Apr.- Jun.08 / Vol 01 / Issue 13

FINACLE CONNECT

CONNECTING THE BANKING WORLD

featuring research from Financial Insights™ An IDC Company

Islamic banking

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Somnath Menon,
Head of Operations,
Mashreq Bank

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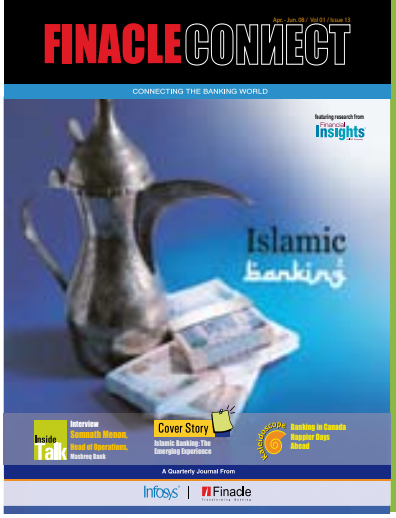

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Voice from the Desk

The past few months have been among the toughest for the banking industry in recent years. With no signs of the ongoing credit crisis diminishing, and several leading institutions suffering huge losses, there is considerable soul-searching going on in the financial industry about the cause of the crisis. There are differing viewpoints on how the present crisis could have been averted, but one point on which most industry experts agree is that weaknesses in risk management processes among banks is one of the major causes of the credit crisis. This issue of FinacleConnect briefly touches upon the importance of risk management for banks. We have reviewed the book *Risk Management in Electronic Banking: Concepts and Best Practices,* which highlights the need to go beyond the traditional view of risk management in an increasingly connected environment.

As usual, this issue of FinacleConnect covers a vast range of subjects, from the importance of Grid Computing for banks to a conceptual overview of Islamic banking. With Islamic banking growing at nearly double the pace of conventional banking, it is not surprising that banks in the Middle East as well as several international banks are entering the fray. Mashreq Bank, the largest private bank in the UAE, set up its own Islamic finance subsidiary, Badr Al-Islami two years back, and says, Somnath Menon, Head of Operations at the bank, Islamic Banking is one of the key focus areas of the bank, going ahead.

The feature article in this issue, contributed by leading analyst firm, Financial Insights, looks at the return of customer relationship management within banks today. "Customer centricity is back. Increasingly, we see that banks' current projects ranging from channel-related initiatives, to product management, and business process improvements are being rolled out with well articulated objectives to improve customer interactions and to allow the bank to better relate to customers in a more relevant and personal manner", writes Michael Araneta, Senior Manager at Financial Insights, Asia Pacific Unit.

I hope you enjoy reading this issue of FinacleConnect. Please keep sending your feedback.

Till next time.

Haragopal M

Vice President and Business Head - Finacle
Infosys Technologies Ltd.

The Return of Customer Centricity and the Rise of Pragmatic CRM

Customer centricity is back. Increasingly, we see that banks' current projects ranging from channel related initiatives, to product management, and business process improvements are being rolled out with well articulated objectives to improve customer interactions and to allow the bank to better relate to customers in a more relevant and personal manner.

Of course, banks have long understood that customer centricity is more than a project or an initiative but rather a culture that shapes the day-to-day operation of the banking organization. The large scale Customer Relationship Management (CRM) projects of the past refect the intention to introduce the customer-focused culture as quickly as possible. Some of these projects failed, but some have brought in more dynamism to the institution.

We note however that banks have become wiser. Their approach to CRM refects a growing willingness to be pragmatic, with a lot more focus on tactical initiatives that allow them to go after their CRM objectives, one win at a time.

The following are the trends we see defining the current approach to CRM in banks:

Focus is moving beyond sales. The CRM initiative has in the past focused on product sales, thus conversations about CRM inevitably mentioned cross-selling and up-selling strategies. We note, however, that banks have become increasingly interested in using CRM for service and segmentation, as well as client retention and loyalty. This will support the growing potential of analytical tools, models, and very specific modules (For example, exclusion filters) that can support more diverse CRM motivations. Increasingly, therefore, the success of CRM will no longer only be couched in terms of cross-sell ratios, which were figures relatively easy to calculate but unreliable to use against cross-sell figures from other banks. More metrics such as customer lifetime value measurements, customer satisfaction metrics, cost-to-serve metrics, and loyalty measures, are now welcome.

"Banks have become increasingly interested in using CRM for service and segmentation, as well as client retention and loyalty."

Analytics define CRM strategies. The focus on data and analytics is defining the current upsurge of CRM initiatives, a shift away from the previous focus on operational CRM priority projects (primarily the contact center). Banks will intensify their effort to get a single customer view of the client. Initiatives around customer data quality and customer data integration will also increase accordingly. Furthermore, the ability to use, manipulate, and gain insight from the data will be crucial. The banks we spoke to believe that speed to develop models, the ability to deal with the increasing numbers of models, and a jump in the frequency of scoring will be key competitive factors.

Analytics move closer to the front line. Before, analytical and modeling teams within banking institutions were isolated and did not work closely with the marketing and product teams that had the most significant requirements for data. We believe that this is becoming less and less the norm, especially as banks deploy event-based marketing capabilities, demanding that trends and insights be acted on right away. Technology is also supporting this trend, among them, the development of reliable analytical data marts so that data is pre-prepared for both modeling and scoring and the more real-time data warehouse updates, moving away from end-of-day updating norms.

Event-based marketing (EBM) is on the rise. Banks are quickly moving away from traditional marketing and campaign environments, which have periodic campaigns based on simple customer segment selection and data mining scores, to the practice of EBM. EBM, in fact, goes beyond customer triggers, but identifies customers who are in a decision mode, in particular need of a product or a service, or require a particular service from the bank. Among the region's most dynamic banks, EBM is articulated to be a major objective, although one executive who has in fact seen successes out of EBM pilots says that real one-to-one marketing (offering a specific product to a specific customer) is impractical. As banks move towards EBM, we anticipate an increase in marketing and campaign activities. The size and allocation of a bank's marketing resources will change accordingly.

Focus is turning to gate-keeping rules. The race for optimization of customer contacts, increasing competition among business units to make customer offers, and more stringent no-contact regulations have all put a focus on gate-keeping rules. Some banks have opted to keep to more generic global rules (For example, no customer

can be contacted more than three times in a month), but we see some leading banks implementing hundreds of gate-keeping rules that take into account customer segments, customer preferences and behavior, and marketing ROI.

Inbound opportunities are important. Banks continue to believe that inbound customer interaction can be turned into sales opportunities. Some banks will be hiring more contact center agents (or increasing seats if they are outsourcing) in the next two to three years. Some banks have ensured that relevant customer information is available to the contact center agent, and in a manner as real time as possible. At the back end, of course, customer data across various repositories needs to be indexed and integrated.

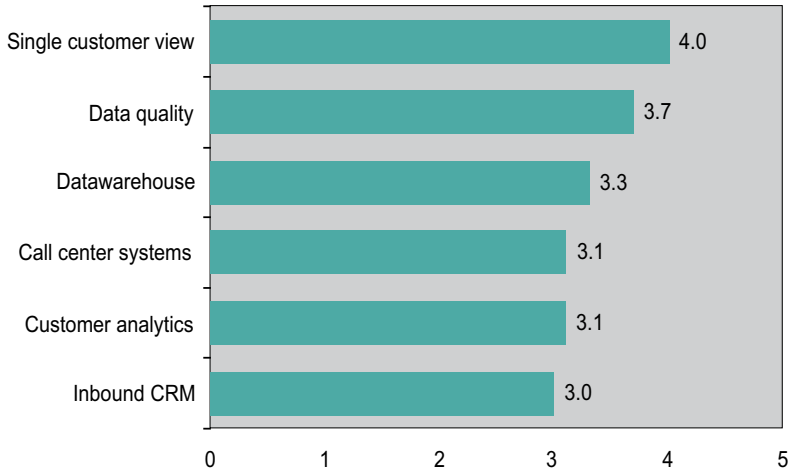
Banks are integrating marketing and risk management. As banks have built integrated customer data repositories that are accessible throughout the entire organization, we note how the risk management and marketing functions within a bank are working more cohesively. Some banks have already illustrated to us how data integration initiative has supported requirements for both its standard credit review processes and Basel II programs. We predict that some banks will establish analytical centers that span various departments but share the same data and derive insights using shared resources.

"Increasingly, banks are investigating how they can outsource analytical functions."

Analytics outsourcing is popular. Increasingly, banks are investigating how they can outsource analytical functions. The smaller banks feel that they do not have compelling capabilities in analytics, while some other banks feel that campaign activities will only increase in number and complexity. If any outsourcing is undertaken, the outsourcer needs to work very closely with the bank, especially considering the unique marketing setup of the organization and the tactical initiatives that a bank may choose to implement. For their part, some service providers are building end-to-end analytical outsourcing capabilities to support marketing campaigns in

Figure 1

Q. On a scale where 1 = not important and 5 = very important, how important are the following areas to your bank's CRM strategy in the next 12 months?



n=27 senior IT and line of business executives of 27 banks (comprising of banks in Australia, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore and Taiwan)

particular, including data preparation, modeling, campaign rollout, strike rate measurements, and reporting. Some niche players are already providing analytical outsourcing and campaign management outsourcing services, but scalability issues are arising quickly. Larger service providers may partner with these niche players or build teams on their own to offer a centralized platform and operating center approach built on a multi-tenancy arrangement of shared systems, applications, and operations. These operations may be onshore or offshore.

CRM-related costs will increase. We expect the costs associated with CRM projects to move up, first because banks continue to redefine CRM within their institutions, enlarging the scope of CRM. Also, banks will require more CRM modules to support new CRM imperatives. Indeed, the long-carried burden of justifying CRM investments has not eased. Gladly, a more pragmatic approach to CRM allows the institution to yield benefits more quickly than the large-scale CRM initiatives in the past.

All these trends indicate how the race for CRM capabilities will be as dynamic as ever. A recent survey we conducted reveals that Asia's banks are prepared to increase spending on CRM-related projects by more than 20% in two years. In this same survey, we also asked which specific areas with regard to CRM will be prioritized. We see clear importance given to the availability, reliability, and use of data. The highest importance levels were given to single customer view and data quality. Specific areas that can conceptually be put under broad priority areas were also given high importance, particularly datawarehousing and call center systems.

All these of course go back to the intention of banks to have meaningful relationships with their clients, and be truly customer centric. We have seen good news on this front. In a short period of time, market leadership has been won by banks, particularly in Australia, Thailand, the Philippines, South Korea, and Vietnam that are perceived to be convenient and responsive to customers. Market share in specific products has also been won because of an intuitive understanding of customer needs and requirements. Of course, their peers won't rest easy, and are fighting back to gain foothold in the race for customer centricity. And indeed, this competition by banks to be most responsive and most relevant to their customers might just make customer centricity more than a conveniently articulated objective but a true driver for change in the banking organization.

Michael Araneta
Senior Manager
Financial Insights A/P

Islamic Banking: The Emerging Experience

It has been a rather diffcult day for the technology vendor working with the large Middle East retail bank just venturing into the Islamic banking and fnance operations space. Working out a process for Islamic asset fnance in the CFO's corner offce, things could have certainly been better. For one thing, the Sharia scholar who has just joined in, is not too happy about the repeated reference to seemingly innocuous jargon like *interest, loan* and *default*.

Still trying to come to terms with the new phraseology, our vendor moves on to meet another group at the bank and ends up befuddling the bankers there who are most comfortable with conventional banking terminology.

It will be sometime before the vendor truly appreciates the distinction between these two modes of banking and realizes that beyond terminology, the difference lies in their inherent meaning, the processes and the prescribed methods for the two streams of banking. To form a bridge between the two, will remain a continuous challenge for some time.

But chronicling a day in the life of a technology vendor is far from what is intended, herein. This article takes a good look at what started off as an offering of fnancial services based on religious faith, practice and guidance, and spread all over the world, after the initial years of slow growth, fnally entered a phase of booming expansion and market consolidation.

The Shape of Emerging Markets

Islamic banking and finance is attracting widespread attention and interest in the form of fresh investments and regulators' mindshare. Today Islamic finance has come a long way indeed, with approximately USD 1.3 trillion in designated assets and more than 400 financial institutions offering Sharia compliant products globally.

"New markets are moving towards the Islamic banking practice not merely because of the religious imperatives, but due to the positive 'risk-reward' expected pay offs."

The major challenge facing the industry is the sustenance of this high pace of growth. This can be facilitated with the practice emerging in newer traditional banking markets and the growth of a secondary market for investment grade products.

The categories of Islamic financial institutions that have come into play since its modest beginning in Egypt are indeed numerous. These institutions are broadly divided into five different classes:

- **Existing Islamic Financial Institutions.** They are the oldest ones offering this mode of finance for the past 3 to 4 decades and have now embarked upon a more open, flexible, feature-rich banking platform along with suitable process support.
- **New Islamic Institutions.** Starting fresh, they are armed with new age banking platforms agile enough to provide much needed ground up thrust.
- **New Conventional Banks.** Islamic finance utilities are a separate 'line of business' for such banks, seeking to enter the Islamic finance market.
- **Existing Islamic Finance Windows of Conventional Banks.**
- **Development Institutions.** They provide depth to the financing and investment products market, broad-basing the wholesale customer.

While conventional and existing banks leverage an established market, setup and practice to present Islamic banking offerings, newly set up banks are technologically agile and offer innovative and complex products to attract and steer customers away from established players.

Apart from the traditional markets of Middle East and Far East Asia which have a sizeable Muslim population, new areas like Western Europe, Turkey, North and Central Africa are also emerging as big markets. New markets are moving towards the Islamic banking practice not merely because of the religious imperatives, but due to the positive 'risk-reward' expected pay offs.

The ongoing high crude oil prices have created affluence in the GCC member countries and have pushed up the per capita income in these countries. A major portion of this investible surplus is guided towards the Islamic mode of financing. Starting from investments in Sharia compliant fund management products, like Mudarabah linked deposits and asset financing, Islamic bonds in the form of Sukuks have created a major market for investors.

In our opinion, though the Middle East and Far East Asia will be the hotbed of activity for standard and improvised structured Islamic finance products issued within Sharia guidelines, markets like UK, France, Turkey, Indonesia, Malaysia, Philippines and Morocco will also see massive growth. These will also see investments by local, regional and multinational banks to

offer standard and customized Islamic banking products to their customers.

These new markets will focus mostly on Islamic asset finance and fund raising (liability products) in the first phase of their offering and slowly work towards creating a more wide-based retail secondary market for investment products. Corporate trade finance products governed by Islamic rules will also grow but will certainly take longer to establish their presence in the more dominant conventional marketplace.

"There are several issues regarding the basic structure of the product that needs clarification and clear guidance not only from banks but also from the various regulatory authorities."

Challenges on the Horizon

While new markets are expected to offer Islamic banking products and set up procedures and practices around these products, there are several issues regarding the basic structure of the product that needs clarification and clear guidance not only from banks but also from the various regulatory authorities.

- **Mudarabah deposits and investments,** when considered from a standard banking perspective, are akin to pooled investment products where investors entrust funds to the bank to manage profitably. This is practically the same for an equity investor of the bank. While the bank's equity holder has the provision of enough equity to overcome unexpected losses, the same is not true for the Mudarabah depositor. These kind of structural issues play a major role as the market expands. The profit equalization reserve created to protect returns when the performance of the Mudarabah fund is not as expected, offers the same comfort to depositors. This, however, needs clear corporate governance from the banks' perspective to make the whole process more transparent.

- **Conventional banks offering Islamic banking windows** have come under the Sharia scanner to pass the transparency and partitioned funds management test. The situation demands that this is addressed through a detailed procedural and process-oriented regulatory mechanism. While conventional banks just try to adhere to certain specific areas of Sharia compliance like the avoidance of Riba, Maysir and Gharar, Islamic banks work across a broader frame to not only ensure Sharia compliance of products, but also streamline internal operations, including contracts with suppliers and employees.

- **In the face of the global banking crisis** emanating out of sub prime mortgage financing, there will be greater pressure on banking formats like Islamic finance to propagate themselves by creating a positive perception among customers while ensuring adequate and effective risk management mechanisms. It needs to be seen how global banks will put their already stretched and at times non-performing resources to start a parallel line of business to attract higher margins and wider market coverage.

- **While defining Basel II guidelines,** major requirements from Islamic Finance were missed out. Regulators are currently working on closing out the risk management gaps covering credit, operational, market as well as subjective risks like perception risk. There are several other areas that Islamic banks need to strengthen, ranging from IAS39 based classification and provisioning, SOX compliance and KYC norms.

"The Islamic banking market has seen maximum support and backing from regulators across regions. Starting from thought leadership on concepts to the details of policy design, no area is left untouched."

- **The involvement of regulators** in any new business venture is critical and determines finally whether a specific market will grow in the future. The Islamic banking market has seen maximum support and backing from regulators across regions. Starting from thought leadership on concepts to the details of policy design, no area is left untouched. This process is a continuous one and needs to be relentlessly practiced. For example, though much work is being done, it's still not known clearly how Basel II will affect Islamic banks and how exactly risk capital will be derived for better risk management. The analysis of counterparty risk and repetitive risk involved in banks' portfolio will grow in importance and will drive analysis that will lead to the mitigation policy.

- **Finally, the challenge faced by pure play Islamic banks** with respect to their high cost of funds. Islamic banks do not have the comforts that conventional banks enjoy in terms of wider options to raise funds, deploy it globally, and book initial losses to capture the market.

Product Trends

While initially the focus will remain on offering straight jacketed products following standard concepts like Murabaha and Ijarah finance covering mostly the asset financing options, newer structures will slowly emerge with multiple concepts merged together at various lifecycle stages. Common concepts that are fee (Ujr) based transactions will also be used frequently.

The next phase of product offerings will focus on these new structures covering multiple concepts, where apart from the religious aspects of banking requirements, the process and reward requirements will also prove important. Process adherence for all these products, strengthened by documentation support, will be identified as a major compliance requirement while selecting technology solutions.

Accordingly, standard financing concepts may emerge as frontrunners with more investments coming in from both banks and customers.

- **Musharakah or participatory finance** will be perceived as a safe means of finance, with the bank getting into ownership mode.

- **Islamic financing concepts like Ijarah, Tawarruq and Murabaha** will grow with inbuilt features like known future cash flow, to provide customers comfort for financial planning. At the same time, to take advantage of floating financing options, customers will opt for floating rate based Ijarah and other finance products.

- **The secondary market for fixed return investments like that of Sukuks will grow** – they have already experienced huge momentum in recent years. Today the outstanding market for Sukuks stands at around USD 70 billion, with large corporate houses presenting their own Sukuk issuance plans. The Sukuk market is experiencing an inclusive growth originating from traditional Islamic finance markets like Malaysia and the UAE. Sukuk being almost a fixed income instrument similar to 'bonds', can be treated as 'asset backed security'. The growth of the Sukuk market is somewhat assured with huge economic activities going on in

parallel in most countries where Islamic finance is popular.

- **Central banks will present 'Non Interest Bearing Papers (NIBP)'** as sovereign debt for resource mobilization. With more Islamic banks investing in these kinds of products, the inclination will be to create a secondary market for these instruments.

- **Takaful or insurance, both in the general and life space, will grow.** Malaysia and the GCC countries will lead the adoption process for these insurance schemes. Again, the established regulatory framework available in the country will govern the level of growth of Takaful as the alternate insurance option.

"The Sukuk market is experiencing an inclusive growth originating from traditional Islamic finance markets like Malaysia and the UAE."

Delivery Trends – the Synergistic Model

The need of the hour is for a unique operating model, whereby Islamic financial institutions will emerge free from the niche space and offer Islamic banking products to a much wider spectrum of customers. The face of the competition will also include the conventional bank with an Islamic banking window, as these have already started working towards achieving a synergistic model, to reduce inherent risks and costs. Banking systems have also come of age and are geared to handle the partitioned practice, at the same time offering scope for financial integration, if required, to take advantage of the broader funding.

There is great potential for shared or common services being provided by a standalone service institution that acts as the central Sharia board for all subscribing and partner institutions. While this will help IFIs take advantage of their lower cost of operation, it will also ease processes from a regulatory and procedural management perspective. The utility can be viewed as a partnership (Musharaka).

Similar models are commonplace from the conventional banking side and have made enough inroads in European and North Atlantic markets. This will also provide assurance from the regulatory and compliance perspective, and aid in 'mutual recognition' of practices and processes which will speed up the whole process of acceptance across financial institutions

Technology Trends

With the evolving Islamic banking business environment on the one hand and cut throat competition to get maximum wallet share on the other, life is certainly not rosy for the IT application vendor. Even greater is the challenge to provide a solution that adheres to the basics of the Islamic finance concept and at the same time remains flexible enough to meet the demands of the changing environment, with more and more synergies coming from the conventional banking format.

Though superficially, it seems that Sharia laws govern all regions, all groups and all types of operations - the practice at the ground level often gets differentiated based on interpretations. It has been observed that some Islamic banking processes differ widely from the Far East to Middle East Asia. For example, the concept of 'Bai al Einah' a typical sale and buy back kind of transaction, very common in the Far Eastern market is strictly prohibited in Saudi Arabia.

An open, workflow driven process and parameter driven banking application, will be less prone to requiring customization based on each market's specific requirements.

An open, workflow driven process and parameter driven banking application, will be less prone to requiring customization based on each market's specific requirements.

To date, Islamic banking is centralized through branch or personalized banking. With more and more customers moving in, we see ample potential for other banking channels like internet banking, mobile banking, and POS to gain prominence.

For an IT application the challenges of supporting such a complex business model will be manifold. Among other things, there will be greater need for a common business process layer covering both business processes and business rules on top of any banking application that will support the three core pillars of operational compliance in Islamic finance - structure, process and documentation. The underlying transaction processing core engine would need to be multi-entity enabled and at certain places support multiple languages and calendars, (Saudi Arabian market being the biggest even today is governed by Hijri Calendar), among other things. At the same time service orientation will help in future proofing.

Factors Influencing Growth

The factors that promise to help in the development and shaping of the Islamic banking domain in the coming days are varied.

- A well entrenched IT infrastructure and availability of new age systems for quick product launch
- A highly skilled work force with insight into the nuances of Islamic finance
- Formation of strong user groups among banks so as to drive ideas and procedures
- The regulatory environment – more aligned with conventional banking with a focus on Islamic banking singularities
- Development of a strong non-banking environment around the banking world - more to develop investment products, treasury products and secondary markets to increase liquidity
- Development of new Islamic banking products combining multiple concepts – more in line with structured products

The Days Ahead

We see a major opportunity for the Islamic finance market, supported by the influx of funds. The market and the players have to arrive at solutions for various inherent issues. These issues are highly broad based, ranging from ethical and religious to process orientation and rule-driven, making it a challenge to arrive at independent but integrated solutions. The issues include:

- Shortage of Islamic banking experts
- Need for standard accounting and auditing practice across geographies
- Lack of uniformity in product design and creation
- Shortage of instruments to cater to the ever growing needs of the investing community
- Need for improvement of corporate governance and risk management

"The market and the players have to arrive at solutions for various inherent issues."

- Need for simple but detailed tax regimes to attend to the needs of Islamic banking products

With the involvement of global banking majors in Islamic banking, the market is expected to see more consolidation and innovative product offerings in the coming days. Though this will pose a severe challenge for application vendors, it will force technology partners to come out with more agile, flexible and service driven technology platforms.

References:

- E&Y Islamic Funds Report 2007
- Islamic Journals and Analyst Reports

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Banking in Canada

Happier Days Ahead

Introduction

The Canadian banking industry has witnessed strong growth in recent years with major banks focusing on capital building and diversification activities. However, it too has to an extent been affected by the ongoing global financial turmoil triggered by the sub-prime crisis in the United States. While Canadian banks experienced more than 50 percent growth in 2006 over the previous year, last year the growth slowed down to a mere 2.2 percent. Although not as substantial as some of the banks in the US, Europe and Australia, banks in Canada too have made losses due to the credit crunch, and as Mark Carney, Governor of the Bank of Canada stated in a recent speech about the financial turmoil, "more than seven months on, the end is not yet in sight." Notably, concerns exist about banks with US banking subsidiaries, all of which are very active in the real-estate market. Nonetheless, economists at PricewaterhouseCoopers suggest that Canadian banks are expected to be shielded from the worst of the mortgage and housing crisis in the United States, although they add, "slower growth and uncertainty in the credit markets may make 2008 a year to forget."

Banking industry in Canada: An overview

Canada's banking industry can trace back its origins to 1817, when the first bank was opened in the city of Montreal by a small group of merchants. Since then, the banking industry has grown to become a vital part of the country's economy employing nearly a quarter million people and servicing a population of nearly 33.5 million.

Up to the middle of the 20th century, banks in Canada were mainly allowed to accept deposits and grant commercial loans. But over the past 25 years, with changes in market practice and legislations, the Canadian banking industry has witnessed a dramatic transformation. Growth in business and changing customer needs, along with the rapid expansion of international trade, led to the introduction of more automation and new products and services. Not only were banks allowed to offer a full range of financial services, from insurance to securities underwriting and dealing, but several constraints to the entry of foreign players were removed as well. From only 11 banks from 1920 to1980, today Canada has 72 banks with combined assets of over C$2.6 trillion (1 Canadian Dollar = 0.977 US Dollar). The industry includes 20 domestic banks, 24 foreign bank subsidiaries, 22 full service foreign bank branches and 7 foreign bank lending branches.

The banking industry is as such dominated by the "Big Five" domestic banks – Royal Bank of Canada (RBC), Bank of Nova Scotia (BNS), Toronto-Dominion Bank (TD), Bank of Montreal (BMO) and Canadian Imperial Bank of Commerce (CIBC). The big five Canadian banks along with the National Bank of Canada (NBC), are frequently called the "Big Six Banks" and account for nearly 90 percent of the assets of the Canadian banking business.

Some of the key trends dominating the Canadian Banking industry are outlined below:

- **Competition:** Changes to federal law and regulation in recent years have seen heightened competition within the banking industry in Canada. Not only have banks started offering products outside their traditional range of services, but several non-bank players have become active in the banking space as well. Changes to bank

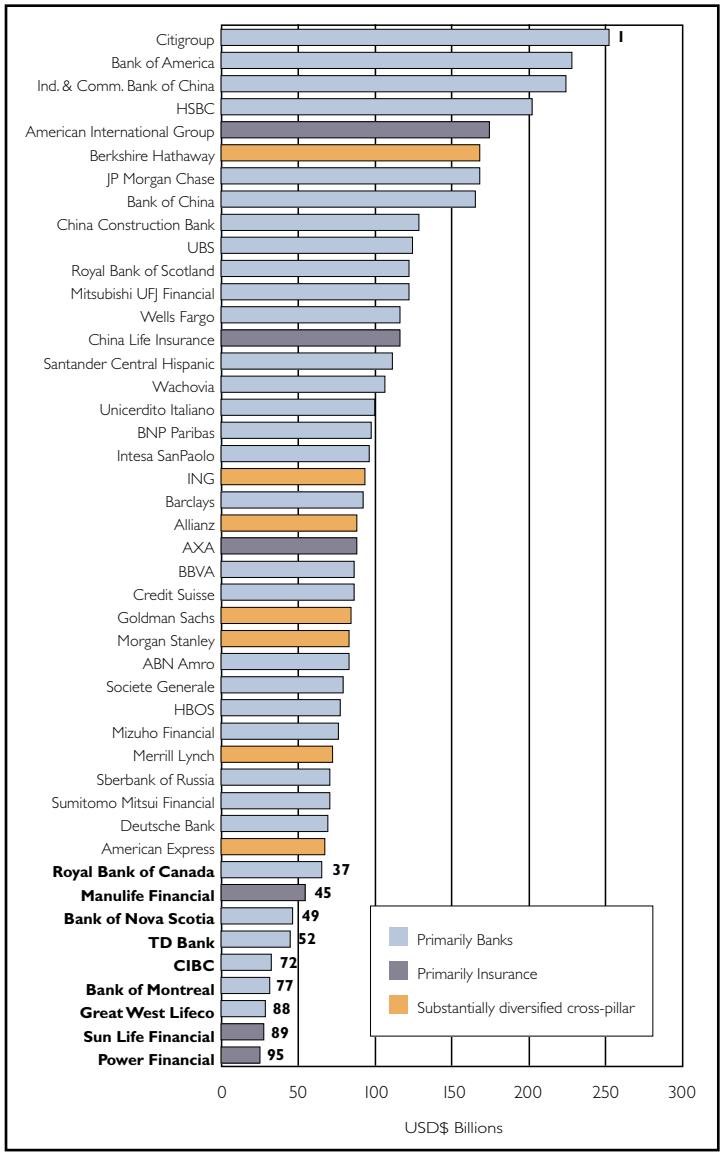
Ranking Country	World		Strength Tier One Capital $m	Strength Tier One Capital %ch.[3]	Size Assets $m	Size Assets rank	Size Assets %ch.[3]
CANADA							
1	35	Royal Bank of Canada (10/06)	19,131	13.6	478,115	1	16.1
2	37	Scotiabank (10/06)	17,911	10.9	337,584	3	23.7
3	48	Toronto-Dominion Bank (10/06)	15,212	30.3	349,972	2	9.4
4	49	Bank of Montreal (10/06)	14,822	15.1	278,574	4	5.1
5	69	Canadian Imperial Bank of Commerce (10/06)	10,631	20.7	270,762	5	10.4
6	98	Desjardins Group (12/06)	7,218	8.3	115,958	6	14.4
7	150	National Bank of Canada (10/06)	4,163	5.9	100,793	7	8.4
8		HSBC Bank Canada (12/05)	2,555	23.3	42,258	8	24.6
9	492	Laurentian Bank of Canada (10/06)	795	3.1	15,406	9	5.7
10	713	VanCity (12/05)	427	13.1	10,096	10	12.4
11	877	Canadian Western Bank (10/04)	295	14.0	4,030	11	13.2

Source: Top 1000 World Banks 07, The Banker

ownership laws in 2001 encouraged the establishment of new banks in communities across Canada. For instance, small banks were allowed to have a single owner and medium-sized banks were allowed to have a controlling owner, which could be a commercial enterprise. Examples of such institutions include, Western Financial Group, a holding company for a network of insurance agencies which created Bank West; and The Wheaton Group, a chain of car dealerships, that has received permission to launch a new bank called General Bank of Canada. At the same time, foreign players have been allowed to operate in the country. Today many leading international banks such as ING, Citigroup, Deutsche Bank and BNP Paribas have a presence in Canada. Most specialize in corporate and investment banking and have only one or two offices/branches. A notable exception however is HSBC Bank Canada, which has a strong retail presence with branches across Canada. According to the Canadian Bankers Association (CBA), competitors in Canada's financial services sector include among others domestic and foreign banks, trust companies, life insurance companies, mutual fund companies and independent financial brokers.

WHERE CANADA'S BANKS AND INSURANCE COMPANIES RANK IN THE WORLD (MARCH 2007)

(by market capitalization)*



Source: Financial Times Global 500, March 2007
** (size of business based on total value of outstanding stock of firm)*

- **International expansion:** While the Canadian banking industry has been characterised by consolidation, Canadian banks have been prevented from bulking up to the extent of their global rivals. Ten years ago, two proposed mega-mergers, RBC-BMO and CIBC-TD, were shot down. Since then banks have pursued different growth strategies, namely international expansion. The CBA estimates that since 2001, Canada's six largest banks have invested about C$38 billion into acquisitions, 95 percent of which was outside Canada. It says that in 2006, Canada's six largest banks earned 41 percent of earnings outside of Canada while 81 percent of their employees are based in Canada. Reportedly, over one-third of the earnings of RBC, Canada's largest bank comes from outside the country, while in 2007, the largest acquisition deal in Canada's banking industry was that of US' Commerce Bancorp by TD. Nonetheless, Canada's banks are still relatively small

compared to their global rivals. RBC for instance, is one-third the size of the third-largest global bank.

- **Changing nature of retail banking:** Today, immigration is a primary driver of much of Canada's population growth, which is leading to a dramatic change in population demographics in the country. Chinese and Indians dominate the immigrant population, while the number of Muslims too is increasing. While banks such as India's ICICI Bank offer services to people of Indian and South Asian origin, and regulators are considering the possibility of allowing Islamic banks to enter the market, Canadian banks too are beginning to offer services to these ethnic groups.

- **Risk Management, Compliance and Customer Centricity:** Heightened competition within the Canadian banking industry has lead to an increased commoditization of products and services, which is leading banks to focus on sophisticated strategies to target customers. Additionally, banks have been investing in complying with national and international regulatory requirements such as Sarbanes Oxley and Basel II. Risk management too is an area of strong focus especially in the face of the present global financial crisis.

"Not only have Canadian banks invested in technology solutions to automate banking processes, and offer electronic banking services to customers, customers too have enthusiastically adopted new technologies."

Investment in Banking Technology

Technology is an integral component of banking in Canada. Not only have banks invested in technology solutions to automate banking processes, and offer electronic banking services to customers, customers too have enthusiastically adopted new technologies. According to Statistics Canada's 2005 "Canadian Internet Use Study", about 6 in every 10 home users (58 percent) uses the Internet to do their banking while 55 percent use it to pay their bills online. It is estimated that there are around twenty-two million Internet users in Canada. In November last year, TD Canada Trust announced that its EasyWeb online banking service has over four million customers making it the largest online bank in Canada. The bank, which launched its online banking in 1999, said that in the previous twelve months, its online customers had conducted more than one billion transactions and enquiries.

Investment in technology has traditionally been a key priority among Canadian banks. According to the CBA, in 2005, Canada's six largest banks spent C$ 4.4 billion in technology, more than double of their annual IT spending in 1995. Estimates by analyst firm, IDC suggest that in 2007, the combined external IT spend of all retail banks, credit unions, insurance firms, and capital markets organizations was around C$7.6 billion out of which the "Big Five" Canadian banks accounted for C$3.1 billion. Further, the analyst firm forecasts that by 2011 the financial services sector in Canada will spend more on IT than any other Canadian vertical market.

As with other developed markets, core banking replacement due to legacy issues is at the top of the agenda for banks in Canada as well. Recently, Scotiabank selected a new core processing solution for its mortgage division, while other leading banks are evaluating their options. Another area of strategic focus is customer centricity as banks look to differentiate their offerings in an increasingly crowded marketplace. A survey conducted by Financial Insights revealed that Canada's "Big Five" banks were unanimous in stating their commitment to customers for 2007, and 20 percent of banking respondents cited CRM as the IT investment most critical to achieving their top strategic business priority in the coming year. On the other hand, core banking system renewal/ transformation was considered to be the most

important significant business priority by 17 percent of Canadian respondents.

Conclusion

Canada's banking industry looks set for interesting times ahead. With growing competition, changing face of retail banking and focus on risk management, banks are focusing on strategic acquisitions as well as looking at other areas to maintain revenue growth. Investment in technology systems remains a strategic priority area for banks as well. Going ahead, technology investments in core banking, customer centricity and risk management will be among the key focus areas for Canadian banks.

References:

1. PricewaterhouseCoopers. (2008) Canadian Banks 2008.
2. Canadian Bankers Association. http://www.cba.ca/
3. Canadian Bankers Association. (2006) Taking a Closer Look – Technology and Banking.
4. Financial Insights. (2007) Canadian Financial Services Industry 2007-2011 IT Spending Forecast and Analysis.
5. Financial Insights. (2007) Canadian Banks: Top Strategic Priorities and Key Enabling Technologies for 2007.
6. Soft Landings. http://canada.softlandings.com/canadian-banking.php
7. The Banker. (2007) Royal Bank of Canada. 1 Dec 2007.
8. TD Bank Financial Group. (2007) Four Million Canadians Make TD Canada Trust's EasyWeb Their Online Home. 19 Nov 2007.

Rekha Menon
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FinacleConnect

Technology-led Innovation Regime

Interview with

Somnath Menon

Head of Operations,
Mashreq Bank

Mashreq is one of the oldest locally incorporated banks in the Southern Gulf and is at the forefront of the UAE banking industry. A bank whose journey to success started 40 years ago, Mashreq constantly looks at ways to provide its customers innovative products, a convenient branch and ATM network and excellent service levels.

In May 2007, Mashreq unveiled a new logo following a rigorous three-year programme to evolve and redefine the bank's brand. During this time, Mashreq sought a deeper understanding of the market, its customers and employees, listening to them through in-depth market research and feedback forums.

Banks are making an effort to automate operations, the government too is making a big push for banks to become electronic.

With an overriding theme of 'Opening the Way', Mashreq strives to constantly enhance its relationship with customers, employees and partners, positioning the bank as the most up-to-date, innovative and easiest to do business with.

Over the past year, Mashreq has launched a host of new products that include credit cards, accounts and loans, tailored to meet each and every customer's requirements and needs. In addition, the bank has added new branches across the region and new ATMs to its extensive network.

Mashreq continues to build on the success of the past, keeping an eye firmly fixed on the future to cement its position as one of the leading financial institutions in the region.

Somnath Menon, Head of Operations & Technology at Mashreq Bank talks to FinacleConnect's Research and Contributing Editor, Rekha Menon, about the challenges and opportunities facing banks in the Middle East today and Mashreq's plans for the future. Somnath Menon joined Mashreq in July 2006 moving from Citigroup, London, UK. He was with Citigroup for nearly 20 years and has worked across different assignments in India, Africa and East Europe, besides UK. Somnath has seen the changing phase of operations & technology over nearly 3 decades in the banking industry, across the globe, and has been on various expert panels across regions. He is currently responsible for implementing and running the operations and technology strategy for Mashreq.

Q What are the key developments in the banking industry in the UAE today?

A High growth, consolidation, entry of new players and rise of Islamic banking, these have been the main features of the banking sector in the UAE in recent years. Between 2003 and 2006, the UAE banking industry grew by 123.8 percent with the maximum growth being experienced by the trading business, personal banking and construction businesses. This growth is expected to continue, aided by infrastructural developments and other initiatives such as the setting up of the Dubai International Financial Centre.

Q What are the main challenges facing banks in the region?

A Competition is intensifying and the playing field is getting smaller. This is the foremost challenge for banks in the region. Additionally, there is the challenge to automate and deploy technology to assist growth. The banking industry in the UAE still operates in a very paper-intensive environment. There are lots of manual processes and paper-based documentation. While banks are making an effort to automate operations, the government too is making a big push for banks to become electronic. For instance, the Image Cheque Clearing System (ICCS), akin to Check 21 in the US, has been mandated by the UAE Central Bank to improve payment clearing processes in the country and is expected to be implemented this year.

Core banking is another area where there is immense scope for improvement. Most banks in the UAE have legacy systems that are

Mashreq has always been a technology innovator.

either home-grown or third-party solutions. They now need to look at new-age systems that can help them meet their current and future requirements.

Q **What strategic initiative has Mashreq Bank adopted to help it compete successfully in this market?**

A For Mashreq Bank, service is a key differentiator. We are constantly looking at ways and opportunities to improve customer service and provide better and innovative means to increase customer convenience. Additionally, risk is a critical focus area. We are looking at areas of risk such as operations risk, business continuity planning and information security. All this means that our focus on technology becomes even higher.

Q **What is the importance of technology at banks today?**

A Today 70-75 percent of initiatives in a bank are technology dependent. Any initiative, even good housekeeping requires technology, which is moving from being an enabler to a driver. The more innovative technology gets, the more creative are the product offerings to customers.

Q **Could you describe the key technological initiatives at Mashreq Bank?**

A Mashreq has always been a technology innovator. We were the first to introduce the chip card in the country and are constantly looking at ways to maintain this position. Currently, we are in the midst of a large-scale technology overhaul at the bank, where we are replacing all legacy systems be it core banking, product processors or front-end systems. The change is not restricted to software applications. We are upgrading the network and hardware as well. For instance, we are getting into superdomes, fault-tolerant servers and upgrading old ATMs. On the processing front we are introducing imaging and workflow. This strategy was formulated a year ago and rolled out during the end of last year. We expect that by 2009, most of the new technology will be in place, with the core banking replacement probably taking longer.

Our tendency earlier was to focus on homegrown systems, but now our strategy is to adopt best-of-breed solutions and practices to gain maximum benefits.

Q **What are Mashreq's future engines of growth?**

A Retail banking and Islamic banking are the two main areas of focus for Mashreq in the near future. In response to the rapid growth of Islamic banking in the Middle East and to meet customer requirements, Mashreq set up its own Islamic finance subsidiary, Badr Al-Islami, in 2006. As a result, retail and Islamic banking are also areas that are seeing maximum investment in technology.

tECH WATCH

Grid Computing for Banks

It is a universally acknowledged fact that enterprises worldwide are leveraging advancements in technology and investing significantly in computing infrastructure. Typically distributed and isolated, this infrastructure is used to host varied applications and to process data. Most often, this is a heterogeneous mix of Mainframes, UNIX servers (including Linux) and Windows based servers.

A survey published by IBM a few years ago indicates that the average utilization of IT infrastructure in most enterprises worldwide is markedly low. According to the results of the survey, average utilization, over a 24 hour period, for UNIX machines is about 10%, and as low as 2-5% for Intel based machines. This suggests that there lie large capacities of processing power unutilized in the IT infrastructure of a typical enterprise.

This is not entirely surprising, as infrastructure is mostly sized to meet peak load requirements of applications, or capacity requirements projected for a future date. With enterprise business teams unwilling to risk their infrastructures not delivering on encountering peak load, investments in larger-than-normally utilized infrastructure is the norm, though it remains unutilized for the most part.

On the contrary, this investment locked in idle unutilized hardware infrastructure, holds the potential to be deployed elsewhere, to fruitfully grow business and fetch returns. Underutilized server infrastructure and desktops in an enterprise have the collective potential to offer significant distributed processing capacity. It is undoubted, that there are definite benefits in sharing IT infrastructure layers across applications for optimal usage.

Grid Computing is a technology that enables seamless sharing of a heterogeneous set of resources for data intensive computing tasks based on Open Grid Services Architecture (OGSA) standards. It should be noted that Grid Computing is different from Cluster Computing in the sense that Clustering refers to

sharing of homogeneous resources with tightly coupled interconnections, while Grid refers to sharing of heterogeneous resources including different operating systems and storage resources that could be distributed across the LAN or the WAN, often using different policy and security mechanisms.

The technology of Grid Computing enables virtualization of distributed infrastructure resources. A Grid is a group of computers, servers and storage virtualized as one large computing system across the enterprise. Grids unleash the latent power unused at any point in time, and accelerate computing intensive processes. Grid Computing uses software to divide and distribute pieces of a program to as many as several thousand computers. It frees up CPU cycles from those underutilized servers and desktop resources, making them available for usage by other networked applications. Further, the Grid's dynamic resource management features ensure that the failure of a particular node does not significantly impact the system's availability.

Sample Implementation

Figure 1 shows a sample implementation of a Grid. Most Grid middleware implementations like DataSynapse or Condor have similar structures. It comprises of the following components:

1. **Grid portal:** A browser based interface for end users to fire jobs on the Grid. It is responsible for providing authentication and authorization functionality to users.

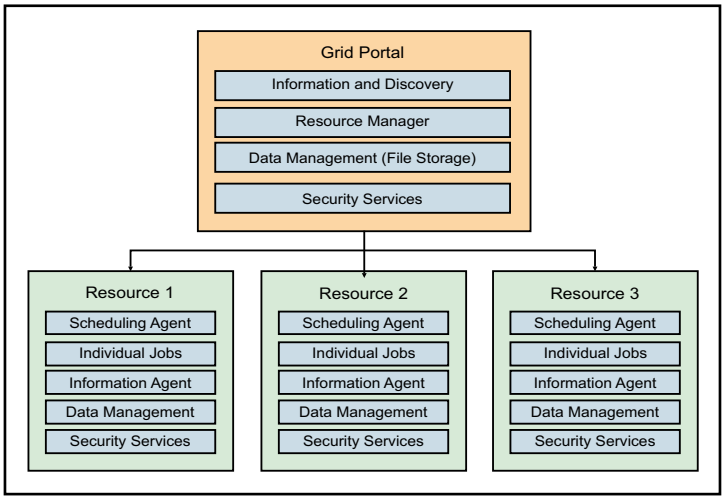
2. **Information and discovery:** An inventory of individual machines. This entails collecting information from various agents running on individual machines, including the capacity of these machines like number of CPUs, memory, and so on.

3. **Resource manager:** Based on information collected from information agents, this component fires jobs on available machines. The scheduling agent which runs on each of the machines facilitates initiation of jobs. The resource manager also retrieves the status of running jobs for monitoring purposes.

4. **Data management:** If a job requires files to be transferred to an individual machine, this can facilitate the same. Often files to be transferred are huge and hence a file may need to be broken into individual chunks which may be transferred in parallel and the operation itself needs to be made re-startable.

5. **Security services:** These include authentication of users and authorization in terms of the jobs to be fired. It also includes services such as host authentication using X.509 based certificates. The protocol used for inter-machine communication would be SSL, a typical mechanism to implement channel security.

Figure 1: Sample Grid Implementation



Physical deployment of these components could vary. For example, Grid portal and the resource manager may run on the same or different machines.

Relevance for Banks

As the business of banking grows increasingly complex, specialized customer needs are being met by specialized applications, built with varying technologies and delivered by multiple vendors. Hence, at practically every bank, the portfolio of applications and technologies is expanding at a phenomenal rate. These applications are most often deployed on distributed server machines within the bank's environment.

It is a fact that most servers residing in the bank's environment are barely used to their full capacity at all times. Even when, due to unforeseen business events, some applications are loaded to their peak, the peak load does not occur across applications and server machines at the same time. So, when some servers are loaded to their peak, there is typically other server infrastructure in the same environment running with unutilized capacities.

In addition, the bank's IT environment also consists of a large number of desktop workstations. With newer desktop machines surging with higher processing power, but used to perform relatively lighter tasks, a large portion of this processing capacity is also underutilized. We also need to take into consideration the large number of teller PCs that lie unused when branches are closed. It is also at this time that bandwidth from various branch machines to the central data center is available.

Thus, normally at any given point in time, a bank's IT environment includes significant redundant or idle processing capacity.

Over the past few years, business imperatives impacting banks have necessitated analysis of complex processing, both in online and batch modes. This has created an increased need for additional infrastructural computing resources and better utilization of existing resources. It is from this perspective that the technology of Grid Computing helps banks better utilize computing power latent in the bank's IT infrastructure, to meet advanced processing needs. Different types of batch processing requirements are good candidates for usage within a Grid. Here are a few examples:

1. **Daily interest accrual:** The list of accounts and transactions posted on these accounts since the last interest accrual could be fed into an input file. The interest calculation program could run and create the results file, which can then be retrieved by the resource manager. The resource manager could transfer the interest calculation program to remote machine(s).
2. **Fraud or money laundering analysis:** This is based on the behavior pattern derived from transactions posted to customer accounts. The list of accounts and transactions posted on these accounts, along with other customer and account related information, could be sent to remote machines. The results calculated by these machines could then be retrieved by the resource manager.
3. **Profitability analysis for customers:** This involves complex calculations based on customers' existing relationships with the bank and possibly projected relationships. Customer and relationship information could be forwarded to the remote nodes which can perform profitability analysis and forward results to the resource manager.
4. **Credit risk calculations:** These are based on algorithms like Monte Carlo that are resource intensive.

Limitations of Grids at Banks

While the promise of Grid Computing is indeed appealing, a critical number of takers for Grid

Computing in the banking world are yet to be found. Some of the concerns raised include:

1. **Security:** As part of ensuring Grid security, installations like X.509 certificates on each participating machine within the Grid, are essential. To submit jobs to the Grid, one must ensure that right credentials like user certificates are supplied to the Grid portal. All links between machines need to be encrypted. The input and result files that exist during running of jobs must be encrypted. If jobs submitted to a participating machine fail, these files must be cleaned up. This requires an elaborate setup. There is also this lingering doubt as to whether the programs run on these machines will affect normal functioning of the machines (For example, incompatible versions of DLLs and so on). Virtualization technology, based on 'job execution containers,' may address the issue.

2. **Reliability of participating machines :** Some of the machines which are part of the Grid may be unreliable. The overall infrastructure needs to address failed jobs, resulting from failure of such individual machines.

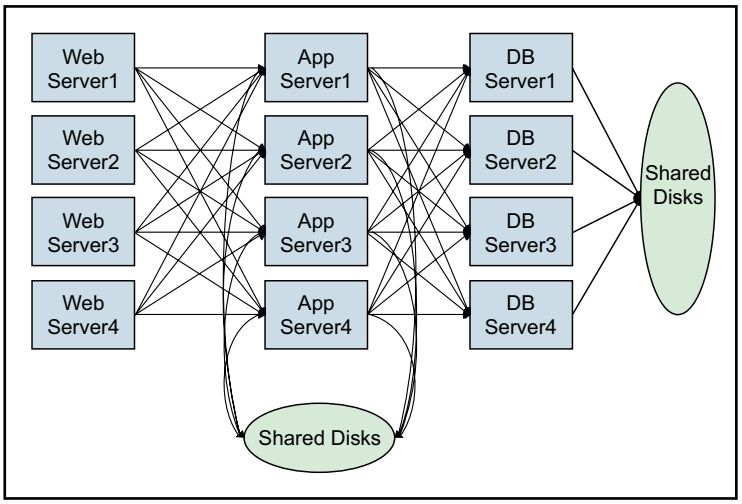
3. **Legacy applications :** One cannot always expect machines within branches to have database connectivity to the host database. In this case, programs like interest calculation will need to work in a mode wherein inputs are taken from files and results stored in files. Most legacy applications do not function in this fashion. Many of the legacy applications may not even run on operating systems like Windows or Linux that would be loaded on the branch machines.

4. **Licensing issues:** For application vendors, a more subtle aspect of Grid Computing is the need for a new licensing structure for COTS (Commercial Off-The-Shelf) software. No longer does it make sense to refer to licensing in terms of "per CPU". With a Grid, the computing resource pool is constantly shifting – the number of CPUs is a function of the availability of computers that make up the Grid.

Adoption at Banks

Based on research conducted with various banks and analysts, it is more likely that in the near future banks will resort to what can be termed as "workload virtualization" rather than full-fledged Grids. This means that rather than using the unused capacity of desktops at branches, banks will leverage commodity servers (say Intel 2 CPU machines) at the data center. This is as shown in figure 2.

Figure 2: Sample Configuration for Workload Virtualization



Salient features of the configuration are:

1. Batch jobs can be submitted through any web server machine. Each batch job can be split into multiple tasks and each of these tasks can be run on one of the application server

machines. The application is expected to implement tight access control in terms of who can invoke the identified batch job.

2. Each application server can access a database server node which could be configured in a RAC-like configuration.

3. Online transactions could be routed to any of the web servers through browsers. The web application can route any transaction request to an application server capable of processing the same. For scalability, the application should have stateless services to enable any request to be forwarded to any application server.

Advantages of this mechanism would be:

1. They are server class machines and hence more reliable than branch PCs.

2. Their dedicated status enables them to facilitate more predictable performance and better manageability.

3. These machines would be in a protected zone within data centers with database access and hence lesser security restrictions. Additionally, these programs do not need to be installed just before usage.

However, there are certain infrastructure components required before this configuration could be used. Some examples are:

1. **Information and discovery management:** Mechanism to compute load on each machines. Support is also required to take a machine out of service, to apply a patch and so on.

2. **Resource management:** A scheduling mechanism to schedule jobs on machines that are relatively free and a dashboard which displays the status of various jobs.

3. **Change of legacy applications:** To enable split in overall work into individual tasks that can be fired on to different machines.

Conclusion

Grid Computing brings significant promise to the table in terms of better utilization of latent unused IT processing power. This includes teller PCs when branches are closed and multiple servers sized to peak capacity, often lying unused in the bank's infrastructure. While the appeal of Grid Computing is tempting, takers for Grid Computing are currently limited in the banking world, due to various reasons like security concerns and legacy code which is not Grid-enabled, among several others. In the path towards full-fledged Grid, in the near future, it is likely that banks will resort to 'workload virtualization', achieved by the use of commodity servers.

Acknowledgements

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References:

1. IBM Scorpion whitepaper: Simplifying the Corporate IT Infrastructure, 2000.

2. Jay Eckles, "An overview of Grid Computing in Financial Services", http://www.jayeckles.com/research/Grid.pc.

3. Dell: Oracle Customer case study accessible through, http://www.oracle.com.

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Infosys in the news

Infosys YoY growth up 35%

Infosys Technologies Limited announced financial results for its fourth quarter ended March 31, 2008. Revenues for the quarter aggregated $1142 million up 32.3% from the corresponding quarter last fiscal. Net income was $311million ($259 million for the quarter ended March 31, 2007). 40 new clients and 5947 new employees were added during the quarter. Infosys Technologies Limited announced Fiscal 2008 revenues of $ 4.18 billion; YoY growth of 35%. Net income was $1115 million ($850 million for the Fiscal 2007).

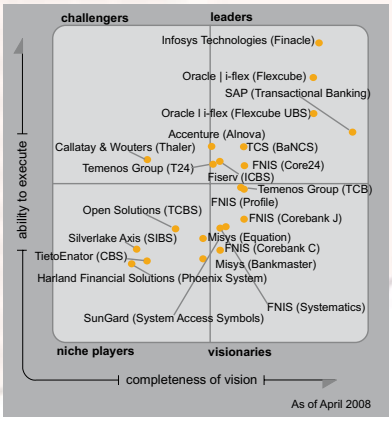
Infosys Technologies Cited as Leader in Oracle Implementation Services by Independent Research Firm

Infosys Technologies Ltd., a world leader in consulting and information technology services, has been recognized as a leader among Oracle implementation providers in a March 2008 report issued by independent analyst firm Forrester Research. The Forrester report, titled The Forrester Wave: Oracle Implementation Providers, Q1 2008, states that Infosys' placement within the leader category was "fueled by strong business process consulting capabilities, technical skills, large offshore practices, and strong technical IP including pre-built, industry-specific solutions."

Finacle – The Universal Banking Solution from Infosys

Finacle Positioned in the Leaders Quadrant of the Gartner Magic Quadrant

Finacle core banking solution was positioned in the Leaders Quadrant in the recently released Gartner 'Magic Quadrant* for International Retail Core Banking (IRCB) 2008' report. According to Gartner, "Leaders are vendors that possess a strong banking market understanding, have a measurable strategy for disaggregating core banking software functionality into component-based constructs, exhibit highly developed and certified development and delivery of quality methodologies or are executing on a strategic road map to attain certification, and most have extensive marketing delivery and sales channels. Some higher-rated vendors share conspicuous operational organization approaches that are relevant to the business and show a clear willingness to own and be accountable for a successful customer experience."



Source: Gartner, Inc. "Magic Quadrant for International Retail Core Banking, 2008" Don Free, 3 April 2008

Finacle Unveils Finacle 10 – The Next Generation Solution for Banking Transformation

The launch of Finacle version 10 reinforces Finacle's global leadership in banking transformation. This highly sophisticated and advanced system has been built with an investment of over 240,000 person days.

It will enable banks to transform their multi-country operations through a standard platform and processes. A set of over 5000 parameters and an enhanced scripting studio will deliver rapid product innovation. The new version also brings with it a whole new set of offerings including Islamic banking, wealth management; and an enhanced mobile banking solution.

Customer Speak

"We were single-mindedly focused on a radical makeover of our legacy technology infrastructure. This new core banking application from Finacle will support the bank's aggressive business plans and act as an enabler to achieve its future growth plans and new business initiatives. With the help of this solution we are already thinking about new and innovative product launches like never before while continuing to provide a highly personalized customer experience for which ASPIS has been well recognized in the Greek banking market."

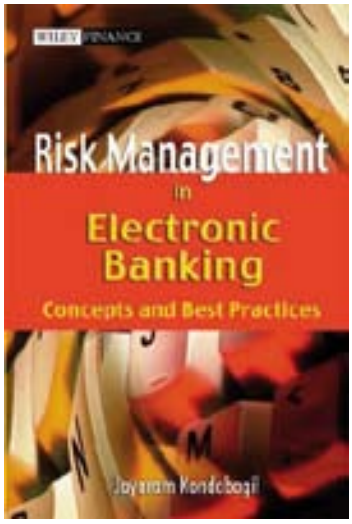
George Dayantis
General Manager- Operations and IT
Aspis Bank

Jayaram Kondabagil

Risk Management in Electronic Banking: Concepts and Best Practices

Risk management is an integral aspect of the banking industry, more so in today's environment where the risks posed from issues such as fraud and regulation has increased manifold as compared to even a decade ago. And given the fact that the banking environment today is increasingly 'electronic' in nature where the success of a bank rests on its ability to exploit the Internet and mobile technologies, while providing services over multiple delivery channels, the need for developing new risk management strategies becomes obvious. Jayaram Kondabagil's book, *Risk Management in Electronic Banking: Concepts and Best Practices,* covering risk management in this new era of electronic banking is therefore very opportune.

Kondabagil suggests that in an electronic banking environment, banks need to go beyond their traditional focus areas of credit, market and liquidity risks and look at non-financial risks such as strategic, compliance, operational and reputational risks. Non-financial risks, more often than not, receive a cursory treatment from banks, says Kondabagil, usually as a need to meet legal and regulatory requirements, but in an electronic banking environment, it is these risks that are heightened. For instance, he explains, unlike earlier, electronic banking has opened up banks to a variety of external attacks on their internal databases. Unauthorised access to this information not only increases the risk of financial loss, but also raises the possibility of the bank's reputation being harmed and it facing legal action from affected parties. These risks are also increased in the event of a disruption to a bank's 24/7 service, a crucial requirement in today's e-banking world. While the former case calls for effective information security management, the latter requires business continuity management.



Providing a comprehensive overview of the key non-financial risks facing banks in an e-banking world, *Risk Management in Electronic Banking: Concepts and Best Practices* recommends a five-pillar approach for management of these risks. The first pillar is an independent e-banking risk management framework that includes policies, procedures and governance models. The other four pillars are information security management, outsourcing management, business continuity management and legal and regulatory compliance. Not only does Kondabagil cover each pillar in detail from a practitioner's point of view, he also looks at issues such as organisational structures and board and senior management responsibility.

Risk Management in Electronic Banking is no doubt a well researched book. Commendably, without dwelling into minutiae, Kondabagil comprehensively covers all the key aspects of risks inherent in the e-banking arena. The High-level Review Checklist and Glossary at the end of the book too is very useful. The book can potentially appeal at all levels, the bank's top management looking for a quick overview of risk in e-banking, to IT and compliance managers who might wish to dig deeper.

Risk Management in Electronic Banking, however, does lack enough real-life examples, a potential area for improvement in future editions, but it has all the makings of a practitioner's handbook on e-banking risk management, a critical requirement in today's uncertain world ▪

Rekha Menon
Research and Contributing Editor
FinacleConnect

Flat world business secrets from a flat world company.

(4 word summary:
shift your operational priorities)

The world is flattening; is your business adapting to compete and win? Are you dreading the China Price or are you becoming the China Price? Are you spending money on information or are you making money from information? Are you trying to increase customer loyalty through good customer service or through faster innovation? Are you focusing your resources on competing in the straightway or are you preparing to overtake the competition on the turns?

We have been a flat world company since our birth. We can help you shift your operational priorities and win in the flat world. To know more, visit http://thinkflat.infosys.com

Infosys®

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DRIVEN BY VALUES

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In the flat world, the financial industry has stepped up its compliance regulations dramatically. So have individual governments. The cost of failure is very high.

Leaders in the field today have realized that its impossible to effectively tackle the task of managing risk and compliance in the flat world without replacing inflexible and obsolete technology with future-ready new generation solutions. They understand that doing so enables them to maximize the opportunities of globalization while minimizing the associated risks.

Finacle from Infosys helps you win in the flat world by maximizing unlimited opportunities for growth, while minimizing the risks that come with large scale business transformation. Global banks like ABN AMRO, ANZ, DBS, Credit Suisse, ICICI, State Bank of India and many others have leveraged the power of Finacle to win in this globalized world.

To know how global banks have maximized their opportunity and minimized their risks to win in this flat world, do visit us at www.infosys.com/finacle

Maximize Opportunity. Minimize Risk.

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