifications to supervisory processes, and introduction of new guidance or regulations.

In this context, IDRBT is a unique institution that bridges the gap between academic research and its application to banking. IDRBT has been playing a pioneering role in the pursuit of FABS technologies through its centre for mobile banking (5G), centre of excellence in analytics (AI), centre for payment systems (Blockchain technology), and centre for cloud computing (smart things / IoT). Further the institutes centre of excellence in cyber security helps in assessing and mitigating the security risks posed by these technologies, and the centre for affordable technology encourages the use of existing open source technologies for realizing the applications in a cost effective manner. IDRBT has published several white papers, best practices, FAQs and other knowledge resources covering several banking technologies.

7. Conclusions

With the pace of events in technology in the recent past, it is becoming extremely difficult to forecast the technology developments even in the short run. While certain technology innovations are too short lived to have an impact, certain innovations

re-emerge after a long gap. In such an uncertain setting, based on our experience and understanding of banking and banking technology, we identified the FABS technologies as having great potential for a meaningful impact on the banking sector in the next decade. These are also in line with the predictions of some recent studies including the 2018 INSA report [17].

References

1. <https://thewire.in/tech/5g-the-next-generation-of-wireless-explained>
2. 5G Infrastructure Association (5G IA). "5G Vision". 2015. <https://5g-ppp.eu/wp-content/uploads/2015/02/5G-Vision-Brochure-v1.pdf>
3. International Telecommunication Union. "IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond". 2015. https://www.itu.int/dms_pubrec/itu-r/rec/m/R-REC-M.2083-0-201509-1!!PDF-E.pdf
4. McKinsey Global Institute. "Artificial Intelligence - The Next Digital Frontier?". Discussion Paper. 2017. <https://www.mckinsey.com/~media/McKinsey/Industries/Advanced%20Electronics/Our%20Insights/How%20artificial%20intelligence%20can%20deliver%20real%20value%20to%20companies/MGI-Artificial-Intelligence-Discussion-paper.ashx>
5. <https://www.cnbc.com/2018/05/04/china-aims-to-steal-us-a-i-crown-and-not-even-trade-war-will-stop-it.html>
6. <https://www.forbes.com/sites/bernardmarr/2018/07/23/the-amazing-ways-chinese-tech-giant-alibaba-uses-artificial-intelligence-and-machine-learning/#ea77722117a9>
7. Gartner. "Top 10 Strategic Technology Trends for 2018". 2017. https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018/?utm_

source=social&utm_campaign=sm-swg&utm_medium=social

8. Accenture. "Building the Future-Ready Bank - Banking Technology Vision 2018". 2018. https://www.accenture.com/gb-en/_acnmedia/PDF-78/Accenture-Banking-Technology-Vision-2018.pdf
9. <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2018/MAS-and-financial-industry-to-develop-guidance-on-responsible-use-of-data-analytics.aspx>
10. World Economic Forum. "The future of financial infrastructure – An ambitious look at how Blockchain can reshape financial services". 2016 http://www3.weforum.org/docs/WEF_The_future_of_financial_infrastructure.pdf
11. IDRBT. "Applications of Blockchain Technology to Banking and Financial Sector in India". White Paper. 2017. <http://idrbt.ac.in/assets/publications/Best%20Practices/BCT.pdf>
12. Michael E. Porter, and James E. Heppelmann. "How Smart, Connected Products are transforming Competition". Harvard Business Review, November 2014. <https://hbr.org/2014/11/how-smart-connected-products-are-transforming-competition>
13. Jim Eckenrode. "The derivative effect - How financial services can make IoT technology pay off", Deloitte University Press, 2015 https://www2.deloitte.com/content/dam/insights/us/articles/iot-in-financial-services-industry/DUP-1166_IoT_FSI_FINAL_smaller1.pdf
14. Infosys White Paper. "IoT-enabled Banking Services". 2017 <https://www.infosys.com/industries/financial-services/white-papers/Documents/IoT-enabled-banking.pdf>
15. Federal Trade Commission. "The Internet of Things: Privacy and Security in a Connected World". 2015. <https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf>
16. A S Ramasastry "Payment Systems in India: A Silent Revolution". Hitachi Inspire the Next Vol 13-1, 2018, <http://www.hitachi-hri.com/journal/>
17. R.K. Shyamasundar, Vipin Chaudhary, Ashwin Gumaste, Inder Monga, Ankur Narang, Vishwas Patil, Prabhat. "Computing for Science, Engineering, and Society: A Strategic Roadmap". INSA Report, DOI: 10.16943/ptinsa/2018/49413, 2018, https://insa.nic.in/writereaddata/UploadedFiles/PINSA/PINSA_2018_Art40.pdf





Banking in next decade: Resolve first before planning...

 **Madan Sabnavis***

When talking of the future of banking in the next decade, one needs to be pragmatic in understanding the situation as it is today and have the critical issues addressed before talking of a theoretical structure which has been articulated several times by management consultants and government committees. The fact is that the banking sector is in an ideological mess, where we need to accept that there are fundamental problems that have to be answered before talking of the future. Or else, the same fundamental issues will keep popping up again leading to the same set of discussions.

The malaise as has been seen over the last year or so is not just in the public sector banks which are the easy punching bags, but also, private banks and the regulatory system which include successive governments which lived in denial and allowed the situation to reach this state. In short, there are signs of a banking crisis which has been accepted though not in so explicit terms which has not fortunately exploded to cause fissures in the real economy.

In the global context there have been major financial crises starting from 1987, when there was the stock market crash which did not affect India due to the absence of globalization. The 1997 Asian crises which again had as its cornerstone crony capitalism and lending shook the Indian economy without bruising it and the crisis was more on the forex front. The 2007 crisis was quite global and we remained smug that we were not affected because we were prudent. But, this very cause i.e. reckless lending called NINJA loans in the housing space which was blown up by the use

of financial derivatives such as CDS, CDOs, etc. in a way entered our system in a different form. Lending to high profile projects became pandemic as all banks wanted a share of the pie and hence, lent to mega projects. This was part of the fiscal and monetary stimulus which we were proud of. GDP growth escalated and with a big touch of hubris we claimed that our growth was de-coupled from the world and India can drive the world economy along with China. There was never a counter argument here.

Alongside, there were several political controversies which led to projects getting stalled for several reasons and while the usual blame game started, it was always directed to the government. At this time as the quality of assets took a hit, we did not accept this development and started restructuring assets in the name of CDR, where the justification was that projects failed because of extraneous circumstances and, hence, need to be restructured. The fact that the lenders were a part of the CDR cell meant that entry into the club was easier and we managed to keep kicking the can. Then, one fine day the regulator insisted on recognizing all these assets as being bad and in the last 2 years things have gone from bad to worse as the timeline which should have been met got pushed forward continuously. The latest RBI FSR does indicate that March 2019 may be a more realistic timeline until which we can see more such recognition.

In this milieu, the PSBs have become the favourite whipping boys. The reason is that they have been lending to most of these infra or heavy funded

*Chief Economist, CARE Ratings.
Views are personal.

companies which have gone bad. As heads of banks change, there are more revelations made with the previous regimes being blamed for the build-up of an adverse asset portfolio. Sleuths from various investigative agencies are on to the backs of even retired Chiefs making banking a dangerous game. As there are no easy solutions, talks of mergers, privatization, closing down banks, restricting activity (prompt corrective action rule) etc. are being espoused regularly. In between, the IBC has raised hope with a resolution process being in place. Given the legacy issues in most cases, the value of the asset has fallen over this time period – which could be a decade for some cases. Therefore, recovery rates are lower.

It is against this background that conjectures can be made or suggestions provided which need to be taken up with urgency in the next decade.

Broadly speaking, the agenda for the next decade can be in two parts with no specific time lines as the second part should be taken on after the first is completed. The first is in the area of ideology and structure which should be taken up; and the sooner there is consensus the better it would be for the system.

Four related issues that have to be taken up together can go with the 4P acronym – Political Agenda, Privatization, Priority Sector Lending and Power Structures. All the four are inter-related and hence, need discussion and resolution. The first is political agenda. Politics must be separated from banking which is a commercial venture undertaken by entities that happen to be owned by the government. As long as there is interference in any form, banks would always be subservient to the government in power. Governments often run their political agendas based on largesse which is provided through the banking system. This could be the old loan melas which now comes in terms of targets being set for agriculture lending or SME lending through MUDRA. Why should banks be told what to do once the 40%

norm of priority sector is laid down by the RBI? And if one sifts through data, it will invariably be the PSBs which are forced to do such lending which results in concentration – the latest is MUDRA loans. In fact more recently a Minister of State has warned bankers that if SME lending targets are not met, increments would not be provided by the system. In such a situation how can one expect lending to follow the best practices?

Next, loan waivers announced by government vitiate the concept of credit risk evaluation as bankers are now not sure whether it makes sense to be judicious when lending. The quality of credit evaluation slips when the environment is driven by such agendas. Third, PSBs Chiefs have always been called by the FM regularly and told to lower interest rates. Shouldn't such decisions be left to the bankers? Such instructions are another reason for bankers to push credit and lower the interest rate which leads to adverse selection of assets. The ostensible reason is the pressure put by corporate bodies on the government to get cheaper finance. While it is legitimate, the decision should be left to the banks which finally become responsible for the quality of the portfolio. Last, special schemes like say the Jan Dhan have been virtually forced on the PSBs where they account for more than 90% of the accounts. Why should this be done?

Now, related to the political economy is the issue of privatization. When PSBs are owned by the government it becomes their duty to support them and there should be no second thoughts. If the government wants to move out, it should be clear that the banks must be privatized. It is arguable whether privatization is the answer as private banks have also not fared too well when they do the kind of lending that PSBs do. Those which have done well have focused on retail lending where there is lower probability of delinquency. Also the idea of privatization should be to go below 50% to make sense or else it sounds like a feeble attempt to get resources for meeting fiscal

targets. This is a tough call to take and if it cannot be done, then the capital infusion has to be through the Budget and there is no other option. The recap bonds concept though a legitimate way of capitalizing banks is not a long term option. The attempt to get public sector FIs to buy PSBs is a hotchpotch as is the idea of merging two PSBs. In case of the former the only beneficiary is the government as the bank would run with similar governance structures. In case of the latter, it is a way of camouflaging a weak balance sheet with a stronger one and does not address the issue.

Therefore, while it is still not clear whether private banks do better than public in terms of governance, the idea of privatization has to be with conviction and not one where the goal is to push the problem below the carpet.

The third P is Priority Sector Lending where the stipulation is just too high. In fact, if we go back to the Narasimham Committee Report, almost all the recommendations have been met except the one on Priority Sector Lending which has remained un-touched. This is associated with the political agendas and hence has never been altered. In fact, all other avenues like MUDRA or affordable housing are also pushed into this 40% which comes in the way of running any commercial venture. While no banker would admit this is a drag, the fact that no bank exceeds this limit is evidence that it is being done because it is mandatory. The same funds could earn higher returns in case they were lent elsewhere.

The last P pertains to Power which is related to governance structures. When it comes to PSBs, it goes back to the political agenda which drives such selection. This appears to be the bane of all public sector organizations where the selection of the management process makes it subservient to the government. This has to change. The Banks Board Bureau was a good idea which has not quite been allowed to do what it was supposed to do. The entire system of governance has to change internally in

banks where hierarchies need to be reassessed and a proper reward system put in place. All this has been articulated several times and unless we change the system, it will just be years before the next crisis (which can never be eschewed in this dynamic and globalized world) pop up the same issues. Given the controversies in some private banks, the operating process for lending should be articulated by statute to ensure that the rules are followed.

While none of these points are new, it should be reiterated that unless the superstructure exists in a near perfect form, only then can the banking infrastructure work the way it has to or else there will always be conflicts that have to be addressed. The big question is: Are we willing to do this major housekeeping exercise?

The second part of the agenda for banks is to do introspection and get into the CLAP mode – Capital, Lending, Asset Quality and Profits. It cannot be debated that the Indian economy is definitely poised to grow at a high rate of above 8% on a continuous basis for an extended period of time given the spare capacity that is there in terms of satiating the needs of a population where income will increase and providing finance for infrastructure which remains quite abysmal even today. With the Basel III norms being more stringent with the focus on liquidity, banks will have to gear up to continuously keep their capital ticking which can be through fresh issuances or profit plough back. This is something which has to be monitored on an annual basis so that barriers to growth are not reached. So far Indian banks have been well capitalized and not encountered a problem with the exception of some PSBs which have had challenges with the provisioning eroding their net worth. Here, the PSBs have to be told clearly what the options are from the beginning.

On lending banks need to be cautious when interpreting economic signals. In the period post financial crisis of 2007, no one expected that the economy would fall into deep stagnation as projections

were overly optimistic with everyone talking of double digit growth. This led to adverse selection of projects as everyone assumed that growth will be exponential. Here, banks need to have the right skill sets to evaluate credit risk, which should be stringent and subject to regular audit to ensure that excessive risk is not taken. The risk management departments have to take a very professional view here. Also the lending has to be aligned with the overall ability of the bank to assess and disburse such loans like tenures, skills for assessment and so on.

Asset quality will always be the variable to watch out for as banking involves risk and howsoever prudent one can be a credit risk evaluation, there would always be cycles when they would be humped up. This is where banks need to recognize them immediately and look for resolution as per the latest RBI Resolution Guidelines. Taking these cases to the IBC as per timelines would be prudent for the bank, as the recovery tends to be higher too when the asset is functional. Separate departments should be there for monitoring NPAs which should be in regular conversation with the clients informing them of the action to be taken. More importantly, there should be no relaxation of norms for such recognition as such flexibility is always used to justify other sectors too. For example, there is talk of providing a dispensation for power projects, and once an exception is made, can be extended to others too.

Last, banks should work towards meeting pre-determined profit goals which should be on par with global standards. Ideally they should be working with lower interest rate spreads which is not the case today. The ultimate goal would be to attain a ROA of 1%.

The next decade will also be important for banks because, several actions taken in the last couple of years would be indicative of how the existing commercial banks have to respond to the changing circumstances. First we have already seen the entry of some payments and small banks which are niche

banks that are into specific areas. They would be competing or complementing banks on deposit raising and lending to SMEs. Their business models are different as payments banks are generally driven by technology and would be competing with banks for the wallet of people in the hinterland. Small banks would be looking at SMEs and the issue is really whether they will go to the un-banked or compete with existing banks. Depending on how these banks perform, commercial banks will have to be prepared to change their models.

Second, NBFCs are becoming more important and have leveraged the opportunity posed by the present challenging situation in the banking space. While they would prefer to become banks, their operations could compete with banks especially if banks move away from high volume term lending and look more closely at the retail space.

Third, RBI and SEBI have given a big push to the corporate bond market as it is believed that this market is best suited for meeting requirements of long term finance. Therefore, the large exposure norms brought in by RBI which will force companies with bank exposures of over ₹ 10,000 cr. in April 2019 to move to the bond market could mean some loss of business though, one is still not sure how this would be enforced. Similarly, the government announcement to let insurance companies and provident funds to invest in 'A' rated paper can make companies move to the bond market as the cost is lower than in banks. Presently, the restriction of AA rated paper keeps several companies out of the bond market and they perforce come to banks to borrow funds. SEBI's proposed norms of prodding large companies (with long term loans of above ₹100 cr.) to borrow 25% of requirements from the bond market would provide some relief to banks, but also, lower their quality of portfolio as this holds for AA rated companies.

Fourth, the further advent of technology through digital transactions and artificial intelligence would

be something banks have to be prepared for. The concept of branches, ATMs and even staff would have to be re-evaluated so that one is prepared for such changes. This will be something which banks have to contend with as modes like peer-to-peer lending or crowd funding are being spoken of and can be a reality tomorrow.

For sure, the next decade will be exciting for the banking system. But we need to get the ideology right to reduce the pain of contradictions which we have not been willing to resolve so far. Banking is highly controlled from above and also blamed for sub-performance which is not the way the business should be run.



Banking in the next decade: An Economist's Perspective



 **Dr. Soumya Kanti Ghosh***



 **Dr. Tapas Kumar Parida****



 **Sumit Jain*****

I. Introduction

In the last decade, Indian Banking has changed a lot in several ways. The first and the major development in the Indian Banking has been the introduction of a new category of banks, namely the Payments Bank and Small Finance Bank. Simultaneously, RBI has also liberalised the policy to give out banking licenses “on tap”. Second, the non-bank front has seen even more action, with a host of payment providers, mobile wallets and online lenders entering the fray. In March 2017, Amazon became one of the biggest international names to bring a payments product to India, in the form of Amazon Pay. Third, a crucial factor is the strong regulatory push that has been unleashed in favour of open and inclusive banking. The Indian Government has launched the JAM trinity – Jan Dhan Yojana, Aadhaar, and Mobile – to give a huge boost to financial inclusion, and the results are encouraging: Aadhaar registrations now number more than 1 billion, Jan Dhan accounts opened are more than 320 million new bank accounts in around four years, and smartphone usage is well on its way to reach 700 million by 2020.

On the back of demonetisation, a number of innovative digital products has been launched both

by the banks and NBFCs, to cater the needs of the customers. The Government is also the driving force behind the creation of a revolutionary payments interface in the form of UPI (Unified Payments Interface), which promises to be a real game changer. These developments have piled a healthy competitive pressure on banking incumbents, who are fighting hard to differentiate themselves amidst a field of new rivals. Also, as more and more Indians, including those who were previously un-banked, have started using financial products and services, it is imperative that banks reimagine their offerings, and particularly their customer experience, to stay in the market. The ideal banking experience should be as seamless and intuitive as to be nearly invisible.

II. Banking in the Next Decade: An Economist's View

Against this backdrop, it is imperative to look forward into the next decade. We, accordingly propose to discuss the following changes that could shape banks in the next decade.

a) Digital Banking: The Government of India has launched the Digital India programme with an aim to transform the country into a digitally

*Group Chief Economic Adviser, State Bank of India (SBI), Corporate Centre, Mumbai.

**Economist, SBI, Corporate Centre, Mumbai.

*** Economist, SBI, Corporate Centre, Mumbai.

empowered and knowledge economy. While, the success of Digital India programme would largely depend upon the digital banking in the country. The next decade of banking can be easily dubbed as “decade of digital banking”. The size of digital banking (digital banking can be defined as the sum of credit cards transaction at PoS + debit cards transaction at PoS + Pre-paid Instruments including m-wallets + mobile banking transactions), which was merely ₹0.5 trillion in Apr’15 rose to ₹ 1.7 trillion in Oct’16 (pre-demonetisation) and after that has exponentially increased to ₹ 2.8 trillion in May’18.

As per various estimates, the Digital India programme could boost GDP up to \$1000 billion by 2025. It can play a key role in GDP growth, employment generation, labour productivity, businesses enhancement and revenue seepages for the Government. The World Bank report (2016) indicate that a 10% increase in mobile and broadband penetration increases the per capita GDP by 0.81% and 1.38% respectively in the developing countries. India is the 2nd largest telecom market in the world with more than 1 billion wireless subscribers and world’s 3rd largest Internet market with almost 400 million broadband users. There is still a huge economic opportunity in India as the tele-density in rural India is only 45% where more than 65% of the population lives.

b) **Changing Regulatory Environment:** In the post crisis period, the market and regulatory environment has changed in many ways with the introduction of Basel III capital norms. The Indian regulator, RBI has rightly advised a tighter regulations for the Indian Banks. However, countries like India, where financial sector is still developing, the highly regulatory system that has been put in place post crisis period has also led to increase in compliance cost to the banks/institutions. Some of the difficulties arising out

of this regulated environment in India are: (1) Failure to exploit economies of scale; (2) Lack of legal clarity on responsibilities and powers of regulators, inter-regulatory disputes, regulator-regulated legal battles; (3) Turf conflicts; and (4) Inhibiting products and markets when they involve multiple regulators, etc. Going forward, the Banking system will have to navigate all such challenges.

c) **Regulatory Architecture:** In India, there should be proper segregation of regulatory space among various regulators: RBI regulates credit products, savings and remittances; SEBI regulates investment products; IRDA regulates insurance products; and PFRDA regulates pension products. In addition to these, plethora of Government Ministries and Agencies involved in policy making. Even the State Governments also claims a regulatory role in certain other cases.

Let me highlight some of the problems that our present regulatory architecture has:

- Due to multiple entities with little clarity on division of responsibilities, regulatory arbitrage is emerging in the financial system.
- It is quite difficult to create financial intermediaries that will offer plethora of financial services.
- Conflicts of interest has also emerged among certain regulators. For example, RBI is not only the banking regulator, but also the investment banker for the Government and the maker and reviewer of monetary policy.
- The present architecture also creates difficulties in co-ordination among various agencies. For example, in managing systemic risks, regulatory co-ordination at entire level of financial system is crucial. In India’s financial system, unless the FSDC plays a vigorous role, the inter-agency synchronisation will remain quite weak.

- d) **Uniform Financial Regulations:** If we make a comparison of India across BRICS countries and Asian economies in terms of pre-emptive ratios like CRR and SLR, India has the highest ratio of 23.5%. If we add to this to the Priority Sector Lending (PSL) commitments, India has the highest stipulated norms across all such countries. Further, adding the stipulated LCR ratios under Basel III, it legitimately raises the pertinent question of whether uniform global financial regulation is desirable and appropriate.

As a matter of fact, asymmetric policy responses across developed economies have now become more fashionable and shows that every country may have to adopt differentiated macro policies to suit its own interest rather than go for a blanket uniformity in policies (Ghosh, 2015).

- e) **Banks vs. NBFC Regulations:** In India, both banks and NBFCs are doing similar types of business. So, it is pertinent that they should be equally regulated. The licensing and operating regulations of a bank are more rigorous than that of an NBFC. Moreover, a bank cannot operate any other business except banking, but an NBFC can operate such business. So, the presence of regulatory arbitrage has had some negative impact on financial stability. Going forward, there is a need to bring under a uniform regulatory architecture.
- f) **Artificial Intelligence (AI)** including Big Data Analytics: Banking analytics is moving more towards analysing unstructured data and mapping it with structured data to get a holistic view of customers and build a real-time recommender system to predict their next moves. In the age of digital consumerism, financial institutions are taking a deep dive into incredibly rich big data. This can be utilized in many ways, for example: personalized offers made by banks. Personalization in the era of digital banking is the single most important thing to maximize their

profitability. There has been a growing trend of commercial banks developing and using real-time recommender systems. For example, receiving a promotional SMS offering discount for buying movie tickets using the bank's credit card; receiving a message on your mobile saying your coffee time is coming up, or that one could use accumulated points on his/her credit card. In essence, to take advantage of and understand the next likely moves of customers, it is important that recommendations be sent to the right person at the right time.

However, perfecting these real-time recommendations is not easy and requires combined use of advanced statistical methods and machine learning algorithms. While distributed computing through Hadoop is becoming more mainstream for banks, it is the expertise in using some of the most advanced models, variational Bayes methods, alternating direction method of multipliers, parallel matrix factorization that will give banks an edge in effectively retaining existing customers and increasing revenue.

What seems to be the need of the hour is, merging several strands of information across systems such as data from customer relationship management, portfolio, loan, debit, credit card etc., and mapping them on a seamless 360-degree view of customers. Customer analytics is the most powerful device for banks. Research by McKinsey shows that banks with advanced capability of using customer analytics have a four to six percentage point lead in market share over banks who do not. The immediate areas where banks can leverage the value of big data analytics and maximize value are customer retention, market share growth, discovering potential affluent customers, selling the next best product pricing of products and increasing lead generation potential among others (Ghosh & Ghosh, 2015).

g) **Changing Banking Structure:** The present banking structure in India has been transmuted from several decades. There are several types of banks say universal banks, regional banks, cooperative banks, local area banks, payment banks and small finance banks etc., who are catering specific needs of the different customer segments. In the Union Budget 2015-16, Government has given the thrust to setup strong and efficient banks in India. So, we believe the present banking structure will change in the future to meet the changing needs of the economy. In this context, RBI has placed a discussion paper on “Banking Structure in India – The Way Forward” to address certain issues like enhancing completion, financing for higher growth, specialised services and financial inclusion etc., by changing the structure, if required. The indicative profiles of the new structure may be as under:

environment, entry & exit of players, customers behaviour etc. With the entry of new players into the sector including NBFCs, who offers similar products, the banking business will become tough, which may push the banks to extend their business beyond financial services. They need to innovate, buy or collaborate to become a part of the consumer's day to day life. In other words, banks in future will leverage with the customer's preferences to become central in their financial and non-financial needs. This will combine the internal capabilities with external innovations to be a valuable aggregator, service provider and access facilitator. Instead of a rear-view mirror perspective, it will provide a consumer with a GPS view of their financial needs in the future.

In India, the e-commerce market is growing exponentially, which holds a potential to transform the banking business significantly. The customers who enjoy the convenience of online purchase from e-commerce say Flipkart, Amazon, etc., will expect their banks to improve their delivery channels to be more secure and user friendly. So, banks and FIs need to continuously embrace the changing

III. Conclusion & Way Forward

The future of the Indian Banking depends upon a number of factors say economic and regulatory

Indicative New Structure of the Indian Banking Sector	
Type of Banks	Process
Tier 1: International Banks (3/4 big Banks)	<ul style="list-style-type: none"> • M&As of PSBs with significant global presence • Foreign Banks operating in India
Tier 2: National Banks (PSBs, Pvt Banks, FBs)	<ul style="list-style-type: none"> • Consolidation in the banking sector, by considering the synergies in between them. • Encourage strong Foreign Banks to operate through subsidiary mode of presence in India. • Differentiated bank licences in specialized areas like trade finance, infrastructure finance etc.
Tier 3: Regional Banks (RRBs, Cooperative Banks, SFBs)	<ul style="list-style-type: none"> • Strong regional banks through consolidation and promoted by national banks • Well managed cooperative banks into commercial banks
Tier 4: Digital Banks (Payment Banks)	<ul style="list-style-type: none"> • New licences to strong companies who have presence all over India • Move in the digital pathway

technology by innovating their delivery channels so as to remain intact in their business operations. Offers and opportunities need to be presented in real-time basis based on the preferences of the consumers need.

In this context, SBI has launched a digital platform namely YONO (You Only Need One) in 2018, to meet the growing needs of the Gen X & Y customers. This is India's first and fully digital service platform designed to facilitate banking as well as lifestyle needs of our customers through an all-encompassing B2C marketplace (SBI Annual Report 2017-18). Apart from banking services, the application is designed to offer other financial products including investments, insurance & credit cards and also lifestyle services like railways/flight ticket booking, movies, restaurants bill payment etc. Thus, banking will be invisible and seamless in providing need based support for e-commerce, communication and making life smoother and easier in overall.

In order to remain sustainable in the banking business, the banks need to innovate their products, services and delivery channels, rather than simply depending on core banking areas like accounts, deposits & credits. Competitors has been trying to eat a significant parts of the banking value chain with the potential of limiting banks to becoming nothing more than utilities.

In the future, the banks need to leverage their portfolio of solutions in a personalized way to cater

to the needs of the individual consumers at any given moment. This will provide multiple options for the consumer to select from, some of which may be provided by their competitor organizations. These personalised solutions may also extend beyond just digital platforms, to include human interaction as appropriate to understand the problems and needs of the customer.

References

Ghosh P. & Ghosh S. K. (2015), "Big data for commercial banks", Live Mint News Daily, May 05, 2015.

Ghosh S. K. (2015), "Monetary Policy Transmission and Banking Regulations", Financial Express News Daily, April 27, 2015

Parida T. K. (2017), "Changing Banking Structure in India", The Indian Banker, Journal of Indian Banks Associations (IBA), Mumbai, Vol. IV, No. 7, February 2017.

RBI (2013), "Banking Structure in India - The Way Forward", Discussion Paper, August 2013.

SBI (2018), "SBI Annual Report for 2017-18"

World Bank (2016), "Exploring the Relationship between Broadband and Economic Growth", Background Paper on Digital Dividends for World Development Report 2016.





Capital Flows and External Vulnerabilities of EMEs



Dr. Barendra Kumar Bhoi*

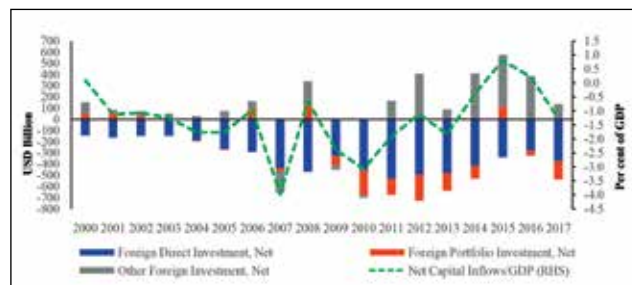
Dr. Jang Bahadur Singh**

External shocks have been more frequent in the 21st century in an era of financial globalization. Notable among them are sub-prime crisis in the US in 2007, European sovereign debt crisis surfaced in 2010, Taper Tantrum in 2013, Chinese stock market crash in 2015, UK's exit from the European Union (popularly known as Brexit) in 2016, and normalization of the US monetary policy since December 2015. Capital flows to emerging market economies (EMEs) have been adversely affected in response to these shocks (Chart 1). Massive fluctuations in capital flows - surge, sudden stop, and reversal - to EMEs since 2007, have exposed them to severe macro-economic vulnerabilities.

Traditionally, low levels of foreign exchange reserve and currency over-valuation have been considered as major predictors of the pre-2008 financial crises in EMEs. Moreover, overheating indicators like GDP, growing above the potential and credit growth, well above the long-term trend, have not been currently perceived as major sources of vulnerability in EMEs. Even indicators like external current account deficit, money supply, and inflation are at manageable levels in most EMEs. Are we in a different situation where EMEs are vulnerable despite major lead indicators of vulnerability remaining within safe limits? The answer is an un-qualified yes. Relatively less lethal predictors of vulnerability like debt profile, capital flows, external debt, corporate leverage, debt repaying capacity, etc., have emerged as potential threat to financial stability in EMEs.

The vulnerability of EMEs seems to have increased due to turnaround in the global interest rate cycle following normalization of monetary policy in advanced economies (AEs), led by the US Fed. Despite recent recovery of the global economy, there is heightened uncertainty as regards capital flows to EMEs going forward. An attempt has been made here to examine the gravity of the problem associated with large capital flows to EMEs. Rest of the paper is divided into six sections. Section I examines the recent trend, nature and underlying reasons of capital flows to EMEs. Section II highlights different dimensions of vulnerability associated with large capital flows to EMEs. Appropriate policy responses, necessary to insulate domestic economies against volatile capital flows, are discussed in Section III. Section IV provides India's position with respect to cross-border capital flows. Section V reflects on implications for banks in India. Section VI provides concluding observations.

Chart 1: Net Capital Inflows to Emerging Market and Developing Economies



Source: WEO database, IMF.

*Dr. Barendra Kumar Bhoi, Former Principal Adviser and Head of Monetary Policy Department, Reserve Bank of India (RBI) and currently, Visiting Fellow at Indira Gandhi Institute of Development Research.

**Dr. Jang Bahadur Singh, Director, Department of Economic and Policy Research, RBI.

Views expressed here are personal. Support for data collection received from Dr. Kratika Shrivastava and Ms. Mansi Sharma is acknowledged with thanks.

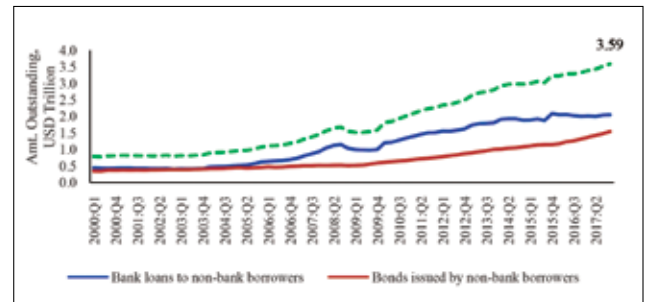
I. Capital Flows to EMEs

There are at least two major episodes of large capital flows to EMEs in the recent past; one is before the East Asian Crisis (EAC), which exploded in the late 1990s and the other is prior to the sub-prime crisis (SPC) in the US, intensified into the Global Financial Crisis (GFC) after the collapse of the Lehman Brothers in September 2007. The nature of capital flows and the driving forces behind such flows to EMEs in these two episodes have been different. Before the EAC, capital flows to EMEs were mostly in the form of Foreign Direct Investment (FDI). As these inflows predominantly financed their Current Account Deficit (CAD), EMEs could not accumulate adequate reserves during this episode. Moreover, exchange rates in EMEs were relatively less flexible during this period. Large CADs and overvalued currencies were not sustainable leading to EAC in the late 1990s.

Capital flows to EMEs prior to SPC were mostly in the nature of bank lending and portfolio flows in search of high yield. Easy monetary policy pursued by most developed countries during the period of great moderation (2002 to 2007), contributed significantly to such capital flows to EMEs. On the basis of lessons learnt from the previous crises, EMEs have not only built up sizeable reserves, particularly in the aftermath of the EAC, but also allowed their exchange rates to be more flexible, barring a few countries in the Middle East, which preferred to remain under fixed exchange rate pegged to the US dollar. Macro-economic fundamentals of the EMEs were somewhat better prior to SPC in 2007. Nevertheless, there were disruptions in capital flows to EMEs immediately after the global financial crisis. In the post crisis period, capital flows to EMEs resumed in 2010, and sustained till 2015, amidst intermittent disruptions due to adverse international developments mentioned above. Moreover, portfolio allocation was mostly in favour of debt rather than equity (Fratzscher, 2011). Since Chinese stock market crash in 2015, capital flows to EMEs declined dramatically. Net capital flows to EMEs

seems to have dried up coinciding with normalization of the US monetary policy since December 2015. According to the Bank for International Settlements (BIS), the outstanding stocks of US dollar credit to non-bank EME borrowers roughly doubled since 2008 and stood at USD 3.6 trillion in December 2017 (Chart 2). Growth was specifically pronounced in international debt securities (BIS Annual Economic Report, 2018).

Chart 2: USD Denominated Credit to EME Non-



Bank Borrowers

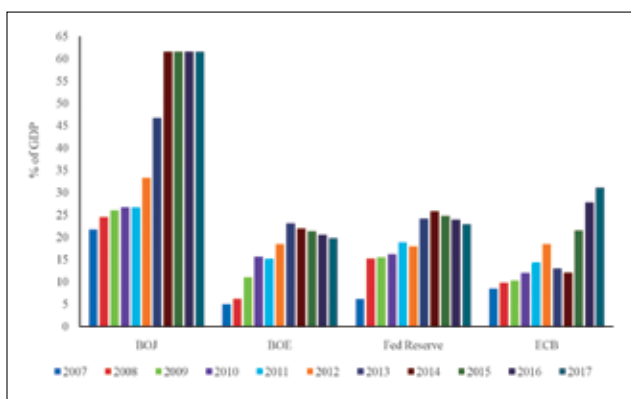
Source: Annual Economic Report, 2018, BIS.

Notwithstanding modest CADs, why was capital flows to EMEs so large after the GFC? Was there a genuine increase in risk appetite by Foreign Institutional Investors (FIIs)? Or was it an arbitrage opportunity – borrowing from AEs at ultra-low interest rates and investing them in EMEs at sufficiently higher rates? Major determinants of capital flows to EMEs, as available in the literature, are global liquidity, interest rate differentials, the US monetary policy, volatility in global financial markets, and country-specific factors like growth potential, return on equity, twin deficits – gross fiscal deficit (GFD) and CAD, exchange rate, and domestic inflation rate. According to empirical findings: a) global ‘push’ factors dominated idiosyncratic ‘pull’ factors in respect of gross capital flows to EMEs in the post-GFC period; b) foreign direct investment was mostly influenced by growth differentials and country-specific fundamentals; c) portfolio flows were more sensitive to quantitative easing/ global liquidity and interest rate differentials

during the post-crisis period (Ahmed et al. 2013, Acharya et al. 2017, Chandrasekhar 2008, Ghosh et al. 2017).

Immediately after the GFC, most advanced economies (AEs) pursued ultra-accommodative monetary policy. Large scale quantitative easing, popularly known as Unconventional Monetary Policy (UMP), could not stimulate growth in AEs although prevented a 1930s-type depression. Where did the liquidity, unleashed by the UMP, go? A sizeable part of this money was deposited in central banks pursuing UMP, making the size of their balance sheets unusually large, reflecting underlying weaknesses in those economies (Chart 3). Compression of term and risk premiums in AEs was un-precedented, which triggered capital flows to EMEs in search of higher return. Despite surge in liquidity, commodity market did not benefit as commodity prices continued to remain subdued in global markets. While portfolio investment in EMEs by Foreign Institutional Investors (FIIs) was largely driven by interest rate differential, non-bank non-financial companies in EMEs also preferred to borrow from AEs, particularly through issuance of corporate bonds due to prevailing low yield.

Chart 3: Major Central Banks' Balance Sheet Size

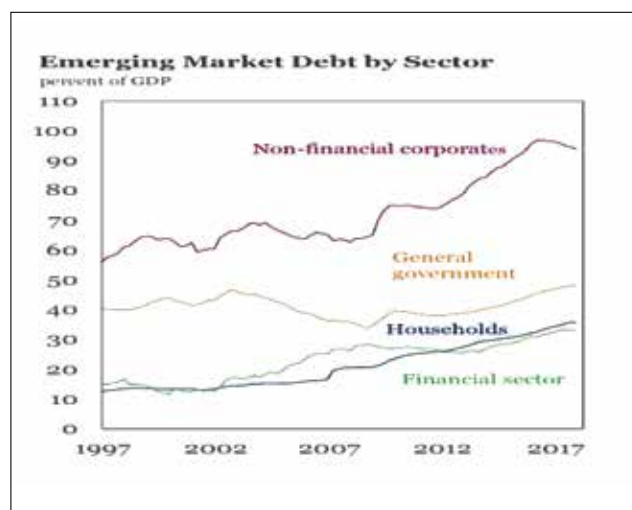


BOJ: Bank of Japan; BOE: Bank of England; ECB: European Central Bank

Sources: WEO database, IMF and Bloomberg.

The non-bank non-financial companies in EMEs have been highly leveraged in the post-GFC period (Chart 4). They borrowed heavily from domestic as well as overseas markets in the post-crisis period following compression of yield and rock bottom lending rates. The debt-to-GDP ratio in EMEs increased phenomenally since 2009, and surpassed the same for the developed countries since 2014, (Chui et al. 2018). The share of bond issuances as proportion to total debt by the corporate in EMEs have gone up from around 10 per cent in 2009 to around 17 per cent in 2014. Of the total bonds issued by EMEs, while local currency bonds constituted the major chunk, the share of foreign currency bonds also increased significantly. Moreover, increasing portion of local currency bonds is being held by non-residents due to opening up of the local debt market by EMEs to foreign portfolio investors.

Chart 4: Emerging Market Debt by Sector



Source: Global Debt Monitor, IIF.

II. Dimension of Vulnerabilities

Portfolio flows are susceptible to capital flight in response to adverse global developments. Flight to safety has been recently observed due to fall in the interest rate differentials between AEs and EMEs coinciding with normalization of the US

monetary policy. Despite sustained macro-economic fundamentals in EMEs, it is intriguing to observe sudden decline in risk appetite by FIIs. Large outflow of portfolio investment, particularly from the debt segment, has been a matter of concern for EMEs. The trend is likely to continue keeping in view turnaround in the global interest rate cycle, particularly in the context of rise in the US interest rates - both short-term and long-term.

As global banks were risk-averse and global interest rates were perceived to remain low for a longer period, corporates in EMEs like South Africa, Brazil, Chile, Russia, Indonesia, Philippines, Mexico and Turkey accelerated their borrowings from the global markets through issuance of foreign currency bonds. Moreover, corporates in the non-tradable sector borrowed more in foreign currency vis-a-vis in home currency, than those in the tradable sector (Chui et al. 2018).

Immediately after the GFC, outflows of capital from EMEs were mostly from the equity segment of the capital market, but after the taper talk in 2013, outflows were mostly from the debt segment (Acharya et al. 2017). Since the time of taper tantrum, EMEs have generally encountered bouts of depreciation pressure on their currencies. Despite depreciation of home currency, export growth from EMEs continues to remain sluggish. Moreover, the recent revival of export growth is likely to be short-lived mainly due to intensification of trade war. Hence, corporates in the tradable sector in EMEs, despite having natural hedge in terms of earning in foreign exchange, find it difficult to service their external debt.

Corporates in the non-tradable sector, who have exposure in foreign currency, will encounter serious repayment problem due to currency mismatch. As their earnings are in local currency, they are at risk on three counts. First, overseas debts are typically negotiated at variable rates linked to LIBOR, which is on the rise since 2016. Second, corporates generally do not hedge their foreign currency

exposures, particularly during the phase of currency appreciation. Third, they have to bear the burden of currency depreciation while converting their earnings in local currency into foreign currency for servicing their external loans.

There is another dimension too relating to debt repayment capacity. The debt servicing burden of corporates in EMEs looks alarming in the context of deterioration in their profitability, solvency, and asset quality. According to the BIS working paper (No 550), return on equity, both in developed and EMEs, was around 12.5 per cent in 2013. By 2015, this has come down significantly to about 8 per cent in EMEs compared to above 10 per cent in developed countries. Moreover, the debt repaying capacity, measured by interest coverage ratio - the ratio of earnings before interest, taxes, depreciation, and amortization (EBITDA) to interest expenses - has dwindled to below 6 in EMEs compared to more than 10 in developed countries in 2015.

III. Policy Responses

Large capital inflows to EMEs generally push up domestic prices, exert appreciation pressure on the Real Effective Exchange Rate (REER), and contribute to overheating of the economy due to low absorption capacity. Sudden reversal of capital flows typically creates undue volatility in financial markets like fall in equity prices, depreciation of the home currency, hardening of interest rates, etc. Moreover, conduct of independent monetary policy becomes difficult due to large variation in capital flows. Policy makers in EMEs typically respond to large capital flows through a combination of instruments. Although generalization is not appropriate, broad trends can be analyzed with regards to EMEs' policy responses during large capital inflows and outflows.

Literature suggests at least five tools to mitigate adverse consequences of large capital flows to EMEs (Ghosh et al. 2017). These are: a) monetary policy, b) fiscal policy, c) exchange rate policy, d) macro-prudential policy, and e) capital controls. As large

capital inflows are inflationary, EMEs typically pursue tight monetary policy. Capital inflows, particularly portfolio debt inflows to EMEs, accelerate following tight monetary policy as interest rate differentials widen between AEs and EMEs. The REER generally appreciates during large capital inflows, which provides an opportunity to FIIs to remain un-hedged while taking arbitrage position. Unfettered portfolio investment is not advisable as these funds quickly move out of EMEs as soon as stress on exchange rate is visible or interest rate differentials shrink.

According to the conventional wisdom, fiscal policy should be restrictive during large capital inflows. This would supplement tight monetary policy and avoid inflationary pressures to build up further. In reality, fiscal tightening is rarely used as there is great temptation to accelerate growth and thereby, attract more capital by improving growth potential. As the absorption capacity is low in EMEs, potential growth is quickly reached. Thereafter, overheating concern emerges defeating the very purpose of accommodative fiscal policy at the time of excess capital inflows.

Market intervention by central bank is the most commonly used policy response during large capital inflows. This can prevent currency appreciation for a temporary period, but complicates liquidity management. Tight monetary policy, advocated as alternate policy response to control inflationary pressures associated with large capital inflows, is compromised due to market intervention. Hence, central banks typically pursue sterilization through open market sale of securities together with market intervention. Sterilization is expensive and distortionary. Therefore, it cannot be a good policy option on an enduring basis. Many countries relax capital outflows in such a situation so that both overheating and currency appreciation pressures can be reduced. Premature relaxations of capital outflow by EMEs may prove to be counter productive if large capital inflows are found to be temporary.

If credit growth is excessive following surge in capital inflows, it would be appropriate to pursue tight macro-prudential policy to control aggregate demand. This would obviate the need for hefty hike in policy interest rate to control inflation. In fact, a combination of modestly tight monetary policy and stringent macro-prudential policy works well to control inflation triggered by large capital inflows. There is a range of options so far as tight macro-prudential policies are concerned, which include, inter alia, lower loan-to-value ratio / debt-service-to-income ratio, hike in countercyclical capital buffers, increase in dynamic provisioning, tight liquidity coverage/ net stable funding ratios besides prudential policies related to currency-derivatives. Commercial banks often find it difficult to adjust to both tight monetary policy and stringent macro-prudential policy. More difficult is the adjustment process when policy reversals take place quickly in response to the sudden outflow of capital.

In order to avoid frequent policy changes, capital controls have also been advocated as a policy option in response to large capital inflows to EMEs. It has been observed that FII inflows rise with the fall in volatility index (VIX) and vice versa. Causation runs from VIX to FII flows, not the other way round (Lim et al. 2016). Distinction is often made between types of capital flows to EMEs. The FDI, for example, is typically influenced by growth potential unlike portfolio flows and, therefore, reversal of FDI is not as smooth as portfolio flows. Within portfolio flows, reallocation of portfolio has been intensified in favour of debt rather than equity in the post-GFC period. This has in fact increased vulnerabilities of EMEs during the recent period. The primary objective of capital control is to curb arbitrage driven portfolio inflows to EMEs, which create financial instability besides repayment problems due to currency/maturity mismatches. To the extent that capital inflows to EMEs are driven by global factors, there is a clear case of capital controls supplemented by

other policy options (Ghosh et al. 2017). In case, capital flows are driven by idiosyncratic factors, capital controls may be a misguided policy option. The capital scarce EMEs may be deprived of foreign capital due to capital controls.

The policy-mix pursued by EMEs is non-standard and largely depend on country-specific situations. Financial stability concern may call for utilization of macro-prudential policy. Central banks may intervene in the foreign exchange market when REER appreciates and tighten monetary policy if overheating is visualized. The real problem starts when there is capital outflow. Defending exchange rate through market intervention has not been very successful in EMEs except reducing exchange rate volatility for a temporary period.

There has been significant escalation of global uncertainties in the post-crisis period. While financial globalization is the major reason behind heightened uncertainties, some uncertainties have been man-made. These include intensification of trade war, sanctions against a number of countries, geopolitical risks associated with oil prices, and inadequate global safety net. At least political leadership at the global level should come to the negotiating table to reduce man-made uncertainties and promote multilateral trade.

The best safeguard against volatile capital flows is to pursue structural reforms so that medium-term fundamentals remain sound in EMEs. It is, therefore, suggested that EMEs should increase the resilience of their economies through structural reforms. The guideposts, inter alia, include responsible fiscal policy, sustainable CAD, and low inflation. Better to keep the house in order, so that collateral damage to the economy due to large capital flows is limited.

IV. India's Position as Regards Capital Flows

India's external sector policy has been cautious ever since structural reforms started in 1992. Despite significant moves towards liberalization, Indian

rupee is not convertible so far as capital account transactions are concerned. As regards cross-border capital flows, liberalization progressed in a calibrated manner. Debt flows have been regulated more stringently compared to equity flows. External commercial borrowings have been regulated. Portfolio debt flows have been allowed within limits set by RBI for both sovereign papers and corporate bonds from time to time.

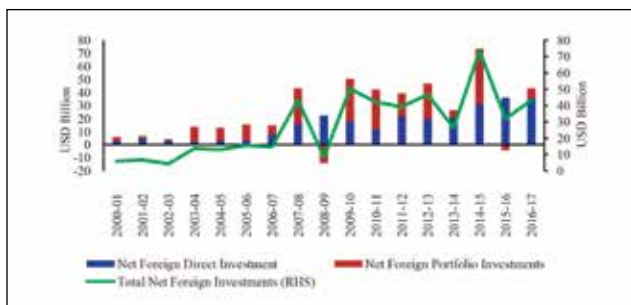
Aggregate capital flows to India in the post-GFC have been large, bulk of which has been foreign investment (Chart 5). However, volatility of capital flows to India has increased significantly since 2013-14, mainly due to fluctuations in foreign portfolio investment by FIIs while foreign direct investment flows have been relatively more stable (Chart 6). There has been noticeable improvement in India's CAD since 2013-14, coinciding with the fiscal consolidation, except recent deterioration mainly due to rise in crude oil prices. As a consequence of low CAD and large capital flows, REER of rupee has appreciated since 2013-14 (Chart 7). India's foreign exchange reserves, which were sufficient for 7 months of import cover in 2013-14, has gone up to nearly 12 months following significant build-up of foreign exchange reserves. Resilience of India's external sector has improved significantly now as compared to 2013-14 when taper tantrum was announced.

Chart 5: Components of Capital Flows



Source: Handbook of Statistics on Indian Economy, RBI.

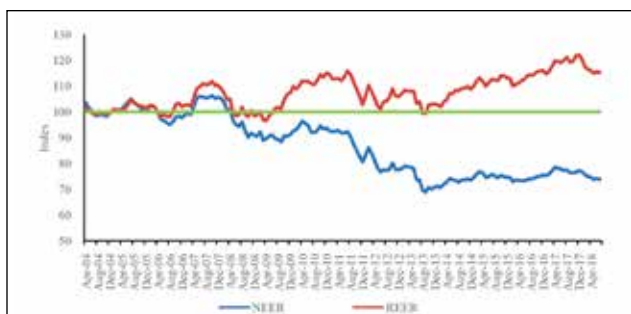
Chart 6: Composition of Foreign Investments



Source: Handbook of Statistics on Indian Economy, RBI.

Chart 7: Nominal and Real Effective Exchange Rate (Trade Weight)

(CPI-Based) (36 Currency) (Base: 2004-05 = 100)



Note: Increase in indices indicates appreciation of Rupee, and vice versa.

Source: Bulletin, RBI.

Despite sound external sector, low inflation rate and sustainable CAD/GFD, Indian economy is not fully immune to capital flight. During 2018 so far (August 21), FIIs have withdrawn about ₹68 billion from India's debt market and ₹48 billion from equity market. India's equity market continued to remain buoyant as purchases by Mutual Funds more than offset FIIs' withdrawal. Depreciation of rupee could not be prevented notwithstanding RBI's market intervention. Although orderly correction of REER is desirable, sudden capital outflow is a cause for concern despite sound macro-economic fundamentals.

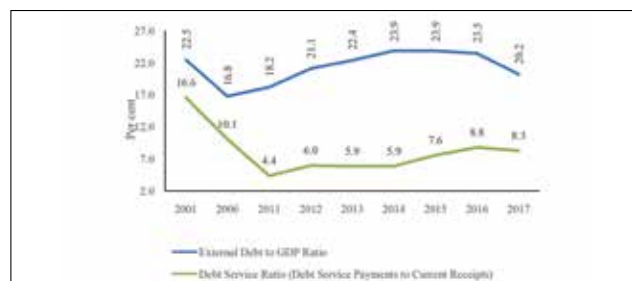
India's debt market is under pressure for several

reasons. FIIs' sudden loss of appetite for Indian debt papers is one of the major reasons for the recent rise in 10-year benchmark yield. Several other factors like two successive hikes in repo rates by RBI, inching up of inflation rate and turnaround in the domestic credit cycle have contributed to the hardening of yields.

V. Implications for Banks in India

India's twin balance sheet problem continues to linger. While NPA problem of banks are being addressed through multiple initiatives, it cannot be completed without improvement in the balance sheets of corporate sector. India's external debt-to-GDP ratio is modest, even external debt service ratio is within the safe limit of about 20 per cent (Chart 8). Nevertheless, India's short-term debt to total debt as per residual maturity is as high as 42 per cent. Corporates who have borrowed earlier from the overseas market have to bear the burden on several counts. First, turnaround in global interest rate would increase their interest liabilities. Second, rupee depreciation would require more funds to convert domestic earning into foreign currency to service overseas debt. Third, foreign debt cannot be a good substitute for domestic debt anymore, as overseas interest rates are moving northward following normalization of monetary policy in AEs. Given the inherent balance sheet weaknesses, it would be difficult for Indian corporate sector to face domestic insolvency burden as well as overseas repayment commitments at a time of rising interest rate cycle in India and abroad.

Chart 8: India's External Debt-GDP and Debt Service Ratios



Source: Annual Report, RBI.

The impact of capital outflows on banks' balance sheet would be significant. First of all, there will be shortage of liquidity in the market for several reasons such as market intervention (dollar sale) by the RBI, pick-up in credit growth due to industrial recovery and redemption pressure arising out of liquidation of FII's portfolio investments (debt / equity). Second, treasury management will be complicated following shortage of liquidity in the market. Third, while adjusting to evolving tight credit conditions, commercial banks may have to reduce gradually their debt portfolios and incur loss on account of recent rise in sovereign yields. Fourth, banks' NPA problem may deteriorate further due to increase in delinquency as most of the corporate borrowers from overseas markets have not fully hedged their foreign exchange exposures. Fifth, sudden crash of equity markets may compound the problem as Mutual Funds, to meet redemption pressures of their clients, may withdraw their investments from banks' Certificate of Deposits (CDs). Finally, in a tight liquidity situation, it would be difficult for banks to borrow from the domestic market at competitive rate for their capital requirements.

Going forward, commercial banks may have to further tighten their risk management in respect of all cross-border transactions. They may have to reduce their dependence on Mutual Funds for short-term deposits, and also to pro-actively carry out their treasury management function in a tight liquidity condition. Banks serving as custodian to FIIs may be required to remain vigilant on FII's activities. Further, holding of excess SLR securities may be beneficial for banks for their liquidity management as well as meeting liquidity coverage ratio. Banks may also have to sensitize their customers to reduce unhedged foreign currency exposures to minimize vulnerability arising out of currency mis-matches. Commercial banks may have to refrain from overseas borrowings for capital requirements, particularly at variable rates, as the global interest rate cycle is at the early stage of upswing.

VI. Concluding Observations

Financial globalization has opened up new opportunities and challenges for EMEs. Capital flows, particularly portfolio flows to EMEs, have been more volatile in the post-GFC period. Normalization of monetary policy in advanced countries throws new challenges for EMEs due to turnaround in the global interest rate cycle. This has increased the burden of debt service payment by EME corporates, who have borrowed heavily from global markets, when interest rates were low. Going forward, synchronized contraction of balance sheets of major central banks is likely to reduce global liquidity. This together with normalization of monetary policy, would push up global interest rates further. As interest rate differentials between EMEs and AEs are expected to shrink, adequate margin would not be available for FIIs to sustain their risk appetite for EME's financial assets. Recent slowdown of capital flows to EMEs has already weakened most of the EME's currencies. Corporates in EMEs are currently facing exchange risks due to un-hedged exposures. Moreover, given the weaknesses of their balance sheets, they may find it extremely difficult to honour their external commitment unless there is appreciable increase in their debt servicing capacity.

Amidst heterogeneity, EMEs have used multiple policy tools to deal with large capital inflows. These include, inter alia, tight monetary/fiscal policies, market intervention, macro-prudential regulations and capital control. The global environment is progressively turning hostile against the EMEs. Capital flows to EMEs are likely to remain constrained due to headwinds coming from global uncertainties, shrinking of balance sheets of major central banks and tightening credit conditions following rise in interest rate cycle. While policy making has been complicated in an era of financial globalization, idiosyncratic risks can be reduced by maintaining domestic macro-economic balances. Moreover, corporate sector should be more responsible to

avoid large currency and maturity mis-matches. Commercial banks may have to further tighten their risk management and also be proactive in their treasury management.

The growth prospects for EMEs may become more uneven due to various factors, which include, inter alia, rising trade tensions, geopolitical concerns and tighter financial conditions. These evolving developments could potentially result in weakening of risk appetite of investors in EMEs markets causing frequent disruptions in portfolio adjustments along with volatility in exchange rate movements. This may in turn lead to further reversal of capital flows from EMEs, particularly from countries with weaker macro-economic fundamentals or higher geopolitical risks. EMEs may have to address such challenges by way of enhancing their resilience in medium-to-long term horizons through an appropriate mix of fiscal, monetary, exchange rate and macro-prudential policies. In a nutshell, the enduring solution lies in structural reforms to improve the resilience of EMEs, so that they can have least disruptions in the event of sudden reversal of capital flows.

References:

1. Ahmed, S. and Andrei Zlate (2013). 'Capital Flows to Emerging Market Economies: A Brave New World?', Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 1081, June.
2. Acharya, Amarendra, Prakash Salvi, Sunil Kumar (2017). 'Global Liquidity and Foreign Portfolio Flows to India: An Empirical Assessment', Reserve Bank of India Occasional Papers, Vol. 38, No. 1&2.
3. Chandrasekhar, C. P. (2008), 'Global Liquidity and Financial Flows to Developing Countries: New Trends in Emerging Markets and their Implications', G24 Discussion Paper Series, No. 52.
4. Chui, M., Emese Kuruc and Philip Turner (2018). 'Leverage and currency mismatches: Non-financial companies in the emerging markets', DOI: 10.1111/twec.12627, wileyonlinelibrary.com/journal/twec © 2018 John Wiley & Sons Ltd.
5. Chui, M., Emese Kuruc and Philip Turner (2016). 'A new dimension to currency mismatches in the emerging markets: nonfinancial companies', BIS Working Papers No 550.
6. Fratzscher, Marcel (2011): Capital flows, push versus pull factors and the global financial crisis, ECB Working Paper, No. 1364, European Central Bank (ECB), Frankfurt.
7. Ghosh, Atish R., Jonathan D. Ostry, and Mahvash S. Qureshi (2017) 'Managing the Tide: How Do Emerging Markets Respond to Capital Flows?', IMF Working Paper, WP/17/69.
8. Iñaki Aldasoro, Claudio Borio, Mathias Drehmann, (2018) 'Early warning indicators of banking crises: expanding the family'; BIS Quarterly Review, March.
9. Lim, Jamus J. and Sanket Mohapatra (2016). 'Quantitative easing and the post-crisis surge in financial flows to developing countries', Journal of International Money and Finance, Elsevier, Vol.68, November, pp 331-335.
10. Patra, M. D., S. Pattanaik, J. John and H. Behera (2016), 'Global Spillovers and Monetary Policy Transmission in India', RBI Working Paper, No. 3.
11. Verma, R. and A. Prakash (2011), 'Sensitivity of Capital Flows to Interest Rate Differentials: An Empirical Assessment for India', RBI Working Paper, No. 7.





Risk Management in the next decade



V. R. Iyer*

Arun Kumar**

Looking at the current state of affairs in the banking system in India, a thought comes to mind – were some of the bankers in India as reckless as the real estate builders prior to introduction of RERA. Is RERA type regulation required to protect the depositor? Whoever understands risk better definitely manage it better. Amongst the various stakeholders – owner, regulator, banker, government, depositor, borrower and employees – the banker’s interest in managing risk is utmost since, he is accountable to everyone else. The banker obviously has to understand risk better and manage it.

Risk management sits at the centre of banking and it is no coincidence that those firms which escaped the crisis relatively unscathed were those with a strong risk culture. Conversely, those banks that were bailed out by taxpayers either had inadequate risk management or neutered the function as it was regarded as an un-helpful brake on runaway growth, rather than an essential means of preserving shareholder value.

Before extrapolating on the risk management changes in the next decade, a review of the major risk events across the globe and in India is called for.

Major risk events impacting banking in India in the last decade

Global level

The 2008 International financial sub-prime crisis leading to Lehman brothers implosion, Bear Stearns collapse, Government capital and liquidity support for banks such as - RBS, Northern Rock, Fortis - fragile Italian banks, US Treasury rescue of Fannie Mae and

Freddie Mac, Dodd Frank Act, Brexit, LIBOR market players conduct, recurring oil price fluctuations, Iran sanctions by the US government, New disrupting technologies, global ransomware attack that affected the computer systems of governments and several companies in various countries, including India.

India level

Basel 3 migration and implementation, Demonetisation, the Insolvency and Bankruptcy Code (IBC), GST introduction, Huge NPA build-up due to infrastructure lending, high level of credit, forex and operational related frauds witnessed, Malware related security breaches in banks card operations, external audit failures reflected by NPA divergences, corporate governance failures, PCA invocation in many banks by RBI, progressive integration of different markets – banking, capital, debt etc. - convergence of IT and telecommunication, emergence of new competitive players – Small Finance Banks, Payment Banks, Post Bank, NBFCs, credit card companies, mutual funds, growing digitisation of the economy and banking operations, hacking of Bangladesh bank’s account with US Federal reserve with similar attempts in some banks in India, merger of SBI with its associates, merger of ING Vysya bank with Kotak Bank.

A look at the impact on SCBs balance sheets in the last three years

A review of some of the important risk ratios of scheduled commercial banks together with fraud data reveals the financial impact caused to the balance sheets of the banks as a result of the risk events.

*Former General Manager, Oriental Bank of Commerce.

**Faculty, NIIT University, Neemrana (Former Assistant General Manager, UCO Bank & Former Deputy General Manager, IIFCL).

Risk ratios of SCBs over last three years.

Risk ratio	March 2016 (%)	March 2017 (%)	March 2018 (%)
CRAR	13.30	13.60	12.80
Tier-1	10.80	11.20	7.00
ROA	0.40	0.40	(-)0.20
ROE	3.60	4.20	(-)1.90
NIM	2.60	2.50	2.70
Gross NPA	7.50	9.30	11.60
Net NPA	4.40	5.30	6.10
No. of banks under PCA		2	9
Outstanding advances of PSBs	55,93,577	55,57,232	56,97,350
Outstanding advances of Private sector banks	19,39,339	22,19,475	26,62,753
Ratio of advances of private sector banks to PSBs	34.70%	39.90%	46.70%

Frauds in the Indian banking system (₹1 lacs and above) and NPA Write offs.

Year	No. of frauds	Frauds amount (₹ Crores)	NPA Write-offs (₹ Crores)
2012-13	4235	9870	7187
2013-14	4306	9483	13795
2014-15	4639	17025	50979
2015-16	4693	16603	59445
2016-17	5076	16788	82657
Total	22949	69769	214063

Efficacy and adequacy of existing risk management techniques

The deficiencies in adequacy and efficacy of existing risk management techniques in anticipating and managing various risks has been severely tested in the last decade at the national / international level as reflected by the emerging weakness both in banks and banking system. Capital has not proved to be a panacea for protection. There has been severe underestimation of different risks across the system. PCA under Pillar 2 by the regulator has come too late and aggravated the problem instead of preventing it. The rigidity of risk management structures across banks acting with a lag as a compliance tool has not helped either. The risk

disclosures to stakeholders has been purely regulator driven without deriving the intended benefits.

The short-term approach of “run the bank” and long-term approach of “change the bank” do not need to be mutually exclusive. Banks can achieve the right balance between the two where one feeds the other.

Banking changes in next decade warranting risk management

A decade is, indeed, too long a period to predict in a fast moving world of changes (both magnitude and speed) across the economic and financial spectrum. Winners would be differentiated by their ability to exploit new digital opportunities, and to interface or compete with new digital players in areas where they have established a credible presence. Some of the anticipated changes could include the following:

- Acceleration of disintermediation through new financial instruments / structures / institutions with more global integration of markets and diverse products.
- Technological innovation driven by Fintech, block chain technology, bitcoin, artificial intelligence, virtual reality, e-wallet, P2P banking, e-commerce players.

- Re-drawing of the banking landscape under Basel III / IV etc. with profound impact on profitability forcing banks to merge and transform their business models.
- Wide, broad, deep and rigorous regulatory changes covering capital needs, money laundering, employment practices, environmental standards with attendant rising compliance costs, penalties and fines.
- Increasing complexities in money laundering and related management challenges.
- Key transformation - transition to International Financial Reporting Standard - IFRS accompanied by incremental MTM for banking book and dismantling of HTM.
- More systemically important banks with mergers of weak banks with stronger ones.
- Huge demands on banks in the areas of - management of liquidity, ALM mismatches, agriculture debt waivers and mandated lending.
- Increasing costs for deposit insurance, credit insurance, operational insurance.
- Stronger and complex consumer protection laws, higher consumer awareness and more litigation against banks.
- Chances of class action suits up in India particularly in FII held banks.
- Larger range of stakeholder target oriented intensive risk disclosures including credit rating of banks in public domain.
- Economic trade and currency wars spilling over to the financial system.
- Uberisation of banking – increasing transfer of risks and outsourcing.
- Customers will expect intuitive, seamless experiences, access to services at any time

on any device, personalized propositions, and instant decisions.

Emerging risks

The top risks for the system and each bank have been changing on dynamic basis. Some of the risks which were hitherto absent would emerge. New risks are not limited to cyber. They can arise out of economic trends, geo-politics, clients and counterparties, markets and competitors, legislation and regulatory activity, internal processes and employees, and outsourcing. There will be faster rate of transition of risk shocks with higher frequency and larger impact to be managed.

- Leadership instability.
- Maintaining market share and profitability, managing competition.
- Accessing capital at optimal cost and managing market capitalisation.
- Rising operational risks – Process risk, information overflow, compliance & reputation plus entire range of Cyber risks - attacks, data security fraud, theft .
- HR risks- Monetising/retaining knowledge, conduct risk - own and outsourced employees, Sales/Market conduct, conflicts of interest, financial crime
- Economic & monetary shock absorption (contagion) and managing IFRS and tightening accounting and PCA norms .
- Unexpected high severity risk events threatening the very survival of the bank, such as data destruction and network disruption.
- Growing prominence of man-made risks vis-a-vis systemic risks.
- Risks linked to market volatility could materialize and vulnerabilities in the system will come to the test when markets get stressed.

What could be the major risk management challenges?

The risk management challenges to be battled will definitely vary with different countries based on economic and financial strength, level of market development, size & ownership of banking business, business lines and geographic spread as the pace of change accelerates as risk inter-connections deepen amidst proliferating signs of uncertainty, instability and fragility. Some major challenges identified are -

- With weak internal capital generation and low investor confidence impeding access to the equity capital market, finding capital to help clean-up balance sheets, meet Tier-1 Basel 3 needs, and fund growth.
- Quicker obsolescence of risk measurement systems requiring frequent risk model revisions, frequent software upgradation, superior back testing and simulation models.
- HR risks related to changes in human behaviour and motivating factors.
- Risks in bundling and cross-subsidising of products and services.
- Data security and IT related fraud prevention.
- Reputation risk management.
- Un-detected frauds – loans seasoned for years as NPA before detection as frauds.
- Change management – technology adaption, banking laws, business laws, business processes, organisational structures, alternate delivery channels.
- Managing shifting needs of consumers/businesses, capturing the opportunities and managing the risks.
- Big data challenges (Volume, Velocity, Variety, and Veracity) using new (and now open source) tools and ideas.

- Transiting from painfully outdated IT legacy systems.

Risk management faces a period of large scale change. Under any of the scenarios that may play out in banking, risk functions will need to hone their abilities in many areas. They will need to be able to identify and address new risks quickly, be more agile and modular, deliver new technology and techniques rapidly, and work increasingly in partnership with finance, operations, and the businesses. These changes will require them to recruit, develop, and retain staff with skills that differ significantly from those that are found in risk functions today.

Countering the challenges

Risk management positioning would have to change by moving upfront from a reactive and response oriented to a pro-active function fine tuning risk in all business decisions by the decision makers with self-policing, self-sustaining risk management processes.

A fundamental change in approach towards risk is called for tracking opportunities and enabling business growth and profits. A few suggestions that can be explored -

- Having a Chief Strategy Officer to decide on new lines of business and acquisitions, product/service innovations, HR management.
- Usage of predictive analytics, big data, machine learning, crowd sourcing fintech, block-chain technology, IOT, AI, robotics, larger process automation.
- Reduction of information asymmetry between borrower and lender to address credit risk ab initio.
- More forward looking ICAAP – internal capital adequacy assessment process.
- Enhancing range of services which can be outsourced to optimise benefits.
- To reduce risk collaborating more closely with

the business by integrating and automating the correct behaviour to eliminate human interventions.

- Investing in preventive software with real time online risk assessment, bank's positions and exposures, strengthening vigilance, monitoring and security control, both for in-house operations and external vendors.
- Development of better transfer pricing and cost centres, frequent revision of risk limits and re-appraisal of bank's risk appetite.
- Adoption of best practices from other industries with CEO and bank Directors from non-banking field e.g. airlines, pharmaceuticals, the military – how they continually seek to identify and manage new and critical risks.
- Role changing of risk management from a purely support function to a more business development and control function.

From a regulators standpoint, the challenge would be to keep the financial system stable on the one hand, while allowing the financial sector to innovate and grow, and serve the needs of the economy and society on the other. This would mean taking a proportionate approach to risk, so that banks can

achieve resilience with efficiency, stability with growth, safety with innovation.

To conclude, have you wondered why is it that when an airline in India suffers huge losses, it finds it difficult to pay salaries (may be from depositor's money), while banks in same position don't worry at all and continue to pay income tax without actual cash inflows on accrued income. Are accounting practices on accrual basis and the fact that bank's business is enmeshed with money business responsible?

Acknowledgements

The authors thankfully acknowledge the following sources and references for writing the article-

RBI Financial stability report June 2018

The future of Bank Risk Management - Mckinsey report

The Economist

Article by Breana Patel CEO Bonova Advisory - Forbes.com

The future of risk management ten years after the crisis - Thomas Garside and Jonathan Mitchell





Role of Technology in Banking in the next decade

 **S. Mukhopadhyay***

Technology evolves, expands in area and scope, in small, or even infrequent large steps, and helps create new products /services / processes. Technology is the enabler, the tool, the creator of differentiating edge over competition, and even the driver of business, quite often. All the connected parties in a business are not equally affected by any change, but market forces drive all to change business rules, roles and preferences, or products. New skills and roles appear; older roles, jobs, routines and skills are rejected. In this way – technology brings new learning, new communications, changes knowledge/skill groups, as also, on the other hand - destroys, disrupts and readjusts people, business and working relations. This is ongoing.

For the next decade now, the interplay of technologies in banking, and the newly arriving pieces of technologies/processes that impact banking and business entities – will similarly impact the future course. In the next few paragraphs, we try to venture some predictions on the nature and form of the change for the near future. For this, we look at the existing as also a few new pieces of technology and business practices currently making rounds.

Anyone in banking industry will tell that the technologies to definitely impact banking in the short or mid-term are the ones like Blockchain, Cloud, P2P financing (marketplace lending), Digitisation, Analytics, AI, Bitcoin or its equivalents, etc. These are the pieces of current phase of technological evolution in service industry. With changes in this delivery or handling technologies, the basic business model

or relationships in banking may change somewhat only in the next decade, but the market realities may change significantly. With all of these, the depth of the role of technology in banking will anyway increase.

Before detailed examination of the technology pieces, a few basic observations on technology–bank relationships may be pertinent.

- Firstly, all new activities in banking may not be upon a technology invented yesterday or a completely new technology only. Often, the ingenuity of human minds creates new processes or relationships using existing technologies, may be with small changes. For example, encryption and digital signatures have been there, but, using the same components, the new Blockchain technique creates a new paradigm by removing the need of the banks at the two ends to be the sole authenticators. It achieves a chain of trust of many intermediaries that can even exclude banks altogether. While it has made waves, – the process is new – supported by technology with small amendments.
- Secondly, existence of a technology to do a thing in a certain way, may not be sole criterion for its adoption. Government control or overall business risk may compel to limit adoption of such a technology.
- Thirdly, technology for business has been a platform, a tool, an enabler, and facilitator. This basic relationship is not easily going to be jettisoned. However, roles of data processing,

*Former General Manager & Chief Information Security Officer, State Bank of India.

message creation, as also human functions like authentication of genuineness of a transaction/communication are on technology. So, if the specific tech-tool for one of such activities used faces changes in technologies, it may force adoption and process change in business, changing functionality of related business roles. Technology thus changes business.

- Fourthly, some technology developments may also open up possibilities of new service, like it has been for credit cards or biometric micro ATMs and nationwide ATM switch.
- Lastly, overall technology advancements quicken and improve speed of message exchanges, enables real time multi-functionary participation for business decision, etc. These type of common infrastructural improvements improve and enrich business, including banking, catalysing widespread small changes in ways to operate / plan / act. This effect of technology slowly changing aspects of business always remains.
- These seem to be the general features of the role of technology on banks, which perhaps will further accentuate in the next decade.

A few dimensions of banks' capacity to adopt technology, that impacts the role of technology in banks, are also useful to understand here.

- A new technological product at its arrival in the market often sees flurry of marketing activities. By vendor interactions, bankers get idea of its capabilities. Many vendors offer new products adopting the same new technology. At this stage, often, possible customers (say bank) develop heightened expectations and incomplete knowledge. This is the 'Hype Cycle' phase of a product, after which things may settle, thoughts and understandings crystallise and sober down, which further moderates after actual use of product. The same proven trend will most likely

be seen in play in the next decade also, hyped expectations of new technologies followed by sobering actual experience.

- Often a piece of a product or solution for a niche vertical of a business (say Interest Rate Risk Management Package, or, a Nostro Account Reconciliation Tool) is developed by some small vendor and due to product's merit, a bank picks it up. It will need integration with rest of the banking system, that may leave a weak security link in the first place. With change of technology in the main software, the small vendor may not be capable of re-engineering the niche package. Further, with products like this, a situation of many disparate technical pieces at work may arise. A new technology solution for some part of this (say even the Core Banking) even if available, may not be possible to be adopted that easily, unless all the pieces can be technically brought at synch.
- Sometimes a technological development may offer a better way to do things, but may need a structural change in the solution calling for very major re-development that will need huge cost, time and effort, as also some intermediate instability. This may not be desirable and not attempted; in most cases add-on solutions are placed beside or as overlay, limiting technology adoption extent and speed.
- Another situation is of a trend that some banks may often go for additional modules or products to be sourced from existing vendors to minimise administrative problems, integration gaps or vendor conflicts. Unless, this present vendor can graduate to the new technology, this bank will have a risk of wholesale systems changeover, huge learning and integration loads to move to new technology, even if wished to have immediately. Same is the situation if a new technology of choice, does not have servicing and support in the area of operation of an organisation.

- Also, the realm of quick changes/additions in technological functionalities affects the pool of knowledge, skill, and so, spirit of the manpower. With computerisation and new functionalities, those first exposed to / trained, may be better equipped to handle the job. Old knowledge may get obsolete and the erstwhile 'experts' lose their skill, importance and even work comfort, while new 'experts' arise- leading to workplace balance adjustment. For banks, continuous staff training, update of training materials, work manuals, etc is a must to survive. Often failure to leverage latest technology products well, can be due to poor implementation, data conversion errors, incomplete understanding, absence of crucial data-fields that might not have been important earlier, etc. Data cleaning, deduplication etc., need to be done expeditiously, to enable good adoption and leveraging benefits of the fruits of technology progress.
- The above trends and features perhaps will remain the features of the role of technology in banking, in the next decade.
- Technology adoption often is done to remain relevant in a changing age, doing what the competitors do. Banks with bigger visions, knowledge culture, quick decisions, and early implementation are seen to be in a better position to be able to articulate business plans and marketing pitch earlier and better in situations of change. This leadership often makes a difference in market penetration and customer connect.
- For the next decade, nobody can say if the present state of technical leaderships will continue as it is or there may be change in rankings.
- The interplay of the factors above, and the newly arriving technologies will perhaps yield a set of mixed results for impacts of the evolving technologies on the banks.

Now, as to the possible new technology interventions, we may consider a few important current tech-pieces and the possible outcomes with them in the next decade: -

- a. Blockchain – This has come following and intertwined with cryptocurrencies like Bitcoin. There are many initiatives to use blockchain, but not necessarily in banking alone. The idea is of having the entire history of a transaction data being available for encryption by the current user and leaving the whole chain available to the next person in the transaction chain to process and then act similarly. This encryption will, so, fail, if any of the previous record is tampered anywhere in the chain. The resulting data is, so to say, lying in a 'public ledger' that no particular person (say Bank) involved in the transaction anywhere can alter.

This actually makes every participant equally responsible for data integrity of the whole chain, and no one like a bank, is to solely assure all others in the system. This is so, as the purpose was to secure transaction outside banks and Government, in Bitcoin type of cryptocurrencies.

Some banks have started projects on Block Chain technology. Block Chain, by its nature of open and transparent community owned system to carry information (can be financial message, can be monetary payment also), will have value in the public arena. For Banks, the questions will be whether to adopt it and shift money transfers through it. If banks do not join will they be left out of some business? Are customers otherwise wish to leave banks and shift to Block Chain based systems outside banking world?

Following the above, we see that availability of technology alone is not going to cause adoption, adoption of a new technology by a migration / switch-over does not mean successful use and leverage of a technology for best business outcome.

A fair guess seems to be that as a technology based business process, Block Chain is here to stay. It is early to say if its security cannot get breached or about other frauds around it. As it involves encryptions of entire data up to the point of transaction by unknown/unregulated third parties, it will perhaps be used more for non-money workflow jobs at banks. Fully bank-community owned blockchain as common channel for few banks can also come up for some activities. Further, moves will be after RBI and Government position getting formed. Technology alone creating trust outside legal and governmental controls, outside banking practices and established international set ups, does not seem adequate for business.

- b. Bitcoin etc. cryptocurrencies: - This item will be perhaps fair to be adopted only after RBI full clearance and guidelines. These are money created without country's control and also will remain so. The value of the currency fluctuates abnormally and without relation to national or global economies, or transactions underlying. May be for this fear only, most use of it are in illicit activities.
- c. Marketplace Financing/Peer-to-Peer loans: - In this arrangement, people with surplus money can, through an aggregator-cum-technical-platform-provider, lend it to any member. Accessing lender's account for withdrawal, appraisal model, loan delivery to borrower, recovery and accounting are in this intermediary's web based platform. Loan appraisal, purpose, end-use, follow up, etc are not like those of banks'. This is mostly an uncontrolled forum, easy for participants, with minimum hassle, no journeys/meetings, etc. and agreed risk taking.

What will the banks do? Lobby to RBI to remove this product? Develop a similar product from bank/s with relaxed and automated procedures

and try to capture a market slice? Package this product with others to create a foothold or franchisee chain? Tie up with the existing or oncoming aggregators/service providers in the market and create a bigger service including account-holders? Create franchisees of the intermediaries as their backend financiers. We really do not know. The last two options perhaps may have more scope to get market acceptability.

- d. Telcos, Mobile Payment platforms, e-payment vendors: - This does not need an introduction. With regulator support and public preference, these new technologies based players (like say PayTM or PhonePe or Airtel Money or so many others – the names indicate no preference), have taken away a chunk of remittance business from banks, due to their obvious operational ease and simplicity. Banks have launched their own BHIM products to join this platform, though these functionalities were mostly there in the banks already, spread around in menu options, biller arrangements, and other parameters in the banks' internet and mobile banking deliveries.

In the above disruptive developments, the new small players - nimble, fully on technology, and having very small physical footprints, are able to plan, create and activate new services that take away customers from banks, and affect banks' business. Impact of technology is playing out here making these players the market makers or customer acquirers putting the banks at background for customer to fetch /push money only optionally (otherwise, the disruptors wallets do that). Banks face demands of being ready to develop complementary applications / products to join them on the web/mobile or plug them in. Technology (or more customer centric deliveries on technology), is pushing this role modification. This will perhaps further grow in scope and extent. These dynamics may even lead the present set up into a different version

with changes in roles, business rules, services and infra –arrangements.

- e. Cloud: - Cloud services and use, after slow start and hesitancy, is spreading. The most important motive seems getting rid of lots of management overhead, and an expectation of saving costs in the long term. Public Cloud is becoming the predominant format, leaving some crucial for Private Cloud. Till now, we cannot say if the expected premise of 'additional capacity on tap without limit' sort of situations has really got tested; nor the measure of a longer term cost savings.

Major rigours in auditing and certifying or grading the providers in the country have not yet been seen. Use of Cloud is going to only increase. All what services will be in the cloud (SaaS, PaaS, IaaS, etc., and add on) and their varieties and ranges will only increase. Client organisations' capacity building in control, and oversight of Cloud Providers are expected to get created somewhat. Information Security in the Cloud is another area upon which client and regulatory activism is weak, but, expected to be seen. Data Centre quality support infrastructure in the country need to improve in this period, for all these to happen, particularly as, now we expect to have a Data Privacy law mandating data localisation (i.e. keep within the nation).

- f. Biometrics, wearables etc.,

Biometrics is more used in low ticket Financial Inclusion products but, the big payments remain mostly as before, not using safety of biometrics. Infrastructure creation and maintenance may perhaps be seen as the difficulty but, more sensitivity to this issue may perhaps show that the call is actually not so tough. Further, for authentication and invoking customer requests, the interaction front for customers may move, by customer preference, to biometrics (say voice, hand) or wearables (smart watch, gadgets).

Market will perhaps demand banks to get comfortable in these diverse technologies and their integration into banking backend.

- g. AI and Robotics: - In many services requiring much computation, crunching huge volume of data - machines have started to be employed now, and use of Artificial Intelligence. Virtual Assistants and Chatbots are there in some places. This start is not all pervasive and expected in the next decade to expand in scope and depth of coverage. Robots are in use in large scale manufacturing industries to some extent, and some banks have started putting Robots for limited guidance to customers. This trend is expected to increase.

- h. Analytics and Big Data: - Customer Centricity is the favoured idea now. Customer information is considered the source of business scope to direct banks' efforts. This means offering granularly personalised product/services, say for example, online loan with tailor-made terms of loan disbursement and repayment calendar. Change of product attributes, introduction of new products, creating or accessing credit score online, and similar many changes are to be planned and undertaken. Customer centricity will demand knowing the customer and studying customer habits for the bank (mostly online activities). Repository of such data – will have to be used for analytic study of customer and then direct messages, products etc. for that customer. The information acquired, and also many relevant environmental or market information, will include Big Data (too huge to manipulate and include unstructured data), on which Business Intelligence and Analytics need be performed. For this, Analytic and Data Science roles have started to get created, activated and expertise grown. What has happened till now has been a start and the next decade is expected to see a reasonable push in these areas.

i. Information Security: - Information Security challenges and diligences are expected to expand well. As the future is predicated with non-bank nimble players with single products or small infrastructure, the info security threat horizon expands significantly, bringing in the threats from gaps and compromises in the banks, the non-bank tech players and online customers. The attack front, malware, defrauding tactics etc. will expand. Security expertise, culture and compliances will be demanded more and more by the Regulators. Rigorous in-house security routines and exercises, process security, App and Infra securities are to be practiced quite strongly. The SIEM centre in-house or outsourced, have to be leveraged by granular check and immediate action on incidences. In-house expertise to formulate and activate the granular security check components will remain a demand in the next decade. With Cloud services spreading, in-house expertise and rigours of deriving assurances from the cloud set up and operations will also be a big need in the next decade.

The banks are yet to involve the Security Heads in the top level planning of product or strategies to any reasonable extent. Over time, security will have to be a key consideration for product, business process, employee ethics, and business choices. This is expected to get initiated in the next decade.


j. Re-orienting bankers' own attitude and understanding of business : - As the nature of 'owning' a customer, customer loyalty, and the partner business entities are going for a churn, banks have to really internalise the market threats and altered positioning of the bank over time. This will have to get reflected in altered processes, altered control tasks, employee work manuals, in-house training materials, and overall attitude re-orientation at the top as also in all layers below. Banks not willing to ride this wave

of changes, will run the risk of getting sidelined. Quite some services will get moved to machines from humans. The customer facing exchanges in such scenarios as also problem handling, are to be planned and articulated. This demand of self re-orientation and continuous agility for the bankers will perhaps get accentuated in the next decade.

k. Re-orienting products, communication, etc., in the changing scenario: - The customers, especially the younger generation have gone tech savvy. The platform of customer activity has moved reasonably from a bank counter to say internet / mobiles. In the young customers' world of Facebook or mobile games, 'App's and Virtual world, the presentation and functionalities of items are very different than our banking world. A click takes him to the middle of a game, another by its side opens study materials in a virtual library. Unknown e-entities are friends and persons to share thoughts and trust. The same ease and wide canvas of versatile services waiting for a click, is not happening for his banking, and despite having internet banking, the customer is not able to avail a loan in such short and effortless activities of clicks with about no questions raised. How less taxing and harassing it can be made for him to buy a service without risking the bank? This will not get solved by providing a link or so. This will call for change of product properties, processing workflows, security checking sequences, etc. as also customer grading, recall and fact based interactions online. With some virtual assistants or tailor-made modules, some automated routines are being put in place in the industry very slowly. Expectedly, thorough and in-depth work in this area, involving lots of re-design, can remain a need throughout the next decade.

We have considered possible areas of major activity in the next decade for banks now. Further,

new disruptions can appear. Some areas may have more activities than others depending on progress, early success, competition. As a result of these multiple push and pull, the role of technology in banking will actively grow and

transform, in some combination of most of the factors above in the next decade. The extent of predominance of one factor above other, is hard to guess, and will - as always, keep the future unpredictable and, as well unknown. 



Ethics in Banking – The Way Forward

 **Rakesh Kaushik***

Ethics in its simplest terms means our conduct, our moral values and righteous behaviour. Although, in practice, some of these values keep changing depending on the place, time and situation, the core values remain the same. The basics do not change. Ethics is the discipline that deals with what is good and bad or what is right and wrong. Ethical conduct has an important role to play in business. A business which is conducted ethically alone shall survive in the long run. And that is equally true in case of banking.

To quote the former Chairman of the Tata Group-Bharat Ratna¹ J. R. D. Tata, “No success or achievement in material terms is worthwhile unless it serves the needs or interests of the country and its people and is achieved by fair and honest means.” Ethical conduct is therefore a means to an end.

In modern times, ethical conduct has unfortunately been side-lined because of the increasing importance being given to money. When you start eulogising business organisations or people on the basis of their profits/materialistic achievements without caring two hoots about the way they have made their money or the way they have achieved their status or the ways and means adopted by them to grow/go up the organisational ladder, the ethical standards in any society will go down drastically. In the context of the banking and financial services sector, indulgence in risky and unethical behaviour by innovations in the form of creative products or unwarranted actions or bending of rules and regulations is also becoming quite frequent. This is largely due to the need to show better performance in the fiercely competitive

business environment, to retain one’s position in the organisation, for personal financial gains or simply to go down in the annals of history as a great manager. And this is a world-wide phenomenon.

The Ethical Predicament

Bankers deal with public money. The growing competition within the industry, business complexities, economic upheavals, increasing economic disparities after liberalisation, policy changes, changes in lifestyle, and changes in expectations of shareholders, government and regulators have all put ethics to a test never seen before.

We have a general impression about ourselves that we are always right. And there is a general tendency to mould everything to suit our convenience especially when our own interests are involved.

Let us take the example of entitlements of employees to substantiate what we mean. All employees are entitled to reimbursement of various expenses, while on official duty. The upper cap on such payments generally depends on the seniority of the employee. The general practice in most of the organisations in this case at all levels is that the employees certify having incurred the expenditure and retain the unspent amount and the organisations too, accept their certification. And this happens irrespective of the fact whether the organisation is making profit or loss. There is no feeling at all of the practice being unethical because it is treated as the employee’s right and is followed at all levels by one and all.

*Faculty, Indian Institute of Banking & Finance and Former Senior Vice – President, SBI Mutual Funds.

¹Bharat Ratna is the highest civilian award of Republic of India.

How many of us are capable of resisting temptations to make such quick buck? However, this may not be the case with organisations which permit expenses on actual basis with or without an upper ceiling.

The following case study will further elaborate our assertions:

A large Commercial Bank has a subsidiary, which is a joint venture with a Foreign Institution. The majority stake is with the Bank and the Bank appoints the CEO on deputation, who is paid salary as per Indian Standards. The Foreign Institution has the right to depute the Deputy CEO, who gets an Indian salary in addition to his Foreign salary. Since the subsidiary is a joint venture, 2-3 board and other meetings at foreign venues take place during the year. The CEO and the Deputy CEO attend all such meetings and in addition, certain other key employees are also invited to attend the meetings. The foreign visit of the CEO is approved by the Chairman of the Parent Bank in all the cases. The foreign visit rules permit allowance in US Dollars at a specified rate, which is meant for boarding, lodging, local conveyance and other incidental expenses. The subsidiary also has a requirement of submission of bills after the visit is concluded.

In case of certain meetings, the Joint Venture Partner also arranges for lodging, boarding and local travel expenses. In such cases, the Deputy CEO has been returning part/full allowance given to him in US Dollars. However, none of the other employees including the CEO do so.

Now the big question is – **Do we have an ethical issue in the organisation? Can the conduct of the CEO and other employees be justified?** We may call it ‘the entitlement dilemma’ and leave it for the readers to decide.

The Ethical Dilemma

In business, we often face situations, where we have to make choices, which involve ethical dilemmas. Should we agree or disagree? Should we say yes or

say no? Should we swim with the tide or go against it?

Let us illustrate it further by taking the example of a Banking Conglomerate also having presence in the following sectors:

- Investment/Merchant Banking
- Asset Management
- Life Insurance
- General Insurance
- Factoring
- Primary Dealing

Every Year, before the new financial year starts, the Corporate Office of the Bank enters into a Memorandum of Understanding with the Subsidiaries which contains various parameters of business growth to be achieved during the year.

As Head of a big Corporate Branch of a bank, you have hefty targets for achieving growth in deposits and advances. You are approached by a financial intermediary who offers you its services for getting large amount of long-term funds from Government Companies/Agencies and for granting large advances to the proposals sourced by them. You come to know that this practice is prevalent in other banks as payment of commission for getting long-term deposits is involved, which is paid by the prospective borrowers. **What would you do?**

You are the head of a big Branch having potential for a lot of retail business and have been instructed to push your life insurance and general insurance products of your Bank’s Subsidiaries. Since the Life/General Insurance Companies have started paying good commission to the bank as well as the employees selling their products, and other banks are also pushing their products in a similar manner, you are thinking of instructing your marketing staff to sell life/general insurance products to all new borrowers, who approach the branch for availing Housing Loans.

Should you go ahead?

As the CEO of the bank-sponsored Mutual Fund, you are approached by a big time distributor with a proposal for getting direct investment of long-term large size funds from their clients, which includes PSUs/Private Sector/HNIs. They want a share in the management fee earned by you because they are required to spend money for getting the business. As SEBI Guidelines do not allow giving any commission for direct business, you express your inability to do so. Your Marketing Head tells you that the Company can enter into a marketing arrangement with the financial intermediary and that such practices are prevalent in the industry. You understand that this type of arrangement is just a paper arrangement and indirectly this payment could be a bribe. But, since you have continuous pressure from your Chairman to increase your profitability/ranking and would like to stay in the good books of the Chairman as your promotion is due, you are inclined to agree to this arrangement and obtain the Board's approval for the same. **Is it ethical?**

Different persons will react differently in these situations. But the fact remains that you go ahead in these situations at the cost of compromising your ethical and moral values.

The Environmental Pressure

Of late, the top and middle level positions in the Indian Banks have been facing the problem of increasing stress and work pressure. In fact, banking is among the top ten sectors, which are high stress zones as per a study conducted by ASSOCHAM. Although, the Reserve Bank of India in their Financial Stability Report issued in December, 2017 noted that the stress in the banking sector remains elevated, but appears to be bottoming out, it might take a long time before complete normalcy is restored.

Key factors resulting in Stress:

- **Timelines and Performance Targets:**

The Banking Sector has strict timelines for reporting and completion of work and there is a huge cost of non-compliance in many areas.

Recoveries of NPAs are giving nightmares to bankers.

- **Work Pressures & Remuneration Issues:**

The workload remains high throughout the year and there is lack of staff in several cases. The remuneration is not reviewed and revised in line with the market realities.

- **Working Conditions:**

The workplaces, though improved, are not so good at places, especially at smaller places.

- **The Competition:**

You have stiff competition all the time to attract depositors and good clients for extending loans.

The above factors have a direct bearing on an employee's conduct. An employee who is not paid well or who perceives himself as being exploited/underpaid will be more prone to unethical behaviour. A distraught employee can be easily waylaid from the moral path. If your competitors are indulging in unethical practices for increasing their business, their rankings and profits; it is highly probable that under pressure to perform, you will also fall prey to the same game and start indulging in the same tactics.

Importance of Ethics in Corporate Governance

Ethics is of paramount importance in an organisation and must flow from the top. This is aptly described in an old Sanskrit verse, part of which reads, 'Yatha Raja, Tatha Praja' meaning "As is the king, so are the subjects". In other words, people follow the example of leaders. As such, there are no two opinions about the fact that ethics has to be an integral part of corporate governance and has to be followed by one and all.

In banking and financial sector, at apex level, the Board of Directors face the pressure of maintaining neutrality, objectivity and integrity in the wake of business development needs. The Board Members

have to set the highest standards of morality and ethical behaviour themselves, before they expect the employees down the line to be honest and conduct themselves according to the code of conduct for employees laid down by the Board. The tendency to meet the requirements by the regulators only on paper should be discouraged and a zero tolerance policy in this regard should be encouraged. This is important from the risk management angle as also from the point of view of building confidence and trust among the investors, customers and other stakeholders in the organisation and the banking and finance sector.

Of late there have been several cases of unethical practices involving action by various regulatory authorities. The cases fall under the following categories:

- (a) **Manipulation of financial markets by banks colluding to misprice benchmark rates like LIBOR and EURIBOR:** Several prominent banks in US and Europe manipulated Libor and Euribor, which are important benchmark rates for inter-bank borrowing. It has also been reported that these manipulations simply involved rogue traders from some of the specified banks, who did it for personal gains, and most probably without the knowledge of their own employers.
- (b) **Inadequate underwriting and improper sales practices in the sub-prime mortgage market:** The sub-prime crisis started with poor underwriting practices. The whole process of sub-prime mortgages was too complicated and involved conversion of a risky home loan into an asset-backed security forming part of a collateralized debt obligation that was rated and sold to investors. It caused a crisis that spread across the globe.
- (c) **Material non-disclosures:** Deliberately hiding facts cannot be justified and can prove to be highly detrimental to the interests of an organisation. For

instance, in 2009, the US Securities and Exchange Commission charged executives of misleading investors about the company's liquidity, including failing to disclose that the company was forced to sell the majority of its multi-billion dollar mortgage-backed securities portfolio in April 2007 to meet pressing liquidity demands. The executives were also charged with suppressing the warning signs of the mortgage crisis and its impact on American Home Mortgage's business to the detriment of investors and the broader market.

- (d) **Violation of national and international regulations:** These violations could include
 1. Non-adherence to tax laws, which could be unintentional as well as intentional;
 2. Non-compliance with foreign exchange regulations;
 3. Violation of general laws of the land as also specific banking laws;
 4. Going against anti-terrorism rules; and
 5. Illegal involvement with counterparties under economic sanctions.
- (e) **Unethical and unlawful credit card practices:** A variety of unethical and illegal practices have been rampant in the credit card industry like
 1. Unfair, deceptive, or abusive acts or practices.
 2. A credit scoring system that treats card applicants differently on the basis of age.
 3. Unlawful fees charged to the existing cardholders.
 4. Violation of reporting requirements
 5. Harassment of cardholders for collection of dues
 6. Luring credit card customers with add-on products
 7. Billing for services not provided

(f) **Manipulation of foreign exchange market by rigging foreign exchange rates:** In the recent past, several banks have been penalised for rigging the foreign exchange markets. Banks resorted to formation of cartels and shared sensitive information relating to orders from clients to manipulate exchange rates. Traders have also been charged with fraud.

(g) **Mis-selling of financial products to retail customers and investors:** Unsuspecting customers and investors who are not financially aware are often the target of mis-selling of financial products, which could happen because of personal motives and the pressure to perform and increase profits. This has typically happened in case of

1. Subprime mortgage-backed securities
2. Payment protection insurance plans
3. Mutual Fund Products
4. Credit Cards

(h) **Compliance breaches in terms of corruption, taxes etc.:** Corruption is a highly unethical and immoral act and cannot be justified on any grounds. This has created problems for banks by resulting in the increase in non-performing assets as also huge losses by way of penalties at the hand of the regulators. Similarly, evasion of taxes by suppressing information could also result in loss to a bank.

(i) **Regulatory non-compliances:** Non-compliance with the instructions issued and various guidelines laid down by the regulators could be deliberate as also unintentional. For example, in India, this may cover non-adherence to various guidelines on

1. Customer identification and Anti Money Laundering
2. Assessment of Non-Performing Assets
3. Delayed reporting of security breaches
4. Sanctioning and renewal of advances
5. Investment transactions

The Road Ahead

The cost of unethical conduct and its implications could be huge and would involve financial costs (including penalties, fines, settlements, damages and legal costs) as also non-financial costs (including reputational loss, damage to the confidence in the financial system etc.). This needs to be avoided with suitable control mechanisms and changes in thought process and behaviour. Improvements in corporate governance, review of compensation structures, regular review of code of conduct and dissemination of information on conduct rules/expected standards of behaviour will go a long way in improving ethical behaviour. A preventive approach rather than a deterrent one is desirable.

The road to success may appear to be long and there may not be any short-cuts, but as Mahatma Gandhi said, "It is difficult, but not impossible, to conduct strictly honest business". We can safely conclude that in the long-term, if you are honest, persistent, creative and hard-working, you are bound to succeed. The Banking & Finance Industry, therefore, needs to work ethically and must have a strong and robust ethical culture at all levels. Needless to add, the standards of corporate governance also need to imbibe the highest possible culture of honesty, integrity and ethics. This is the only way forward for the banking and finance industry in the times to come.





Stepping into the next decade - Emerging areas in International Banking

 **Sugata Kumar Datta***

“In today’s era of volatility, there is no other way but to re-invent. The only sustainable advantage you can have over others is agility, that’s it. Because nothing else is sustainable, everything else you create, somebody else will replicate.” – **Jeff Bezos, Founder, Amazon**

I. Introduction

As we move into the last two years of this decade, banking – globally – is at crossroads. While disruptors from Fintech Companies threaten to eat into traditional services of Banks like remittances, lending and savings, delays and high costs resulting from use of ‘traditional’ procedures and technology make banks look flat footed. At the same time, proliferation of frauds and banks being used a channel to funnel slush money, have exposed banks to risks as never before. Entry of banks into the next decade, therefore, appears to be an exercise accompanied by a surfeit of barbs.

It is keeping the above situation in mind that we will discuss the advantages that Blockchain Technology (BCT) promises to provide in resolving, at least some, of the problems banks may face in future.

To backtrack a little bit, BCT evolved during the days of the Global Financial Crisis, when it was felt that keeping money in banks, which were centralised in their record keeping and validation, was too risky and it would be better to do the same through a network of Distributed Ledgers, or Blockchains. The idea was first mooted by Satoshi Nakamoto in a White Paper published in 2009. Only, no one really knows whether a person by that name actually existed or whether it was a group of

persons who assumed ‘Nakamoto’ as a pseudonym. The paper envisaged a system where a purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another, without going through any financial institution.

II. What is a Blockchain

Simply put, a Blockchain is a growing list of records, or blocks, that are connected cryptographically. Each block is connected by a cryptographic hash, time-stamp and transaction of the previous block. It is an open distributed ledger between two entities, managed by a peer-to-peer network following a protocol for validating the new blocks. Once validated, the blocks cannot be altered without alterations of previous blocks, which is practically impossible as it would require concurrence of other network participants. A Blockchain - to a transaction - is quite similar to what internet is to communication.

Transactions recorded on the blocks are, therefore, immutable and resistant to frauds.

The main advantages of BCT, in addition to immutability of records, are:

- Reduction of cost
- Increase of speed of transacting
- Increased transparency
- Reduction of operational and financial risks
- Amenability to being used for execution of ‘Smart contract 1

*Faculty Indian Institute of Banking and Finance; Former Chief General Manager, Bank of India.

Figure 1 given below compares the architecture of the Centralised Ledger (as is traditionally used) with that of the Distributed Ledger (as is used with Blockchain technology)

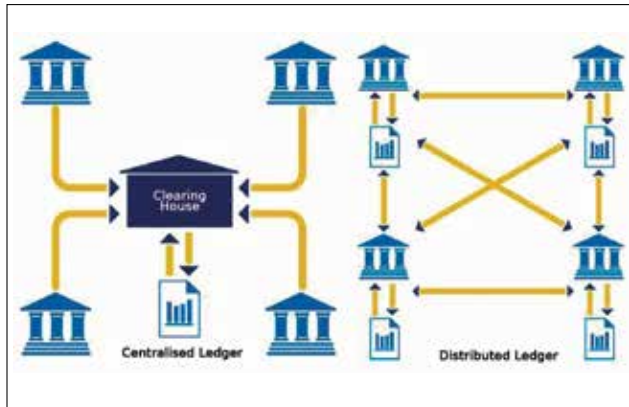


Figure – 1

We will examine the impact of using BCT on three major areas of international banking, viz., Trade Finance, Remittances and KYC-AML compliance and determine how the emerging technology can mitigate many of the challenges faced today in those spheres of Banking.

III. Trade Finance

With global trade nearing the figure of USD 20 trillion, Trade Finance is one of the focus areas for most International Banks. In Trade Finance, Letters of Credit are the workhorse and a large proportion of global trade is backed by LCs.

The main challenges faced in handling LC based business are:

- High cost of operations
- It is time consuming since physical movement of documents are involved
- Documents are fraud-prone
- Finance can be hampered due to discrepancies arising in the documents (rejections) and time being taken to resolve the discrepancies

A Trade Finance transaction handled using BCT can

address all the above-mentioned deficiencies. LCs can be issued as Smart Contracts into the Blockchain network by the importer and, thereafter, validated by the importer's bank and exporter, in that sequence. The LC, once validated, can be seen by all connected entities. Shipping documents issued by the transporter and the exporter can also be directly introduced into the network and validated. Since, each document would require to sequentially validated in order to constitute a part of the transaction Blockchain, no alteration can take place without validation by the network. Hence, fraudulent presentations can be eliminated. The simultaneous access of all connected entities to the various documents speeds completion of the transaction and payment by the importer to the exporter. The fact that there is no movement of physical papers drastically reduces the transaction cost and transaction time.

Figure – 2 compares a conventional trade finance cycle with one which is driven using Blockchain.

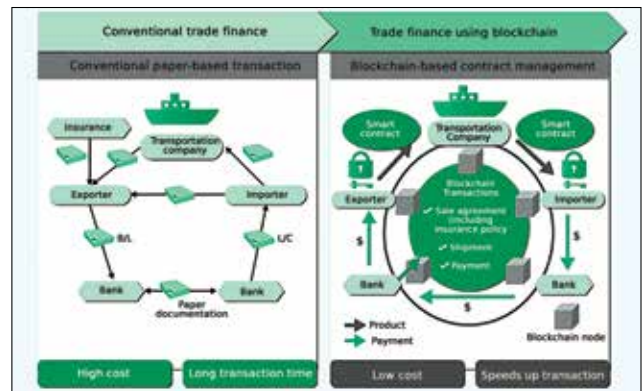


Figure – 2

To illustrate the benefits, in one of the first Blockchain driven trade finance transaction, an LC for USD 100,000- was opened by Barclays Bank, on account of ORNUA (formerly Irish Dairy Board) in favour of Seychelles Trading Company for export of cheese and butter and the entire transaction was completed in 4 hours, as against typically 7 to 10 days.

In the words of one of the senior officials connected with the transaction:

“I’ve been here for more than two decades and I never even dreamed of a solution where you can remove completely the documents from the circle and just get everything moving around the world on an electronic basis within minutes, rather than days of couriers and shipping and all that”.

IV. Remittances

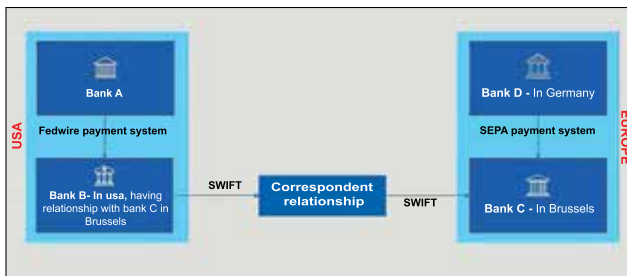
Remittances is another area of banking where, globally, tremendous opportunities of using Blockchain technology are emerging. A traditional SWIFT MT 103 remittance, today, involves a cluster of Banks which serially process the funds transfer before it reaches the beneficiary. More are the number of intermediaries in a transaction, greater is the impact on the following counts:

- Higher cost / charges
- Longer time to complete the transfer
- More the liquidity requirement
- Higher the possibility of frauds
- Lesser the transparency and ease of reconciliation

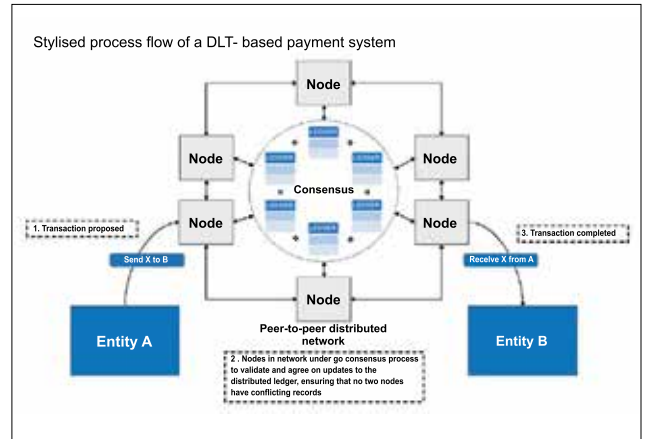
Remittances can be remodelled by routing them through Blockchain networks. The following figures depict a typical traditional remittance as against one using Blockchain.

A typical SWIFT remittance uses correspondent banks (B and C) to route a payment from Bank A to Bank D, as in Figure – 3 below. The drawbacks in such remittances have been listed earlier in this paper.

In a Blockchain powered remittance, the proposed transaction is introduced into the network and

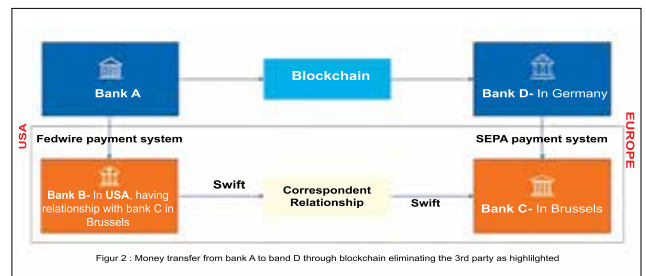


processed by multiple nodes, independently. Once all the nodes validate the transaction in a distributed (rather than centralised) manner, the transaction is completed by a debit to the remitting bank and a credit to the beneficiary bank. The nodes work in consensus in order to validate the entry in the distributed ledger. Since, the entries have been validated by the entire network, they become immutable. These are depicted in Figure – 4.



Source: BIS Report on distributed ledger technology in payment, clearing and settlement (Feb 2017)

The simplification that arises out of the Blockchain remittance is depicted in figure - 5, which is a modification of the earlier Figure - 3, and it depicts how Banks B and C are eliminated in the transaction flow and replaced by a Blockchain.



V. KYC-AML

Managing identities of customers can be nightmarish for banks. The process is duplicative, highly manual and does not lend itself to scalability. According to

a report published by a reputed consulting firm, banks spend over USD 25 billion in crime risk management and it is estimated that, while about 80% of the effort is spent in information gathering and processing, only 20% is spent in actually making a meaning of the information gathered. It is a complicated situation which is compounded by the fact that the systems of different banks do not “talk’ to each other and this leads to poor customer experience, endless document gathering and lack of transparency of usage of customers’ private data.

The potential of the Blockchain system in the KYC gathering and validation process can have numerous benefits. These include:

- Greater operational efficiency leading to reduction of time and energy required in the early stages of customer on-boarding
- Real-time updating of existing KYC data while maintaining full data security and customer privacy
- Transparency and immutability of data. No changes to the existing database would be permissible without the concurrent validation by all nodes in the Blockchain, thereby mitigating risks of frauds
- Addressing concerns of customers over issues of data privacy. Customers could be required to give their express consent, digitally, to specific agencies before the latter can have access to their personal data.

In fact, recently a Proof of Concept for using Blockchain technology for KYC AML function was

performed using three large international banks and the utility’s functionality, security and scalability were tested. Consequently, it was found that there could be cost saving to the extent of 25% to 50% as a consequence of avoiding duplication and providing a robust audit trail.

VI. Conclusion

While there are, certainly, a number of grey areas in the use and propagation of Blockchain technology in general and, its use in the banking landscape in particular – especially with regard to the aspects of regulations and security – it is also a fact that the technology has the potential of becoming a definite and disruptive game changer. Banks are intermediaries in financial transactions and any additional intermediary only escalates cost and delays completion of the processes. Consequently, technologies like Blockchain have to reckon with very seriously by banks and ignoring them could well be to the peril of banking, as we know today.

References:

1. KPMG – Could Blockchain be the Foundation of a Viable KYC Utility
2. Blockchain for Trade Finance: Payment Method Automation – Cognizant (Oct 2017)
3. BIS Committee on Payments and Market Infrastructures – Report on distributed ledger technology in payment, clearing and settlement (Feb 2017)
4. White Paper on Blockchain Technology – Institute of Development and Research in Banking Technology, IDRBT (Jan 2017) 



Section II

Articles from Banking Experts (International)





Banking: Stepping into the next decade – Human Capital, Green Finance, Professionalism & Ethics

 **Simon Thompson***

Introduction

The Chartered Banker Institute is the oldest professional banking institute in the world, founded in 1875. In the Foreword to the very first edition of the Institute's journal, our then President, Alexander Bogie, wrote that:

"There has been no time in the history of banking more interesting than the present to the student of the great science of finance, no period more filled by problems theoretical and practical. It seems as if ... we stand at a parting of the ways, when only the ethical principles ... are to remain to us as the perpetual foundation on which new ideas and modes of practice are to be raised ..."

As we congratulate our colleagues at the Indian Institute of Banking and Finance on their many and considerable achievements on the occasion of their 90th Anniversary, it seems appropriate to begin with some historical context. Yet the sentiment evoked all those years ago seems highly relevant today, as we consider the challenges, forces and opportunities shaping banking and financial services in the next decade – and beyond.

Clearly, the world of banking has been characterized by considerable and constant change since, the Chartered Banker Institute and the Indian Institute of Banking and Finance were established. In recent years, the pace of change has been accelerated further by globalization, the global finance crisis and, of course, by the impact of digital technologies

and, most recently of all, by artificial intelligence and machine learning. We do, of course, live in very uncertain times, which makes predicting the future an extremely difficult task. I think I am on safe ground, however, in my presumption that the pace of technological change in banking over the next decade is only set to accelerate again. We certainly see this in the UK with the rapid adoption of mobile banking, and the switch to digital payments, which this year overtook cash for the first time.

At the Chartered Banker Institute – and I know this is the same for our colleagues in many banking institutes around the world – we are determined to keep abreast of all the latest developments in banking and technology, whilst retaining pride in our history and achievements, and maintaining customer-focused, ethical professionalism at the heart of our approach. So, as we step into the next decade, we are acutely aware of the changing nature of banking practice, banking roles, banker capability and the banking profession in a digital age, and are continually developing new and up-to-date curricula and qualifications in areas including digital banking, technology and green finance in addition to more traditional, core banking areas such as credit, risk, regulation and professional ethics. And – just as banks themselves increasingly collaborate and co-operate – we do similarly with our professional body counterparts in Europe and through the newly established Global Banking Education Standards Board, of which the Chartered Banker Institute and the

*Chief Executive, The Chartered Banker Institute, Edinburgh.

Indian Institute of Banking and Finance are founder members, as we consider the future of banking.

As we do so, we not only reflect on the changing nature of banking in the digital era, but also in particular consider, and try to predict, the skills, expertise and professional judgement that will be required by bankers today and tomorrow.

Banking and Technology

My view is that, despite everything we hear and read - about artificial intelligence, bitcoin, blockchain, fintech, digital banking, electronic trading and robo-advising; the heart of banking remains the essential human capital that our industry depends on even more than financial or technological capital. I believe that highly qualified, knowledgeable, skilled, dedicated, customer-focused banking professionals will shape the future of banking, as much as the new technologies that are transforming our industries will. In fact, I believe that in a digital age where bankers will very often be disintermediated from customers, who will appear as data points rather than as people, instilling a sense of customer-focused, ethical professionalism is more important than ever.

Our banking profession will continue to be shaped and re-formed by innovation as well as by other forces such as changing demographics, changing customer demands and regulation. This will, inevitably, have an impact on the future knowledge and skills required. Some parts of banking may become partly or fully de-skilled, or be fully automated. But, other aspects will require highly qualified banking professionals, skilled in credit, risk, banking operations, regulation, technology, sustainable finance and, of course, able to apply professional and ethical judgement shaped by their expertise, experience, and commitment to the professional values set out in ethical codes such as our own Chartered Banker Code of Professional Conduct. Machines may do much of the work in the future. But they will need to be trained and maintained by qualified, expert bankers. And their outputs will need to be interpreted, communicated (and, at times,

defended) by qualified, expert bankers. Artificial intelligence and machine learning is expected to enhance rather than replace human judgement, and I believe that future bankers will still require core banking skills alongside a deeper understanding of technology and how to apply agile methodologies to developing, integrating, deploying and assessing technological advances.

Whilst some argue that professionalism and professionals will have no place in a technology-led future, I disagree. Looking back at history, our journals from the 1950s, 1970s, 1990s and 200s show that similar debates were held when mainframe computers entered banking, when ATMs and other technologies transformed parts of high street branch banking, as many aspects of wholesale banking and trading became automated, and most recently when the dotcom boom led to the rapid growth of internet banking. In each case, banks and bankers had to acquire new knowledge and skills, and in doing so develop their own personal capabilities and further their career prospects. Core banking skills, though, combined with a customer-focused, ethically professional approach remained – and where these were lost, problems swiftly arose.

To support the emerging needs of banks and bankers in our new, digital age, we have recently relaunched our flagship Chartered Banker Diploma. Designed by both banking and technology experts, the new Chartered Banker Diploma helps new and experienced bankers alike develop both core banking skills and their understanding of technology to give them the professional knowledge and skills required to succeed for themselves, their customers, and their banks. Initial responses in the UK have been highly positive, and the new Chartered Banker Diploma will shortly be launched globally.

Green Finance

Technology is re-shaping much of our economic and social life, but the threat and reality of climate change – is and will re-shape our shared planet in the

coming decades to a much greater extent. Achieving a successful transition to a low-carbon world is, in my view, the greatest global challenge for this and future generations. Facilitating this transition will require the combined and sustained efforts of global bodies such as the UN, national governments and the private sector. The Global Commission on the Economy and Climate Change estimates approximately \$93 trillion of global infrastructure investment between 2015 and 2030 will need to be made in order to meet climate change commitments, with the majority of that finance coming from the private sector – facilitated by banks and other financial services institutions.

It is my sincere hope, and firm expectation, that what many may still see as a specialist “green finance” sector will very rapidly become part of the mainstream of banking and finance, with sustainability, stewardship and other green finance values part of everyday, ordinary banking practice. This will not only help embed green finance within financial services; by supporting the transition to a low-carbon world and helping overcome the greatest global challenge we face, it will demonstrate in a very practical way the social purpose of banking, and help reconnect banks and society.

Successfully embedding sustainability and green finance at the heart of our financial services sector also requires developing the capabilities of significant numbers of green finance professionals – current and future - with the knowledge and skills needed to help customers and communities direct investments to support transition, address climate-related risk, and explore green finance opportunities. In recognition of this, the Chartered Banker Institute has recently launched the world’s first benchmark qualification for green finance.

The Green Finance Certificate provides learners with a comprehensive overview and understanding of the climate science underpinning the transition to a low carbon world, green finance principles and practice, risk management and green finance products and

services. It also highlights how organisations and individuals can take an active role in supporting the transition to a low-carbon economy.

Ethics and Professionalism – Global Co-operation

Whilst supporting the transition to a low-carbon world can help reconnect banks and society at a macro level, and a more personal level, I am also of the opinion that if we are to restore trust in banking, then professional standards will need to remain a key priority over the next decade. It is our strong belief that the need for a customer and client-focused, ethical and professional approach to banking has never really changed. Yet I think it is fair to say that, in the 1990s and 2000s, in at least some countries ethics and professionalism were not as central to our industry’s thinking as they should have been.


We have gone from a time when banks and bankers were one of the most trusted of professions and institutions to a point where - via the global financial crisis of 2007/8, LIBOR and other benchmark fixing scandals, PPI and interest swap miss-selling, money laundering, tax evasion, foreign exchange rate manipulation and other high-profile banking investigations in the UK, US and in many parts of the world – banking is now one of the least trusted industries of those measured by the Edelman Trust Barometer. These are not UK and US problems alone, however. Many countries have had their versions of Lehman Brothers or Northern Rock; and at the time of writing the Royal Commission on Banking seems to be uncovering new cases in Australia.

Over the past decade, there has been a great deal of talk about global standards for banks as institutions – but, I would like to see us place more emphasis in the next decade on global standards for bankers as individuals. The post-crisis regulatory focus on banking’s financial capital was understandable. What is still missing – at least until very recently – has been an equally vigorous pursuit of global standards to enhance and sustain banking’s human capital and its essential professionalism.

Over the next decade, therefore, I would like to see global regulators and other bodies such as the Bank for International Settlements, the Financial Stability Board and the G20, together with national regulators, promoting and supporting the development of global standards of culture and behavior to enrich our industry's human capital, alongside the standards being imposed to strengthen banking's financial capital. We should strive for international consensus, founded on a genuine, global commitment, in which all banks and bankers put principles of stewardship, prudence and professionalism first.

Together with the Indian Institute of Banking and Finance, and twenty other leading, global banking institutes, we helped develop and launch the Global Banking Education Standards Board's (GBESTB), therefore, which brings the global banking profession to facilitate the development of high-quality and consistent banking education worldwide. The GBESTB's first education standard - Ethics Education and Training for Professional Bankers – was published earlier this year and sets out the expectations of and guidance for GBESTB member bodies in terms of general recommendations, and recommendations for the content, delivery and assessment of ethics education programmes for professional bankers.

As Chair of the GBESTB's Education Standards Committee, I believe that promoting a more consistent approach to the ethics education of professional bankers worldwide should help develop a strong and consistent culture of customer and client-focused, ethical professionalism in banking, and contribute to improving financial stability.

I expect that co-operation between professional bodies and institutes around the world will continue to deepen in the years ahead, helping to facilitate the movement of qualified banking professionals around the world. In this regard, the Mutual Recognition Agreement between the Chartered Banker Institute and the Indian Institute of Banking and Finance, signed in 2017, provides a model for many similar agreements to come. Our two bodies have agreed to align our qualification frameworks to provide mutual recognition for members wherever possible, facilitating easier movement of qualified bankers between India, the UK and the rest of the world. Certified Associates of the Indian Institute of Bankers can apply to become Chartered Bankers via a simple, "top up" route and I hope that, in celebration of the 90th Anniversary of the Indian Institute of Banking and Finance and the growing links between our two bodies, many will do so. 



Korea Banking: Stepping into the next decade

 **Dr. Jae Woo Moon***

Special Strategic Partnership Relationship: Korea and India

Korea and India have been extending economic exchanges and co-operation since establishing diplomatic ties in 1973. India is Korea's seventh-largest trading partner, and the volume is ever growing. As of 2017, it reached 20 billion US dollars which is a 29.8% increase year-on-year. I have heard that Korean home appliances such as Samsung TVs and LG washing machines are very popular with Indian families. At the Hyundai Motor's Chennai Plant, millions of automobiles have been produced over last two decades. In addition, cultural imports such as K-pop and Korean drama are gathering steam.

With Korean President Moon Jae In's state visit to India last July, Korea and India have been making special efforts in the overall industry in order to strengthen the "Special Strategic Partnership" relationship. To that extent, we expect to be able to correspond to the recent trend of global protectionism together as well as achieve common prosperity through an extension of trade and collaboration.

The financial industry is no exception. Recent business agreements between KB Finance Group, which is one of the prominent commercial banks in Korea and Bank of Baroda in India to build digital payment ecosystem including mobile payments, would be an excellent example. As the global financial industry is currently experiencing structural and fundamental changes driven by digital technologies,

collaborations with India, a leader in the global ICT industry, seems to be extremely effective.

In this article, I would like to discuss recent challenges facing global financial market and introduce our response of Korean financial regulatory authorities and banks. Also, I would like to propose market participants' tasks to lead the way in the future financial industry. Lastly, I would like to comment on financial policies which can support innovation systematically.

Fintech, and Korea' cases

Digital transformation in the financial field has been underway globally since the application of digital technologies on finance, such as AI, Big Data, Block Chain and IoT. This shift is invigorated by non-financial companies' active participation in the field of payments, money transfers, retail banking, investments and asset management, of which traditional companies were in charge. It resulted in fundamental changes in the current financial ecosystem.

This process is accelerated by each government's wholehearted support and de-regulation in addition to ICT development, the rapid, increased universality of mobile devices, changes in consumers' experiences and seeking ways for alternative finance after the global financial crisis. In the long term, the boundaries between financial and non-financial companies are becoming less distinct and their naturally monopolistic features are fading. This

*President, Korea Banking Institute.

results in aggravating the current value chain in the form of functional segmentation, decentralization, and dis-intermediation.

In Korea, the digital transformation is rapidly spreading with the development of innovative products and services by Fintech companies as well as traditional banks. The Korean government has strived to create and activate Fintech ecosystem.

In particular, Korean financial authorities announced a “Plan to Support the Convergence of Finance and Technology” in January 2015, and provided clear signals to market participants that the current financial regulatory framework paradigm shifted to nurture and reinforce the Fintech industry in omnidirectional ways.

First of all, internet-only banks such as Kakao Bank and K-bank begun operations and the barrier of entry for electronic financial businesses was lowered. In order to extend Fintech services, robo-adviser asset management and many other services were offered. At the same time, an excessive authentication process and ineffective mandatory security systems were abolished in order to trigger new easy payments and remittance services.

Also, a “Fintech Support Center” was established by the Korean government in March, 2015 to effectively provide support to foster the Fintech ecosystem. The center constructed Fintech co-operation networks with private institutions to provide incubating services

by stages including start-up, commercialization, overseas expansion, and listing. The center also provides policy funding to support innovative businesses.

From the standpoint of finance supervisory, the government has been developing an advanced regulatory system which is more relevant for the finance and IT fusion trend. More specifically, the government prepared an investor and financial consumer protection plan according to financial platforms and changes in services. In addition, the government is striving to respond to digital risk by activating RegTech and enhancing IT inspections for financial stability.

Tasks for market participants to emerge as leaders in the future financial industry

Still in order to lead innovation, the role of market participants is crucial. Traditional banks, fintech companies, and financial consumers need to create a virtuous cycle as consumers, producers, and mediators which can drive each other. To be more effective, the following tasks are recommended for them.

First, traditional banks should offer more personalized services by collaborating with fintech companies. Services should be designed with consumers’ lifestyles, sensibilities and consuming trends in mind. This means the financial products and services

[Table 1] Korea Internet-only Banks’ New Business Fields

Stage 1 (2017)	Stage 2 (2018)	Stage 3 (2019)
<ul style="list-style-type: none"> - deposit and credit loans - mobile bancassurance 	<ul style="list-style-type: none"> - mortgage loans - mobile key money deposit / rent deposit loans - app to app payment services 	<ul style="list-style-type: none"> - Credit cards - Robo advisors - beneficiary certificate sales - open market SME loans - Open API - Universal point

Source: Finance Supervisory Service, Hana Finance Research Center, January 2018

development process should be improved to be more customer-centered by utilizing digital technologies.

Moreover, financial companies should put more effort on expanding their innovative mobile services to overseas. For instance, some Korean banks have launched customized mobile banking platforms in Southeast Asian Countries such as Vietnam and Cambodia. The number of users there has been rapidly increasing in the initial phase.

In India, certainly, Korean banks are making headway and trying to offer convenient and innovative services. With Indian government-leading policy, known as “Digital India”, Indian fintech industry mainly with mobile payment has been dramatically advancing. Also the bio-identification system known as “Aadhaar” was set up very successfully and it can positively effect on the growth of retail banking business of India. In this regards, I expect Korean Banks in India to develop new financial products and services more actively utilizing those technologies.

[Table 2] Korean Banks in India

Bank Name	# of branches (or offices)	Location
Shinhan	6	Mumbai, New Delhi, Kancipuram, Pune, Ranga Reddy, Ahmadabad
Woori	3	Mumbai, Chennai, Gurgaon
KB Kookmin	1	Gurgaon
Hana	1	Chennai
IBK	1	New Delhi

Source: Each bank’s website as of July, 2018

Second, fintech companies should be able to improve quality of financial consumers' daily lives by leading finance innovation based on creative ideas and advanced technologies.

As India is the leading ICT software country with intelligent human resources, the collaboration between Korean Banks’ financial infrastructure, and Indian fintech companies is expected to create great synergy.

[Table 3] Korean ICT competitiveness

Classification	Rank of Korea	Reference
ICT Development Index	8.85 (2 nd)	ICT Development Index, 2017
Network Readiness Index	5.6 (13 th)	World Economic Forum, 2016
Fin-Tech adoption rate	32% (12 th)	Ernst Young, 2017

Last but not least, financial consumers should play the role of “prosumer”, which is both consumer and producer by experiencing different levels of fusion and complex financial services such as customized banking services. Also, financial consumers are expected to stimulate financial innovation by offering constructive feedbacks to traditional banks, fintech companies, and financial regulatory authorities.

Financial Regulation and Policy

Korean financial authorities will enact a special bill called the “Special Act to Foster Financial Innovation” that allows pilot authorization or regulatory relief for the launch of innovative financial services. Although the current regulatory sandbox in the financial sector already allows fintech businesses to entrust their innovative services to financial institutions to test within the range of existing financial regulations, they are striving to make it more active through legislation.

Furthermore, they are planning to facilitate the use of Big Data, which is mostly limited by the “Personal Information Protection Act”, by processing the data to de-identified information, which can be presumed to be non-personal. This shed light on developing

[Table 4] KBI's Digital Finance Programs

Category	Program
Digital Finance	19 Smart Banking Programs including Practices of Fintech Businesses, Finance ICT Trends and Technical Analysis
	12 Big Data Programs including Case Studies in Financial Big Data Analysis, Data-Collecting Strategies for Big Data Analysis

personalized financial services by financial companies. Also it can be applied to various fields such as financial security by upgrading the Fraud Detective System that detects un-common transactions.

The digital transformation could be eventually driven by every single talented person involved and their collective intelligence. This means educational support and on-going training for them is essential.

The Korea Banking Institute (KBI) takes the initiative in developing various educational programs in the field of smart banking and big data targeting current and potential employees working in fintech. KBI also provides a number of regional expert programs, which can support Korean financial companies to open businesses overseas, Financial Consumer Protection Program, Auditing Academy, and more

than 600 different programs. That is, KBI endeavors to foster financial experts to strengthen their global competencies.

Let's lead the future banking industry together!

In this article, I have discussed the roles and challenges of financial authorities and market participants to enhance the competitiveness of the financial industry through the development of the Korean fintech industry. I think that Korea and India can be developed to a co-operative and complementary relationship. By this, I hope we can dedicate ourselves to lead world future industry as well as global financial market. I also expect we can closely co-operate for the development of financial education. Finally, I would like to offer my sincere congratulations on the 90th Anniversary of the Indian Institute of Banking & Finance and wish your continued progress.





Banking: Stepping into the next decade – Engagement with Customers the key

 **Sanjib Subba***

Are we as banking industry, still relevant to our stakeholders? Does our existence matters to people who matter to us? How could we continue to be relevant?

The economies around the world are now more smart, more integrated and more inclusive. The catalyst role is being played by advent in technology so, I usually prefer to call our era “Technomy” era. The economy fueled by advancement in technology is what we are in. The disruptions are phenomenal and are actually forcing us to leapfrog not only into physical advancement as a user of any product but, total paradigm shift is taking place rapidly right in-front of our eyes.

The world of banking and finance is now no more the language only of dollar and cents. We in the banking have done enough of debits and credits, assets & liabilities and risk and compliance. Bankers now are tested not on how much dollar and cents they know but on their ability to be bilingual and also speak the language of bits & bytes. Seems like the entire banking is now being hijacked by those running the technology. Can we convert techie to bankers? perhaps not but we sure can scaleup bankers to understand the power of technology so they could reflect, review and be paly accustom with these new found tools.

Digitization, Fintech, Regtech, Securitech, Gamification, Chat Bots, Machine Learning, Artificial Intelligence, Big Data Analytics amongst others are

basic minimum vocab a banker needs to decode and start embracing. The tech buck does not stop here as its changing every second and new technology to aid whether operation, risk, sales, compliance etc. are emerging quicker that we thought.

The demographic shift, rapid urbanization, internet advancement, mobile phone technology, consumerism, rise in entrepreneurship spirit, boost in SME/MSME, migration both domestic and international and in the other hands issues like terrorism financing, cyber heist, hacking are going to be the key issues haunting the banking industry for next decade.

The trend in the regulatory world globally is also going through interesting times. The technology disruptions have caught the regulators 360 degree attention. The P2P lending, Payments bank, payment solutions are somewhat making established commercial banks bit nervous. The regulatory experiments are just at the incubation phase and hopefully the process will not make our industry irrelevant.

Yes, the key question or Yaxa Prasna that I like to call is are our banks relevant to stakeholders? Are we meeting the expectations? Are we engaged with our customers? Do we know what they want and what is their need? Are we relevant to our customers?

Hence, here are the challenges for us in the industry to step into next decade:

*Chief Executive Officer, National Banking Institute, Nepal.

AML/CFT will continue to haunt us locally as well as globally. With the expansion in emerging economies the new money will continue to rise. The new found wealth may come in the form of corruption, bribes, illegal activities. These sources will also find their way to fund the terrorism. The rise of crypto currency could prove to be a major challenge in fighting terrorism funding.

Cyber financial crime is expected to surge in next decade. The industry and regulators must act on their toes 24/7 to protect our coffers. The strike could happen anywhere, anytime, in any style. No one is immune and better not have the confidence. The criminals at the cyber world are more savvy, smart, intelligent and actually highly sophisticated. They are focusing on how to break banks system all the time, carrying out experiments, designs, plans and executing. They just live day in day out with only one goal – to break the system.

Our focus now should be not on the steel cash vault but, the digital lockers and vaults that store our money. Each and everyone in the bank now must act as a security guard armed with sophisticated weapons, intelligence and uniform culture to fight against cyber threat.

Banking will be needed but not sure if banks are. Particularly at the retail, consumer and MSME level. The advancement in payment systems, P2P lending, wallets, digital investment products amongst others may make this side of banking bit challenging. Banks must innovate and reincarnate themselves to stay relevant.

BankTechs such as fintech, regtech and securitech amongst others will witness major advancement in the next decade. The banktech sector must be allowed to grow and expand.

The Digitized banking means banks must go to customer not that customer comes to the branch. This is already proving to be a major cultural and behavioral shift in many emerging economies.

Human capital will continue to dominate the industry landscape. Even though with the automation the industry will continue to grow their employee base in particular to emerging economies where unbanked population and access to finance still pose a significant gap.

Then the talent and skill set gap, attrition and most importantly attracting talents to the banking industry will continue to pose challenges for acquisition as well as development.

This leads to the issue of Financial Inclusion and access to finance and fight against informal/underground economy.

Now, no matter what technology we acquire, what talents we have on board and how we make our capital base strong and have ease of liquidity and loanable funds, the key challenge is are we engaged with our customers? We must find out who are our customers, what do they want and what is their need? We must find out how are they meeting the gap of financial needs and find a way to fill the gap at light speed. Even before a customer blinks, we must delight them with a product that perfectly fits their size and needs at the price they could afford and at a delivery location of their choice.

The decision key now should be shifted to customer not to the Relationship Manager or the approving authority of the bank. Let customer design and decide the financial products they want from us as against banks coming up with list of robotic boring menu list. We must allow customer to lead, play and enjoy the game so, everyone comes out as a winner.

We must have information and must be intelligent enough to process the information to harness information intelligence so, we could understand the exact need of our customer. The key is the engagement.

Now on the boarder level macroeconomic issues will continue to pose a challenge to the banking industry globally. The slower rate of growth of larger


economies, interest rate issues will continue to occupy central stage. While the emerging economies will have accelerated growth, the absolute amount would still not be at par with bigger economies.

The regulatory challenge will continue to pose as a threat. The cost of meeting mandatory regulatory requirements means ever increasing cost of doing business. The hefty fine on AML/CFT issues actually is now a major threat to the existence of the bank itself. Then to compete with unregulated players in a regulated environment may make the larger financial organization even more uncompetitive.

The rapid advancement in financial technology would also mean both acquiring and replacing cost is going

to be a major financial burden. If you do it will cost you money and if you don't do it, you lose the risk of being out of business.

When it comes to technology, the discussion is not only about what you have or you don't have but, what others have particularly fintechs and how could they disrupt your business model and make you irrelevant.

The increasing popularity of social media means banks now must have intelligent systems in place to guard its reputational risks that may spread like fire in the cyber world. I won't be surprised the next bank run now would be due to poor risk management in the virtual world by the banks. 



Banking: Stepping into the next decade – Professionalism holds the key

 **Lewis Panther***

Picture a group of bankers standing on the precipice of the global financial crisis a decade ago, scratching their heads wondering where they would be today.

Some smart Alecs would simply want to know which shares to buy for their long-term portfolios. Damn the rest of the world. Their own bonuses and big fat bank accounts were the be all and end all back then.

But, that was more than just a different time. The whole world has changed, with the seismic shifts still reverberating as this article goes to press. The ongoing Royal Commission into Mis-conduct in the Banking, Superannuation and Financial Services Industry is just one of a number of government-imposed inquiries in Australia and around the world, affecting how bankers are going to be allowed to do business in the future. The imposition of the BEAR regime has also placed greater responsibility on banks by making top executives wait for bonuses. Basel III and its demand for tighter liquidity ratios has meant a much tougher approach to lending to customers.

So, while it's still a little bit of a crystal ball gazing exercise to guess where we will be in 2020 - let alone 2028 - there are definitely certain themes developing around culture and governance that will continue to impact on the industry.

The ridiculous cartoon excesses of the fictional Gordon Gekko - that infamous Greed is Good dinosaur from the 1987 film about Wall Street - might have survived up to the time of the 2008 crash, when governments

around the world were forced to bail out failing banks, heralding the start of the worst recession since the Great Depression.

Steps brought in since mean he is certainly dead and buried.

Regulatory authorities around the world are determined not to go through the chaotic scenes that saw queues of people in the UK, trying to get their savings out of collapsed Northern Rock. Fewer consumers would have felt sorry for the investment bankers from Lehman Brothers who were turfed on to the street with just their family portraits in cardboard boxes.

While Australia avoided the worst of the recession, government investigations and the hand-wringing that followed, it has become apparent that consumers feel short changed here. The Royal Commission and a litany of examples of poor performance and downright appalling behaviour have put that in sharp focus upon an almost monthly basis this year. There is no getting away from that. Having CEOs of the Big Four Banks and beyond openly talking about how ashamed they are to be associated with such questionable ways of doing business, is an illustration of the repair work that needs doing. If that isn't enough, headlines about farmers driven to suicide, charging customers who have died and Aboriginal and Torres Strait Islander People being preyed upon because of their faith, prove the extent of the scandal. The trust that was once synonymous with banking is certainly in short supply.

*SA FIN, FINSIA.

The job of fixing that trust deficit became FINSIA's way of looking forward even before the Royal Commission.

The return of the core value of being prudent custodians of peoples' money and the introduction of professional, higher than regulation-required, standards is key to FINSIA's strategy. It is certainly the organisation's belief that professionalisation is the way forward. It's also our belief that it will also over-ride the impact of digital technology and artificial intelligence.

As FINSIA Managing Director and CEO Chris Whitehead F FIN said, as some of the worst excesses of the Royal Commission were being revealed, the only way to restore trust was to establish industry wide professionalism.

He said: "It needs to be a given that in financial services in Australia you will be treated fairly, you will be treated with honesty and respect - and that customer interests will be put first, ahead of the institution's own interests. Integrity cannot be a differentiator between organisations. It has to be a common bond, which we all share."

Moreover, he adds: "Every person working in financial services needs to take personal responsibility for ensuring they act with the highest integrity, that they put the interests of customers first and very importantly that they speak up when they see unacceptable behaviours going on around them."

The reason for FINSIA's focus on professionalism is backed up by research carried out before the Royal Commission. It's not a knee-jerk reaction. Restoring trust by investing in professional standards is clearly the way forward. Findings showed that only one in two consumers highly trust the Australian banking industry whilst only two in five highly trust the CEO and Senior Executive team at their banks. More than half of consumers believed the Australian banking industry as a whole, did not have high ethical standards. Add to that the fact that close to a fifth of consumers aged

between 25 and 44 would change banks to be served by staff who were more professionally qualified, and the scale of the task ahead becomes clearer.

There is no doubt that industry leaders are already taking steps to repair the trust deficit and also believe that the adoption of rigorous professional standards is the way forward. Many will be at the FINSIA Summit 2018, in October, where professionalisation will be front and centre of the discussion between policy makers, government, regulators, academics and key influencers.

But, how do we go about instilling professionalism into the banking sector? Is it the only remedy? And how is it important to the future?

FINSIA's Head of Standards & Education Kylie Blundell says: "FINSIA recognises that while professionalism is not going to fix all the problems we are facing, it is certainly a major part of the solution that sits in alignment with other initiatives, including regulation. And that will continue to be the case in the future."

If we look at three key elements that build professionalism – education and continuing professional development, professional association membership and disciplinary procedures, education clearly will still be of paramount importance in the future, according to Blundell.

Taking education and CPD first, if you cannot do the job competently, how can you be a professional? Now or in the future? It will mean getting to grips with aspects of the new technology that is at the heart of the financial services industry.

Membership of an independent professional body is another crucial component. It will open doors to new developments in the digital space and as well as career opportunities.

That membership also links into the third crucial element - where the consequences of a disciplinary process is vital for professionalism into the future.

Expanding on the importance of professionalisation, education and ethics, Blundell adds: “The importance we place on education as part of our professionalisation process will allow our members to develop skills that future proof their careers.

“Membership provides individuals with contacts and networks that will allow them to progress their careers now and into the future.

“Again, being part of a membership body with a disciplinary process will give employers the reassurance that their workforce is performing to the highest ethical levels.

“Ethical principles are to a degree future proof – they have been around for many many years.

“That’s why they don’t need to match the speed of technology, the principles that are applied remain the same.”

So, when we pose the question about how much of an impact digital technology and artificial intelligence will have on today’s jobs - and whether it will decimate the workforce within banking - it’s a moot point. Forget the fact that some commentators are saying thousands of jobs will be lost. For every one of the doomsayers, there is another who is predicting that there will be a growth in allied jobs.

The fact is, customers will expect to be dealing with someone who can show a level of professionalism and demonstrate they’re behaving in an ethical manner. For all those who put their faith in an app or chat bot just as many will want the re-assurance of dealing with another human on the other side of the counter, phone, or computer screen.

Another argument for the professionalism will make the fans of the bottom line happy. And while FINSIA’s survey showing the lack of trust illustrates the need for professionalism, the growing demand for big business to show social responsibility is already having an impact on profitability. It’s clearly good for business.

Pauline Vamos, who was at the helm of the Association

of Superannuation Funds of Australia between 2007 and 2016, says: “Businesses with good ethics out-performed the ASX. The link between conduct and share price is there to see.”

Organisations that are seen to be behaving badly, she adds, see their reputation damaged which can cost much more than making acting ethically mandatory.

She said: “Once your reputation is damaged, the cost of building it back up is huge. There’s more spent on that than changing an organisation’s behaviour in the first place.”

While millions of dollars in fines levied against the banks has been seen by some as a ‘cost of doing business’, Ms. Vamos insists that the cost of repositioning the brand and distraction of management time had a greater impact.

As Giles Cuthbert, Managing Director of the UK Chartered Banker Institute, said during a session in Australia, work done on measuring the success of professionalism showed how staff were given credit for their recognition in doing the right thing.

He said: “One bank recognises when individual bankers send a customer off to another bank to get the correct product, rather than just selling the product there in front of them. We have seen quite shift in how banks measure performance.”

“What’s interesting is that this is happening at a time when we have seen banks return to profitability in the UK.”

“It’s possibly because of the trust that is inspiring that we are seeing banks return to profit.”

So, if professionalism and ethical behaviour is the way towards profitability, it makes sense to push that strategy. But, again, how do we go about that?

Kylie Blundell says ethics can be taught, illustrating the fact when she reveals experiences of how individuals making snap decisions under situations imitating day-to-day banking dilemmas showed less than favourable results.

“When it comes to education - whether it be academic or professional qualifications - it is important they all include ethics,” she says.

“The key point is learners need to understand the ‘why’, not just the process.”

“We also need to empower employees by education - not just so, they have the technical skills to perform their role but provide them not just with the knowledge to help them recognise ethical dilemmas, but a range of tools or frameworks to assist their ethical decision making.”

Integrity workshops delivered by FINSIA looking at techniques to promote ethical behaviour - to see if outcomes were Honest, Open, Transparent and Fair - showed results indicating ethical education was a must.

“Transparency is interesting,” she adds.

“The workshops describe a common workplace scenario that presents some sort of ethical dilemma and provides a number of next steps.”

“We ask participants to vote anonymously on what option they would choose.”

“What’s interesting is, if we ask people to discuss with other participants their options and the reasons for this choice before they vote, the option selected most frequently tends to be the more ethically appropriate option.”

“If we ask participants to vote anonymously without discussing it with the other participants, or if we ask them to vote quickly without time to contemplate,

the option selected most frequently tends to be less ethically appropriate.”

“It highlights the importance of creating workplaces and workplace practices that are open and transparent and encourage employees to discuss their concerns with others to improve ethical decision making.”

Even though FINSIA thinks that professionalism is the way towards repairing the trust deficit, there is an expectation that the Royal Commission will want to push for at least some greater regulatory controls.

But, as Blundell says, the professionalisation approach will actually set higher standards.

“We are working towards driving an aspiration for ethical conduct at a level higher than regulatory compliance,” she says.

“We need to move away from ‘the race to the bottom’ to meet minimum requirements.”

“We often see this with new starters where the drive to meet minimum competency requirements as quickly as possible is at odds with professionalism.”

“We are also working on raising skill levels to improve customer outcomes and support the tradition of prudent stewardship of customers’ money plus attracting and retaining the right talent to work in banking through the provision of a professional pathway.”

That she says is the way FINSIA can restore pride in the banking sector.





Banking: Stepping into the next decade – Reinvention

 Pijush Kanti Das*

A tidal wave of change is sweeping across the banking industry, transforming it and shaking its core foundations. That wave is called Fin Tech and it is reshaping the world of financial services in general, and banking in particular. The soaring expectations of customers spurred by GAFA (Google, Amazon, Facebook and Apple) and other Big Tech firms seems to have been further whetted by Fin Tech firms, who have quickly stepped into the gap left by traditional firms, and whose drive towards customer centricity and seamless and delightful customer experiences seems to have forced incumbent players to re-assess what products they must offer and how those products must be delivered to each and every customer in a personalized manner.

Fin Tech is a portmanteau of Financial Technology and refers to the innovative use of technology in the design and delivery of financial services and products. Fin Tech mostly refers to the startup firms that spring up every other day and challenge the might of traditional firms like Banks and other legacy financial institutions by offering low-cost, innovative, seamless and personalized products to customers. But, that is not the right way to describe Fin Tech. Fintech is an ecosystem consisting of all the players that are a part of it and are referred to as A's and B's and C's and D's of Fin Tech. The A's are the incumbent players in the financial services industry, like JP Morgan and Citi Bank, while the B's are the Big Tech firms like Google, Apple, Facebook, Amazon and Twitter. The C's are the companies that provide the infrastructure or technology that provides financial services like Visa,

MasterCard, Fiserv, First Data and exchanges like NASDAQ etc. The D's are the Disruptors, the startups and the innovative technology firms like Paydiant and Stripe (mobile payments), Lending Club and Prosper (Peer-to-Peer lending), Moven (Retail Banking), Atom Bank (Business Loans), Mint and Personal Capital (Smart Budgeting and Personal Finance) and Lemonade and Celo (Insurance).

What are the technologies and trends that power Fintech?

Open Banking is a financial services concept that refers to the use of APIs (Application Programming Interfaces) that enables third-party service providers to build applications and services around the incumbent financial institutions. APIs are simply third party applications that enable customers to talk to their banks. Open Banking got a new impetus because of pressure from EU regulators with the enactment of the Revised Payment Services Directive (PSD2) which allows Fintech firms to access the database of the incumbent banks and financial services firms. This is akin to a financial earthquake, because customer data was a closely guarded fortress, and that was the ultimate competitive advantage upon which traditional Banks held sway over predators. With Banks forced to provide access to third-party processors (TPPs), the walls are crumbling and the monopoly of banks over customer data will end and the control will shift to the rightful owners- the customers. The open banking initiative has many advantages. It will not only lead to secure data exchange with TPPs but, will also enable them to use another very important

*Senior Lecturer, Emirates Institute for Banking & Financial Studies.

technology, Artificial Intelligence, to provide services in a more personalized way.

Artificial Intelligence (AI) combines three very important technologies-machine learning, natural language processing and cognitive computing. The purpose of artificial intelligence is to transfer the complex thinking of humans into machines using the algorithms of machine learning and natural language processing, to overcome the barriers of scalability that humans face. Artificial intelligence enables machines to perform computations much faster than humans can ever contemplate. How is AI relevant to banking? There many important applications that can transform banking. First, chatbots are AI based software applications that mimics written or spoken human speech that simulates a conversation with a real human. They are used to solve customer problems before human beings get involved. AI can improve the Bank's customer service exponentially. AI can aggregate all the information about the customer and can tailor the interactions accordingly. Voice recognition and facial recognition could be used instead of passwords or PIN to identify customers. A few banks are using voice powered devices like Amazon Echo, Google Home and Apple's Siri to drive their customer service. Second, AI has the potential to make banks smarter. It can study the mass of data and reveal better customer insights and intelligence and thus, offer better customer experience, which is key to differentiating banks. Suggestions offered to customers can be unique for every customer and timely. The recommendations pop up just when the customer is about to take a decision. Third, AI can be used detect patterns that ferrets out terrorist financing and money laundering activities, including financial fraud. Fourth, invisible robots can carry out investment trades based on algorithms. AI will undoubtedly transform banking in many ways but, the easiest to predict is that AI can cut costs substantially by eliminating almost 50 to 70 percent of the current jobs in banking. AI works best with unstructured customer data-emails, recorded phone

conversations, social media interactions, and legal documents. AI manages this data and then applies analytics to glean hidden insights.

The third revolutionary technology that can radically change the face of banking is the Distributed Ledger Technology or DLT as it is known. What is DLT? A distributed ledger is a digital database that is held and updated by each participant in a consensual group. Each participant in the group is called a node (a computer terminal). The heart of the DLT and this seems to be a sore point for banks is that each record is constructed independently and held by each node without the intervention of a central registry or trusted third party. There is no central validating agent. Every single node is responsible for processing every transaction and validating the same. Once there is a consensus, after everyone has validated the transaction, the distributed ledger is updated and each node has a copy. The distributed ledgers are dynamic and engender new kinds of relationships in the digital world. The key technological gain is that the ledger is shared amongst parties that may not trust one another. The crux of DLT is how it sidesteps the trusted intermediary (the banks) and completely avoids the cost of trust. DLT is a more robust and consensual trusted system. A distributed ledger, thus, increases the speed of transactions and reduces their complexity because no third party is required to validate the transactions. It enhances data accuracy and transparency because, all changes are consensual and no single node can alter the data. DLT is highly resilient because there is no central database and hence, no single point of attack. Privacy and safe storage can be handled with technologies such as asymmetric encryption, asymmetric authentication and hashing. Block chain is one version of distributed ledgers and used mainly in distributing cryptocurrencies.

DLT dealt a body blow to banks because, it completely negates the role of banks as trusted third parties. It is to their credit that not only have banks

accepted this radical change but, have moved away from the custodianship of databases to leveraging the enormous benefits of extracting value from databases. So, how can Banks leverage DLT? Banks have preferred to use private, permissioned, DLT, through which reading rights and writing permission are given to those who have been pre-approved. This can be used by banks to give writing permissions to fellow banks and viewing rights to select customers. The banking industry can use DLT for efficient and cheaper KYC (Know-your-customer process), faster cross-border payments and improved detection of money-laundering and financial frauds. Ripple net, is a block chain network that enables seamless cross-border payments and has signed up about 100 clients, some of which are big names like Standard Chartered Bank, Santander, Unicredit and UBS. Ripple net is a competitor to SWIFT. Bank Chain, an Indian Block chain consortium has launched a new KYC system, Clear chain that facilitates sharing of KYC data of customers amongst network participants. Other areas that can use DLT, are, clearing and settlement of securities transaction on the bourses; the Australian Securities Exchange has decided to shift its securities clearing and settlement to a block chain system. Trade Finance is another area which is tailor-made for restructuring through DLT. The same set of information, bill of lading, letters of credit, commercial invoices and insurance policies need to be accessed by different parties and block chain is the obvious solution. The difficulty in block chaining trade finance is that in order to be reap its benefits, the entire ecosystem has to be on boarded- the shipping companies, the freight forwarders, other transporters, insurance companies, inspection agents, ports and customs. Block chain trade first, if you want to block chain trade finance. That would be a remarkable effort, truly a game changer, if it succeeds.

However, DLT is yet to become mainstream because of some unresolved issues. Since, Distributed ledgers are cross-border, how will they be regulated? Do

they need to be audited? What happens if there is dispute? These questions are unresolved but they are not insurmountable.

A fourth technology, the Internet of Things (IOT) has the capacity to revolutionize banking in myriad ways. Gartner predicts that by 2020, there will be 25 billion connected devices and this shows how machine connectivity can be a powerful force that alters societal behavior. Machine-to-machine connectivity can help banks to gather data about customers and offer an enriched, contextual and personalized experience. It will be possible for Banks to identify a customer through IOT and Artificial Intelligence, the moment a customer enters the branch and anticipate his requirements. IOT can also help banks to track assets financed by the bank. However, IOT can pose major security risks, including privacy issues for banks and this has to be managed.

Will banking and banks survive the onslaught of Fin Tech?

First, let us understand the unique position of the Bank in the financial markets. Banks have existed for so many years, uncontested but, we need to understand why that moat might be breached. The primary model of banking is based on three very important principles- Intermediation, Fractional Banking and Credit Creation. Banks primarily issue liabilities in the form of checking accounts and fixed deposits and then originate non-marketable assets in the form of loans. Since, the liabilities are highly liquid and may be withdrawn by depositors, it is possible that the Bank might face a liquidity crisis. Banks have been able to manage this liquidity risk because they have the unique advantage of information asymmetry or insider information about borrowers. They are able to predict future outlays of funds and likelihood of satisfying those outflows because of insider information from borrowers.

Can the capabilities of deposit taking and lending be duplicated? Many Fin Techs and others like Mutual

Funds already offer deposit and transactional facilities and there is no bar on lending by non-banks. Also with requirement of greater disclosures by corporates, insider information is no longer a competitive advantage for Banks. What if non-banks offer deposit-taking and loaning services simultaneously? Can they replicate banks? The answer is not yet!!

One of the biggest competitive advantage Banks have is the facility of credit creation or creation of money. Credit creation is possible because banks are “not” subject to “client money rules”. According to client money rules, non-banks are required by statute to segregate customer deposits from their own monies and deposit customers monies with a bank or an approved institution in segregated accounts. Banks are not subject to client money rules. This is what enables them to create money and tide over liquidity mismatches by using one depositor’s funds to pay another departing depositor. Non-banks are not able to do that. Can this unique advantage be lost?

Central Banks are already experimenting with the issue of digital money by using block chain technology. It should be possible for Central Banks to, then, take over responsibility for all transaction accounts and allow transactions using Distributed Ledger Technology. All Current and Savings Accounts (CASA), may then migrate from commercial banks to Central Bank. Banks will then have to abide by client money rules and bid for deposits like other non-banks. Hence, perhaps in the next decade, Banks will lose the ability to create money and that will end Banking as we know it. Banks will then become just another financial services firm.

Banking and Banks as we know them, will never be the same again. There may be no bank branches, no tellers, no cheques, no ATMs and perhaps no current and savings accounts and no credit cards. But, surely people will still need to save money, take loans and perhaps make payments? How will it all change? Banks today, are in the same position as stage coach

companies of the 1860s. It was possible to correctly predict then, that the market for transportation and travel would rise by leaps and bounds; but it would have been grossly erroneous to predict such a growth in stage coaches. Banking and Financial services will grow exponentially but will banks survive? That will depend upon how banks reinvent themselves?

References:

<https://bankingjournal.aba.com/2017/09/the-top-fintech-trends-driving-the-next-decade/>

<https://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11875841/In-10-years-banking-will-look-like-a-sci-fi-film.html>

https://www.omaha.com/money/banking-services-that-might-become-obsolete-in-the-next-decade/article_b4613001-99b2-5884-bc7d-f2e9d5b32ed3.html

https://www.mckinsey.com/~media/mckinsey/dotcom/client_service/risk/pdfs/the_future_of_bank_risk_management.ashx

https://ac.els-cdn.com/S1057521914001434/1-s2.0-S1057521914001434-main.pdf?_tid=8b075be4-33d8-4de7-8a2d-92232dab73ef&acdnat=1533152503_2fe2daebbe6a6cb1d8c6e08429bb8452

https://www.uxdesignagency.com/blog/Banks_will_cut_millions_of_jobs_in_the_next_decade

<https://www2.deloitte.com/pg/en/pages/financial-services/articles/banking-industry-outlook-future-banking.html>

<https://www.sciencedirect.com/science/article/pii/S1057521914001434>

https://www.afr.com/business/banking-and-finance/financial-services/asics-greg-medcraft-says-traditional-bank-accounts-could-be-obsolete-in-a-decade-20170902-gy9k9o?&utm_source=social&utm_medium=facebook&utm_campaign=nc&eid=socialn:fac-14omn0053-optim-

nnn:nonpaid-25062014-social_traffic-all-organicpost-
nnn-afr-o&campaign_code=nocode&promote_
channel=social_facebook

file:///D:/A%202018%20Jul%20to%20Dec%20
Training/New%20Frontiers%20in%20Bnking/DLT.pdf

[http://www.longfinance.net/LongFinance/
DLTCoursePDF2.pdf](http://www.longfinance.net/LongFinance/DLTCoursePDF2.pdf)

<https://www.youtube.com/watch?v=3xGLc-zz9cA>

<https://www.yodlee.com/what-is-fintech/>



Bank Quest Articles - Guidelines For Contributors

Contributing articles to the Bank Quest : (English/Hindi)

Articles submitted to the Bank Quest should be original contributions by the author/s. Articles will only be considered for publication if they have not been published, or accepted for publication elsewhere.

Articles should be sent to:

The Editor: Bank Quest

Indian Institute of Banking & Finance,

Kohinoor City, Commercial-II, Tower-1, 2nd Floor, Kiroli Rd., Kurla (W), Mumbai - 400 070, INDIA.

Objectives:

The primary objective of Bank Quest is to present the theory, practice, analysis, views and research findings on issues / developments, which have relevance for current and future of banking and finance industry. The aim is to provide a platform for Continuing Professional Development (CPD) of the members.

Vetting of manuscripts:

Every article submitted to the Bank Quest is first reviewed by the Editor for general suitability. The article may then be vetted by a Subject Matter Expert. Based on the expert's recommendation, the Editor decides whether the article should be accepted as it is, modified or rejected. The modifications suggested, if any, by the expert will be conveyed to the author for incorporation in case the article is considered for selection. The author should modify the article and re-submit the same for the final decision of the Editor. **The Editor has the discretion to vary this procedure.**

Features and formats required of authors :

Authors should carefully note the following before submitting any articles:

1) *Word length:*

Articles should generally be around 2000-3000 words in length.

2) *Title:*

A title of, preferably, ten words or less should be provided.

3) *Autobiographical note and photograph:*

A brief autobiographical note should be supplied including full name, designation, name

of organization, telephone and fax numbers, and e-mail address (if any), or last position held, in case of retired persons. Passport size photograph should also be sent along with the submission.

4) *Format:*

The article, should be submitted in MS Word, Times New Roman, Font Size 12 with 1½ line spacing. A soft copy of the article should be sent by e-mail to publications@iibf.org.in

5) *Figures, charts and diagrams:*

Essential figures, charts and diagrams should be referred to as 'Figures' and they should be numbered consecutively using Arabic numerals. Each figure should have brief title. Diagrams should be kept as simple as possible. In the text, the position of the figure should be shown by indicating on a separate line with the words: 'Insert figure 1'.

6) *Tables:*

Use of tables, wherever essential, should be printed or typed on a separate sheet of paper and numbered consecutively using Arabic numerals (e.g. Table-1) and contain a brief title. In the body of the article, the position of the table should be indicated on a separate line with the words 'Insert Table 1'.

7) *Picture / photos/ illustrations:*

The reproduction of any photos, illustration or drawings will be at the Editor's discretion. Sources should be explicitly acknowledged by way of footnote, all computer-generated printouts should be clear and sharp, and should not be folded.

8) *Emphasis:*

Words to be emphasised should be limited in number and italicised. Capital letters should be used only at the start of the sentences or for proper names.

Copyright:

It is important that authors submitting articles should declare that the work is original and does not infringe on any existing copyright. He/ she should undertake to indemnify the Institute against any breach of such warranty and consequential financial and other damages. Copyright of published article will vest with publisher (Institute).

DECLARATION FORM

The Editor,
Bank Quest,
Indian Institute of Banking & Finance,
Kohinoor City, Commercial II,
Tower I, 2nd Floor, Kiroli Road,
Kurla (W), Mumbai - 400 070.
Dear Sir / Madam,

Re : Publication of my article

I have submitted an article “_____” for publication at your quarterly journal Bank Quest.

In this connection this is to declare and undertake that the said article is my original work and that I am the author of the same. No part of the said article either infringes or violates any existing copyright or any rules there under.

Further, I hereby agree and undertake without any demur: to indemnify and keep the Institute (IIBF) indemnified against all actions, suits, proceedings, claims, demands, damages, legal fees and costs incurred by the Institute arising out of infringement of any copyright /IPR violation.

Yours faithfully,

(_____)

Author

Name : _____
Designation : _____
Organisation : _____
Address : _____
Tel. No. : _____
E-mail ID : _____
Signature : _____
Date : _____

BANK QUEST THEMES FOR NEXT ISSUES

The themes for next issues of “Bank Quest” are identified as:

- Risk Management & Micro Research Papers 2018: October – December, 2018
- Mutual Funds: January – March, 2019
- Ethics & Corporate Governance in Banks: April – June, 2019
- Emerging technological changes in Banking: July – September, 2019

Subscription for Bank Quest and IIBF VISION

Since 1st July 2016 Institute has started to accept subscription for Bank Quest and IIBF VISION in online mode through SBI Collect and discontinued to accept subscription through Demand Draft. Domestic subscribers are requested to visit "Apply now" at home page of IIBF Website - www.iibf.org.in for payment of subscription in online mode and also note:

1. Subscription will be accepted only for one year.
2. Third party payment would not be accepted.
3. Institute will dispatch the Bank Quest and IIBF VISION to domestic subscribers through Book-Post.
4. Foreign subscribers may write to Publication Department at Publications@iibf.org.in for subscription application form.

Annual Subscriptions rates for Bank Quest and IIBF VISION are as under: Subscription Rate for Bank Quest:

Period	One year
No. of Issues	4
Annual Subscription Rate inclusive of postage (In India) (₹)	160/-
GST* (₹)	Nil
Total Subscription inclusive of postage (In India) (₹)	160/-
Total Subscription inclusive of postage (Foreign) (US \$)	10

*GSTN-27AAATT3309D1ZS

Subscription Rate for IIBF VISION:

Period	One year
No. of Issues	12
Annual Subscription Rate inclusive of postage (In India) (₹)	40/-
GST* (₹)	Nil
Total Subscription inclusive of postage (In India) (₹)	40/-

*GSTN-27AAATT3309D1ZS

STATEMENT ABOUT OWNERSHIP AND OTHER PARTICULARS OF BANK QUEST, THE JOURNAL OF INDIAN INSTITUTE OF BANKING & FINANCE

- | | | |
|---------------------------------------|---|--|
| 1. Place of Publication | : | Mumbai |
| 2. Periodicity of Publication | : | Quarterly |
| 3. Publisher's Name | : | Dr. Jibendu Narayan Misra |
| Nationality | : | Indian |
| Address | : | Indian Institute of Banking & Finance
Kohinoor City, Commercial-II, Tower-1, Kiroil Road,
Kurla (W), Mumbai-400 070. |
| 4. Editor's Name | : | Dr. Jibendu Narayan Misra |
| Nationality | : | Indian |
| Address | : | Indian Institute of Banking & Finance
Kohinoor City, Commercial-II, Tower-1, Kiroil Road,
Kurla (W), Mumbai-400 070. |
| 5. Name of Printing Press | : | Onlooker Press, 16 Sasoon Dock,
Colaba Mumbai - 400 005. |
| 6. The name and Address of the Owners | : | Indian Institute of Banking & Finance
Kohinoor City, Commercial-II, Tower-1, Kiroil Road,
Kurla (W), Mumbai-400 070. |

I, Dr. J. N. Misra, hereby declare that the particulars given above are true to the best of my knowledge and belief.

01.01.2018

Dr. J. N. Misra
Signature of Publisher

IIBF - PUBLICATION LIST

Sr. No.	Examination	Medium	Name of the Book	Edition	Published By	Price (Rs.)
39	Diploma Examination in Treasury, Investment and Risk Management	English	Treasury, Investment and Risk Management	2017	M/s Taxmann Publications Private Ltd.	Rs. 595/-
40	Advance Wealth Management Course	English	Investment Planning, Tax Planning & Estate Planning	2017	M/s Taxmann Publications Private Ltd.	Rs. 420/-
41	Certificate Examination in Anti-Money Laundering & Know Your Customer	English	Anti-Money Laundering & Know Your Customer	2017	M/s Macmillan India Limited	Rs. 325/-
42	Diploma in International Banking & Finance	English	International Corporate Finance	2017	M/s Macmillan India Limited	Rs. 290/-
43	Certificate Examination in Prevention of Cyber Crimes & Fraud Management	English	Prevention of Cyber Crimes & Fraud Management	2017	M/s Macmillan India Limited	Rs. 245/-
44	Diploma in Cooperative Banking	English	Cooperative Banking-Principles, Laws & Practices	2017	M/s Macmillan India Limited	Rs. 315/-
45	Diploma in Cooperative Banking	English	Management and Operations of co-operative Banks	2017	M/s Macmillan India Limited	Rs. 445/-
46	Diploma in International Banking & Finance	English	International Banking-Legal & Regulatory Aspects	2017	M/s Macmillan India Limited	Rs. 245/-
47	Diploma in International Banking & Finance	English	International Banking Operations	2017	M/s Macmillan India Ltd.	Rs. 285/-
48	Diploma in Banking Technology	English	Information Technology, Data Communication & Electronic Banking	2017	M/s Macmillan India Limited	Rs. 435/-
49	Diploma in Retail Banking	English	Retail Assets Product & Other Related Services	2017	M/s Macmillan India Limited	Rs. 360/-
50	Diploma in Retail Banking	English	Retail Liability Product & Other Related Services	2017	M/s Macmillan India Ltd.	Rs. 380/-
51	Diploma in Banking Technology	English	Design, Development & Implementation of Information System	2017	M/s Macmillan India Limited	Rs. 338/-
52	Diploma in Banking Technology	English	Security in Electronic Banking	2017	M/s Macmillan India Limited	Rs. 314/-
53	Certificate Examination in Foreign Exchange Facilities for Individuals	English	Foreign Exchange Facilities for Individual	2017	M/s Macmillan India Limited	Rs. 473/-
54	Certificate Course for Non-banking Financial Companies	English	Non-banking Financial Companies	2017	M/s Taxmann Publications (P) Ltd.	Rs. 615/-
55	Certified Accounting and Audit Professional	English	Bankers' Handbook on Accounting	2018	M/s Taxmann Publications (P) Ltd.	Rs. 660/-
56	Certified Accounting and Audit Professional	English	Bankers' Handbook on Auditing	2018	M/s Taxmann Publications (P) Ltd.	Rs. 750/-
57	Certified Credit Professional Examination	English	Banker's Hand Book on Credit Management	2018	M/s Taxmann Publication Pvt. Ltd.	Rs. 990/-
58	Business Facilitator/ Correspondence	English	Inclusive Growth Thro' Business Facilitator/Business Correspondence in English	2018	M/s Taxmann Publications Pvt. Ltd	Rs. 275/-
59	Certificate Examination for Small Finance Banks	English	Small Finance Banks	2018	M/s Taxmann Publications Pvt. Ltd	Rs. 865/-
60	Business Facilitator/ Correspondence	Hindi	Inclusive Growth Thro' Business Facilitator/Business correspondence in Hindi	2009	M/s Taxmann Publications Pvt. Ltd	Rs. 340/-
61	Business Facilitator/ Correspondence	Kannada	Inclusive Growth Thro' Business Facilitator/Business correspondence in Kannada	2011	M/s Taxmann Publications Pvt. Ltd	Rs. 340/-
62	Business Facilitator/ Correspondence	Bengali	Inclusive Growth Thro' Business Facilitator/Business correspondence in Bengala	2010	M/s Taxmann Publications Pvt. Ltd	Rs. 340/-
63	Business Facilitator/ Correspondence	Telugu	Inclusive Growth Thro' Business Facilitator/Business correspondence in Telugu	2009	M/s Taxmann Publications Pvt. Ltd	Rs. 340/-
64	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Tamil	Inclusive Banking thro' Business correspondent a tool for PMJDY in Tamil	2015	M/s Taxmann Publication Ltd.	Rs. 245/-
65	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Oriya	Inclusive Banking thro' Business correspondent a tool for PMJDY in Oriya	2015	M/s Taxmann Publication Ltd.	Rs. 245/-
66	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Telugu	Inclusive Banking thro' Business correspondent a tool for PMJDY in Telugu	2015	M/s Taxmann Publication Ltd.	Rs. 245/-
67	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Bengali	Inclusive Banking thro' Business correspondent a tool for PMJDY in Bengali	2015	M/s Taxmann Publication Ltd.	Rs. 245/-
68	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Assami	Inclusive Banking thro' Business correspondent a tool for PMJDY in Assami	2015	M/s Taxmann Publication Ltd.	Rs. 245/-
69	Certificate Examination for Business Correspondents / Facilitators (PMJDY)	Malayalam	Inclusive Banking thro' Business correspondent a tool for PMJDY in Malayalam	2015	M/s Taxmann Publication Ltd.	Rs. 245/-

Chartered Banker



Indian Institute of Banking & Finance (IIBF) Professional Conversion Programme

Certified Associates of the Indian Institute of Bankers (CAIIB) are eligible to have their qualification recognised by the Chartered Banker Institute and attain Chartered Banker status via the Chartered Banker Institute's IIBF Professional Conversion Programme.

HIGHLIGHTS

- 125 credits required to complete the Chartered Banker Institute's IIBF Professional Conversion Programme
- Candidates who have completed their CAIIB are awarded 100 Credits
- To achieve the remaining 25 credits candidates are required to study the module 'Professionalism, Ethics and Regulation' and to complete a reflective assessment
- On completion, candidates are eligible to attain Chartered Banker status and become a Member of the Chartered Banker Institute ("MCIBS")
- Reduced fees of £525 per person (instead of £995) plus £60 Student Membership fee. Resit fee, if required, £195 per person
- Annual International Membership fee, currently £30 per person.

ADVANTAGES

- ✓ Opportunity to gain an additional globally recognised qualification
- ✓ Compliance and ethics gaining greater importance in recent times.

FOR MORE INFORMATION

- 📄 www.charteredbanker.com/IIBF
www.iibf.org.in