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Director of Digital Banking
Barclays Bank

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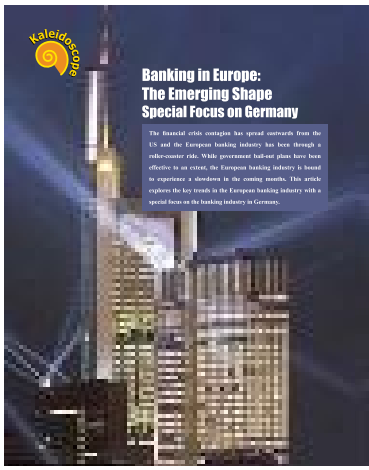

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Voice from the Desk

Is the world moving towards a recession? This is the question uppermost in everyone's mind. Recent weeks have seen the financial services industry rocked by a level of turbulence unprecedented in recent history. Who could have imagined even a few months ago that industry stalwarts such as the 168 year old Lehman Brothers would file for bankruptcy or Wachovia would be acquired? The rescue packages devised by central banks in Europe and the US might have averted a global financial meltdown, but there are fears now that the malaise is spreading across industry sectors and the world is moving towards a recession. How can the banking industry cope with this period of uncertainty, turmoil and business slowdown?

The coming months will be a period of realignment for the banking industry. Technology investments need to be aligned with business objectives as banks look to rationalise their technology platforms. The need for scalable and flexible solutions that enable efficiency and customer centricity has never been higher. Most importantly, the spotlight will fall on ensuring effective risk management at banks. This issue of FinacleConnect carries a report on the risk management roundtable, conducted by analyst firm Financial Insights, where participants included Heads of Compliance and Chief Risk Officers of banks from across the world. The report details the viewpoints and experiences shared by participants, the strategic initiatives planned and already underway, to combat pressing credit and operational risk concerns, and the underlying regulatory and technology implications. Focusing on the importance of consolidation and rationalization, this issue's Tech Watch will look at how banks can leverage enterprise master data management.

"Customers want security to be overt," states Sean Gilchrist, Director of Digital Banking at Barclays Bank in InsideTalk. "Security", he says, "is always a concern for customers irrespective of the channel they are using to access their accounts and is a priority for banks". Gilchrist spoke to FinacleConnect about the opportunities and challenges of digital channels for banks and also discusses Barclays' digital banking strategy.

The cover story in this issue focuses on wealth management, an industry evolving with the expansion of an affluent client pool and increased competition created through mergers, acquisitions and the introduction of non-traditional players. The article explores key developments in the wealth management space as well as provides perspective on the technology solutions available. Apart from technology, however, says the author, the success of a firm's wealth management strategy depends on the quality of advisors, the business model, organizational structure, customer segmentation and diversity of offerings.

At FinacleConnect, it is always our endeavor to provide you with current and relevant information. I am sure you will enjoy this issue of FinacleConnect.

Till next time!

Haragopal M

Vice President and Business Head - Finacle
Infosys Technologies Ltd.

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Feature

Financial Insights Risk Roundtable: A Report

This Financial Insights report elaborates on the key points discussed at the Financial Insights Risk Roundtable, in which Heads of Compliance and Chief Risk Offcers of banks from across the world participated.

The report examines the viewpoints and experiences shared by participants of the roundtable, strategic initiatives planned and already underway, to combat pressing credit and operational risk concerns, as well as underlying regulatory and technology implications.

The situation overview

In an uncertain business environment, it is not surprising that the spotlight has fallen on the adoption of effective risk management practices. Where credit and operational risks have always been traditional areas of focus, regulatory and reputation risks have come to the fore as potentially more damaging to a financial institution.

High-profile failures of risk controls and the increasing sophistication of fraudsters (both outside and within the organization) waiting to pounce on gaps in risk practices means the role of a risk executive is more challenging than ever. The discussion covered key issues that preoccupy risk executives:

"Regulatory and reputation risks have come to the fore as potentially more damaging to a financial institution."

1. Identity theft and management
2. Enterprise versus siloed view of financial crime risk
3. Anti-Money Laundering (AML)
4. Internal fraud
5. Credit risk management
6. Selling-risk in the organization

In the following sections, we discuss some of the initiatives risk executives have taken to navigate their organizations through troubled waters.

Identity theft and management: Dual Factor Authentication

- The introduction of Dual Factor Authentication (DFA) to combat identity theft prompted lively debate, with bankers sharing their views on various DFA solutions and the impact of DFA on Internet banking volumes.

- The pros and cons of introducing SMS-based authentication versus security tokens were discussed, with a number of banks choosing to roll out a combination of both solutions. Deployment costs were obviously a key consideration, with banks having to weigh the greater upfront costs of deploying hardware tokens against the smaller initial outlay associated with SMS-based solutions. Although this cost advantage is likely to even out after 3–5 years when transaction costs in SMS-based solutions are taken into account, the greater upfront cost for tokens means less flexibility to change in future.

- A global bank shared its experience in introducing DFA — initial pilot trials of various DFA solutions were rolled out to customers in five countries, and the bank tracked customer perceptions and actual usage of each solution. While SMS-based authentication was found to be the preferred solution due to its convenience, the bank did point out that reliance on telecommunication providers for the SMS services often led to significant failure rates in countries with a poor telecommunication infrastructure.

- Banks experienced increasing Internet banking volumes — following an initial dip — after the introduction of DFA. The initial fall was attributed to the public's natural aversion to additional inconveniences, such as reliance on carrying physical tokens or the hassle of replacing lost ones. However, customers have clearly warmed to the enhanced security this also brings.

- It was also pointed out how financial institutions in Europe have adopted a combination of bank cards and standardized tokens to lessen such inconveniences and to benefit from economies of scale. There, customers had to input bank pass details, but they were not restricted to only using their own tokens. This, however, is not an immediate option in Asia-Pacific, where standardizing across multiple countries and meeting

multiple regulatory requirements poses a huge challenge.

- Ultimately, banks agreed that regardless of the choice of DFA solution, regular customer data cleansing efforts were needed to ensure that a client's address (for token deployment) and mobile phone number (for SMS-based solutions) are updated.

Challenges in mitigating identity theft

- One approach to mitigating identity theft is to put oneself in the shoes of the would-be fraudster. The Internet channel arguably offers the path of least resistance to a fraudster, who will take into account the risk of being caught against the financial rewards of getting away.

"Technology (or the lack thereof) was not the major cause of identity theft. The people factor plays a huge part."

- Roundtable participants discussed how the increasing prevalence of web-based transactional activities, easy access to sophisticated scamming toolkits, accountability issues (exacerbated by increasing reliance on infrastructure providers for IT security), and difficulties in enforcement across multiple jurisdictions (for cross-border fraud cases) offer numerous avenues for fraud and identity theft and serve to create a perfect storm for risk officers.

- Banks were largely in agreement that technology (or the lack thereof) was not the major cause of identity theft. The people factor plays a huge part. For instance, it was pointed out that in Singapore, people often disclosed their personal particulars online, through phone or paper-based lucky draws, presenting myriad opportunities for identity theft. The onus is, thus, on the bank to continue to educate consumers on the risks of such lax practices.

- Risk executives also agreed there remains much scope for improvement in dealing with occurrences of identity theft. It was cited that some banks are writing off loans resulting from identity theft as bad debt loans rather than fraud, which undoubtedly has a negative impact on a customer's credit ratings.

Enterprise versus siloed view of financial crime risk

- Another important issue on the agenda was the organizational view of financial crime risks. Here, roundtable participants looked at how banks were typically set up in silos, with each operating unit — retail, corporate, investment, securities arm, and so on — setting up its own security perimeter. With no uniformity or standardization to organizational security, and with numerous security applications running across multiple environments (such as Internet banking, intranets, and virtual private networks), the security footprint inevitably grows too big and complex to manage.

- A practical solution would, therefore, be to adopt a holistic, enterprise approach towards risk management. One bank pointed out that this could be achieved by having a common enterprise risk framework (with baseline principles, standards, and policies), with risk officers empowered to enforce this across the organization.

- At the same time, executives at the roundtable recognized the complications of adopting an enterprise approach to financial crime risk. Communication issues, especially for cross-border operations, will have to be addressed. The impracticality of imposing stiff, centralized risk policies across functional and geographic silos — each operating in different cultural and regulatory environments — also has to be considered.

- A CRO who has seen some success in this area advocated a groupwide approach to formulating internal risk policies based on regulations issued by a lead regulator (usually the regulator of the organization's home market) and tweaking these for various regions without implementing wholesale process changes.

Anti-Money Laundering

- The regulatory spotlight on Anti-Money Laundering (AML) was another issue that resonated at the roundtable discussions, as executives at the roundtable examined how regulators have significantly cranked up the legislative pressure around AML over the last few years. Already inundated by an unprecedented number of onerous and often conflicting regulations, risk officers questioned if AML compliance legislations were necessarily well thought through. An executive brought up the example of how her organization's regional operating units face different turnaround times for reporting suspicious transactions — 30 days in the United States, 15 days in Singapore, and just 2 days in Macau. The short window for compliance in Macau inevitably results in a bombardment of reports sent to the compliance department, as any and all suspicious transactions are flagged — or "Garbage-In Garbage-Out", as another executive aptly put it.

"Regulators have significantly cranked up the legislative pressure around AML."

- With banks increasingly subjected to global as well as local AML regulations, risk executives are grappling with the challenge of balancing priorities based on assessing different regulatory concerns (for example, tax evasion and money laundering are key regulatory issues in the United States). A well-integrated AML framework that crosses lines of business, products, services, and jurisdictions resonated well with the risk officers, who also recognized the importance of performing due diligence and establishing strong parameters beforehand.

- The roundtable discussions also revealed that spending on AML systems and processes were set to continue at a brisk pace, with investments centering on transaction monitoring technologies and account opening procedures. Risk officers also looked at how predictive analytics systems could be used in Know-Your-Customer (KYC), an important step in AML efforts. An example was cited in which behavior patterns of retail banking customers in India were monitored, and deviations from normal patterns of when and where they did wire transfers or made deposits could signal suspicious transactions. Examples of banks bringing their AML functions in-house were also mentioned as the participants concurred on its growing importance.

Internal fraud

- Recent high-profile instances of fraud perpetuated from within underscored the importance that risk executives place on mitigating internal fraud. Although the risk executives broadly defined internal fraud as the manipulation of limits and systems by employees, a distinction was made between small fraud issues (defined as policy violations) and larger ones (defined as procedural and operational violations), with suggestions that enhanced efforts to catch policy violations will act as a deterrent to larger-scale fraud as employees recognize that they are being watched.

- Financial institutions have been quick to recognize that effective data protection can

reduce the risks of internal fraud, as reflected by the appointment of chief data officers in a growing number of financial institutions. Some banks have initiated moves towards a thin-client, diskless environment to fight the hemorrhaging of data and information. Similarly, some banks have taken measures to progressively lock down their infrastructure, disabling downloading functionality and restricting usage of disposable disk drives. This can go to the extent of requiring administrative rights (held only by IT support) to make even simple changes. One risk executive suggested the need for an information leakage plan to provide self-assessment of business functions and to track how information is being discarded. Banks, however, do acknowledge that such measures place a considerable drain on efficiency.

"Organizations will lose up to 5% of their annual turnover through people fraud."

- As was the case in the discussions around external fraud and identity theft, banks recognized that whilst system control measures may be in place, they could not afford to ignore the people factor. The Institute of Operational Risk, a professional body maintaining standards of professional competency in the discipline of operational risk management, projects that organizations will lose up to 5% of their annual turnover through people fraud, with four in five instances of fraud perpetrated by internal staff. It was further estimated that given the right opportunity, almost 25% of employees are susceptible to committing fraudulent activities. Here, there is no substitute to exercising vigilance in monitoring, accountability, and transparency. Risk executives at the roundtable recognized how important it was to foster an organizational culture of risk awareness, to dissuade lax practices such as sharing of profiles and access codes with temporary staff, and to protect the anonymity of whistle-blowers.

- The recent Société Générale rogue trader incident has also highlighted the importance of monitoring employee mobility within the workplace and between functions. Suggestions made included enforcing access reporting and active disablement of accounts, as well as greater engagement between HR and line managers, who would have visibility on employee transfers.

Credit risk management

- Discussions about effective credit risk management focused on efforts to reduce the risk of Non-Performing Loan (NPL) write-offs. Banks have seen some success in enhancing the transparency and accountability of loan approval processes. They have instituted practices such as credit risk modeling, requiring multi-party approval for loan applications, and treatment of loan extensions as new loans (i.e., subject to all the necessary checks). One executive suggested focusing on the gatekeeper functions of client-facing staff. At the same time, this has to be balanced with the promise of speedy, hassle-free loan approvals in the competitive consumer and Small and Medium-size Enterprise (SME) banking space.

- The risk executives looked at how external factors sometimes played a part in credit approval. Examples were cited of loans to high-profile individuals (such as government officials and royalty) being exempted from usual loan approval processes. The risk officers also reflected on differences in credit assessment practices. For example, in India consumer finance officers physically visit the homes of subprime loan applicants as a credit risk indicator.

Selling risk in the organization

- Executives at the Risk Roundtable discussed the challenges involved in fostering a culture of risk awareness and getting management buy-in to increase risk budgets. Having effectively centralized their risk management functions, two foreign banks revealed that a critical success factor was successfully positioning risk as a business driver. One risk officer argued that for a financial institution to effectively adopt a risk culture, supervisors will have to take responsibility and be accountable.

"By looking at the composition of the board of directors, risk officers can get a sense of the level of awareness of risk issues."

- Media hype around widely publicized fraud cases has highlighted failures in risk controls and certainly helped drive risk awareness, as banks count the costs of the damage to their reputations. However, securing true management buy-in involves a lengthy education process, from the board, to country managers, to the business units, and to IT personnel. Indeed, it was suggested that by looking at the composition of the board of directors (where not everyone may be a banker), risk officers can get a sense of the level of awareness of risk issues. Other hurdles cited included shareholder requirements taking precedence over risk issues, limited view of risk management beyond meeting basic regulatory requirements, and lack of innovative solutions to compliance and risk management.

- Encouragingly, there are signs that risk management is indeed rapidly gaining mindshare in financial institutions. The CRO of a global bank claimed that he is beginning to see questions on risk topics come from management rather than the other way around. Lending further weight to this comment is the fact that at the recent Financial Insights Singapore Banking Roundtable, key executives (who were not focused primarily on risk) identified security and fraud management as one of their most pressing issues in the current business environment.

Essential guidance for financial institutions

- It is encouraging to note that, for the most part, financial institutions across regions have taken a proactive stance towards risk assessment as they continue to plug the perceived gaps in their risk controls. There is ample evidence that regulatory and compliance issues have become top-of-mind for management. Risk officers, who are becoming increasingly empowered as a result, would do well to continue driving deeper engagements across various business units, which should in turn manage and maintain the risk they assume.

- Financial institutions looking to implement an effective enterprise risk management system should first ensure that basic elements — internal control policies, methodologies, and infrastructure — are in place. This will determine ability to integrate all risk components down to the transactional level. In addition, vulnerability to specific risks should be weighed alongside the probability of their occurrence. Responses would vary from merely tracking a risk and keeping it on the radar screen, to identifying mission-critical risks that would have the greatest adverse impact on the organization.

- Many banks do not have extensive historical data and suffer from disparate systems, manual processes, and missing or incomplete customer data. Unfortunately, risk analysis depends on a solid data foundation, and institutions need to enhance the capture of

robust data, reinforce data ownership rules, and establish ongoing processes to track data quality. Financial institutions can look to supplement internal data with external sources, either by establishing country data bureaus so that a critical mass of quality data can be developed and shared by industry participants, or simply by purchasing vendor-based models.

- Financial institutions are advised to utilize in-house development for proprietary risk models that would give a competitive edge, while purchasing vendor-based applications for readily available and well-established solutions. When purchasing such off-the-shelf solutions, IT teams should verify that short-listed candidates offer risk products that effectively cover organization's existing portfolio, accommodate future updates, and are basically in synch with the business vision.
- Scope remains for financial institutions, especially some of the smaller local players, to bolster efforts in training their staff on proper customer due diligence and data protection. Similarly, professional training can be packaged as part of the customer outreach effort by well-trained, customer-facing professionals to build greater customer awareness on identifying and guarding against occurrences such as identity theft ▪

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Wealth Management: The Symphony

Lovers of classical music will agree that Symphony Number 9 in D Minor is the last complete symphony composed by Ludwig Van Beethoven and one of his masterpieces. The woodwinds, brass, strings and percussion blend in a fuid composition to create that perfect symphony.

In the same vein, tune in to the wealth management symphony and listen up. It does not take long to fgure out that the notes do not sound quite right - there seems to be a discordant note that's hard to miss. Market dynamics, ever-evolving client requirements, changing revenue models and a complex IT landscape have ensured that this dissonance continues to jar.

Wealth management providers are struggling to piece together a fuid and fexible business model that combines service offerings and products with customer-centricity and IT platforms. The 'fexible business model' is today acknowledged as key to the smooth fow of melody. A truly fexible backbone in terms of the IT infrastructure is critical to help achieve this. As a wealth manager would put it 'while we need not recreate Symphony Number 9, a symphony it must be nevertheless, and fexible too.'

The wealth landscape

The wealth management marketplace is evolving with the expansion of an affluent client pool and increased competition created through mergers, acquisitions and the introduction of non-traditional players. Wealth managers are setting business goals that require innovative technology solutions to help increase sales, reduce costs, retain existing clients and attract new ones. They are increasingly coordinating processes around their customers. They have long since realized the need to carefully evaluate and quickly deploy the right technology solutions to garner competitive advantage in the market. The considerations to create or strengthen a customer-centric model are complex, but most firms have recognized that long-term success is determined by an organization's ability to deliver customer-centric products and services.

"Banks establish multiple touch points with clients and typically benefit from enduring client loyalty."

Wealthy individuals have multiple and complex financial needs. Banks geared to meet their needs build long-term relationships in which advice, as opposed to products and transactions, is the focus. These banks establish multiple touch points with clients and typically benefit from enduring client loyalty and their predisposition towards referrals to prospective clients. The primary differentiators are advisory capabilities, product breadth, and facilitation of customer ease and convenience.

Expanding the wealth management canvas

The spectrum of offerings is spreading and the scope of services is widening significantly. A quick glimpse reveals:

- Delivery channels: Anywhere and anytime through branch / call center / online / POS / PDA
- Personalized services: Advisory services, relationship managers and financial planning experts to manage accounts and plan financial goals
- Investment tools for customers and their financial planners to manage wealth: Analyze portfolio, rebalance portfolio against model portfolio, portfolio simulation and 'what-if' tools
- Product types: Traditional banking, traditional investment products and alternate investments
- Straight Through Processing: End-to-end transaction processing for investments
- Tax planning: Country-specific tax and social security
- One-stop financial shop: Interface with market data vendors, banks, depositories, clearing houses, custodians and brokerage houses
- Concierge services: Lifestyle related value-added services
- Customized views and reports: Portfolio-specific or across portfolios
- Consolidated view: Complete financial picture in one screen
- Strict adherence: Financial regulation, compliance and other country-specific mandates
- Secure and trusted environment: Data storage

Increasing focus on advisory services

Private banking and wealth management customers are turning cautious with their investments as they seek better service providers. The quality of service, reporting and investment advice remain some of the important selection criteria for customers. 'Know-all' advisors, offering advice across different product types, suggesting unique product bundling, predicting trends in the local and as well as global markets and suggesting investment protection mechanism, are key to the success of wealth management services, today. With the frequent highs and lows in the

markets, there is an apparent disconnect between advisors and customers. Advisors are turning towards fact-based analysis and detailed case studies to bridge the gap.

However, it would be pertinent to note that there is also a growing trend towards 'Do-It-Yourself' (DIY) services, where knowledgeable customers are not fully dependent on the advisory services provided by the bank. To provide such high levels of service, banks are seeking assistance from systems that offer a holistic view of customer relationship across assets and liabilities, to tailor appropriate investment solutions.

Share of the pie

"Customers are also keen to maintain relationships with multiple banks, to compare offerings and opt for the best."

Wealth management clients are demanding comprehensive and tailored services, with bespoke investment options. They are also keen to maintain relationships with multiple banks, to compare offerings and opt for the best.

Banks are sparing no efforts to strategically transform their product offerings and services, while revamping their technology infrastructure to differentiate themselves from competition. The wealth management space is now being catered to by different types of firms including brokers, private banks, retail banks and insurance houses, and all of them are vying for the same clients - the booming mass affluent segment and the high net worth segment. Wealth management firms are making strategic investments to differentiate themselves in the eyes of existing and would-be high net worth and ultra-high net worth clients.

Insurance firms, brokerage service firms and retail banks are investing heavily on the advisor centric model and each one is trying to be the chosen wealth manager for the retirement segment as well as for the younger generations. This has resulted in direct competition in a space dominated, till recently by private banks and trusts. As a result, each of these players is looking at how best to differentiate its offerings.

Clearly, then, as wealth management firms increasingly compete for the same high net worth clients, and clients themselves become more demanding, the pressure is on firms to understand the essence of client needs in existing and growth markets, even if they have already developed an accurate understanding of high net worth individuals in their established markets. Without this insight, firms will find it difficult to develop an attractive proposition. As a result, banks are moving away from the conventional pure product focus and focusing on total solutions that are completely oriented to client needs.

Asset allocations, product offerings and innovations

The diverging investment environment in the two halves of 2007 helped define high net worth asset allocation strategies. Based on steady market returns from 2006, asset allocations of high net worth individuals were biased heavily on riskier asset classes. However, towards the end of 2007 and into the middle of 2008, the turmoil in the financial markets has forced investors to shift towards safer, less volatile asset classes like cash deposits and fixed income.

Key trends in high net worth asset allocation strategies include:

- Cash deposits and fixed-income securities seeing a jump in asset allocations and currently accounting for 25% of the portfolio
- Equity holdings remaining more or less constant but seeing an increasing trend towards private equity over public equity

- Percentage of allocation to alternate investments and real estate going down significantly

Rapid changes in asset allocation strategies based on a dynamic market place have resulted in banks reviewing their product offerings and offering innovations on current products, while trying to move client holdings to safer investments.

Banks have realized that product range and features are key differentiators in today's fiercely competitive and largely unpredictable market. The manufacture of products is not every bank's cup of tea and the 'gap' in product offering is catered to by distributing products originating from other issuers. While manufacturing products is definitely the way forward, distribution income continues to be a key revenue stream.

"Product range and features are key differentiators in today's fiercely competitive and largely unpredictable market."

The investment domain spans across a wide range of products and there is a definite shift from traditional investments in funds, equities and fixed income to alternate investments like structured products, real estate, private equity and hedge funds.

Banks have also realized the benefits of innovation in terms of product bundling and utilization of customers' 'sleeping assets'. Loan products bundled with insurance, margin lending, self funding instalments to gain geared share exposure, and bundling of banking and investment products are some interesting products on showcase.

Strategic business model

On one hand, there are a small number of large global banks that have implemented integrated business models spanning across typical banking and investment products and services. On the other hand, there exist specialized wealth management boutique firms providing sophisticated products, specialized services and niche area services for specific customer segments. Both extremes showcase examples of successful high margin and high growth players.

Specialized wealth management firms catering to the high net worth segment have known for years that in this space one model does not fit all. Retail banks pushing into the 'wealthy segment' – a mix of the mass affluent and high net worth, have realized that it is almost mandatory to design a service model flexible enough in architecture to accommodate diverse customer- and advisor-centric models. It implies, in a larger sense that banks have to invest heavily in the underlying technology.

At a very high level the models currently deployed are:

- Transactions
- Investment management and
- Wealth planning

Based on the conditions and the market environment a bank can choose to mix and match these models.

- The transactions model includes pure play brokers who facilitate investments in basic asset classes, and product experts driving transactions through sophisticated products
- The investment management model includes advisors and relationship managers who plan, determine and advise customers in the pre- and post-investment phase
- The wealth planning model offers holistic advice in accordance with client's finances and goals. These could encompass arenas such as real estate, retirement and generational wealth transfer

The chosen model has a direct impact on the revenue model for a bank in terms of fees and commissions. The transaction model is

typically fee-based and moves towards commission-based revenue for wealth planning.

Revenue drivers

Retail banks are establishing themselves in a space traditionally dominated by private banks and niche service providers, in order to handle the booming mass affluent segment and the lower end of the high net worth segment. The typical model on view is the distribution model with end-to-end services across the banking and investment domains. Banks have identified key revenue drivers as:

- Revenue from distribution (third party products)
- Commission on transaction-based revenue (from execution broker)
- Revenue from advisory services
- Cross-sell opportunities to existing customers

Product manufacturing and revenue based on assets under management and ROI (Discretionary PMS) would be the way forward for banks.

"Product manufacturing and revenue based on assets under management and ROI would be the way forward for banks."

The technology perspective

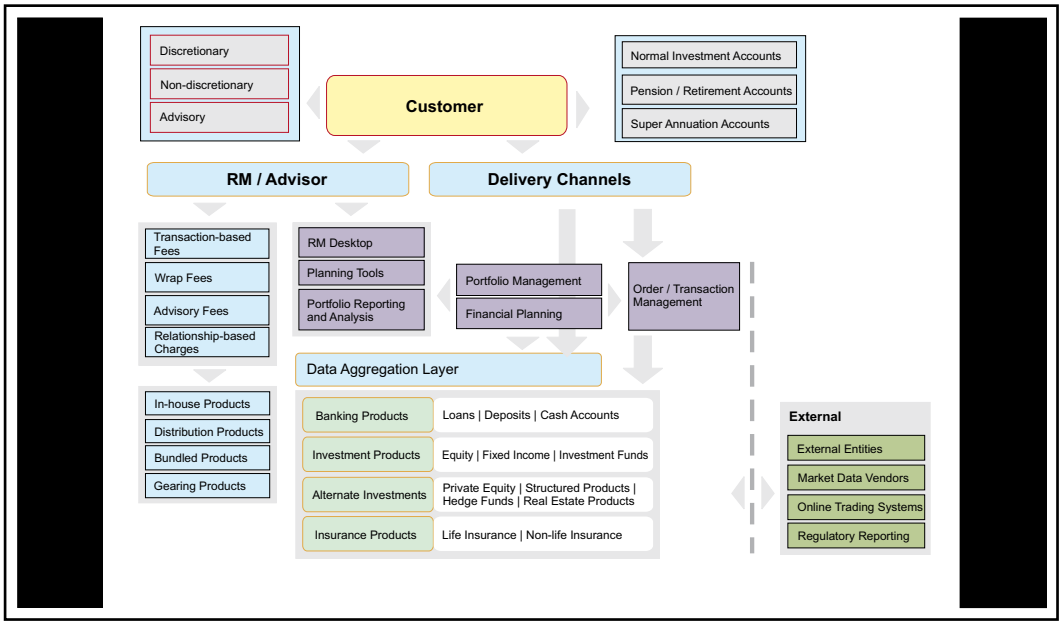
In general, wealth management providers have identified three major technology domains for a full-fledged service provider: the front-office, the middle-office and the back-office.

Wealth management platforms are integrating front-office with the middle- and back-office components to leverage an end-to-end solution. Platforms provide the technical infrastructure for wealth management services. Designed with open architecture, these platforms offer the ability to integrate with third party solutions, adding a broad range of features and functionalities.

- **Service-oriented Architecture (SOA)**

  The wealth management process is dynamic and factors in change at a rapid pace, primarily to incorporate new products, new processes, regulatory requirements and address ever-changing customer demands. Service providers must respond quickly to business changes and leverage existing investments

Fig 1: Key components of wealth management



in applications and the application infrastructure to address new business requirements, while supporting new channels of interactions with customers, partners and market data vendors.

Wealth management providers and private banks must focus on open standards for communication with external entities. Service-oriented Architecture and web service standards will be the key components of current and future wealth management systems as it will help technology vendors deliver flexible and cost effective solutions. Wealth management is a complex process and to support this the system needs to embed, incorporate and interface with multiple systems for customer information, market data, transaction data and accounting.

Account aggregation, one of the critical components in the wealth management process will be served well by the 'SOA trend' as it will enable service providers to share, integrate and mine data across multiple systems and entities.

- **One system or multiple systems?**

The ideal wealth management system should provide a complete 'front-to-back' functionality for all asset classes, product types and related processes. It must facilitate Straight Through Processing (STP) for all transactions, account aggregation and, portfolio planning, monitoring and reporting. Wealth management essentially runs across various product types in the investment and banking domains. There are 'one system' vendors and 'niche area' vendors currently servicing the ever increasing technology requirements in this domain.

In recent times, there has been a growing trend of adoption of the 'one system' approach which offers an integrated platform for traditional banking and wealth management products and processes. Retail banks entrenched, expanding or venturing into the wealth management space are increasingly seeking integrated platforms to service customers.

The typical 'one system' provides the necessary infrastructure to support various asset classes and provide banks with a consolidated view of customers' portfolio across banking and investment products. With a topping of SOA, web service standards and robust work flow engine, it would provide the ideal 'one system' solution for banks to service their customers. However, going by the business domain it caters to, wealth management systems inevitably need to interface with niche area systems and external entities.

The shortcomings of the 'one system' approach are in terms of depth of functionality and infrastructure changes that have to be optimally countered across the system. This could entail higher costs and migration related issues.

- **ASP model**

A wealth management platform in the ASP model is another emerging trend. The platform provides for an integrated front-to-back office system serving the entire gamut of client management and advisory services, transaction processing and reporting.

The application is hosted by a service provider. Banks, brokers and investment houses which offer wealth management solutions can opt for this standard application by paying charges either annually or based on transactions or assets under management. The model may seem attractive to relatively smaller players in this space who would want to

effectively eliminate technology infrastructure maintenance but it has not attracted much success due to the 'same infrastructure for all providers' model.

It is critical that banks evolve their IT infrastructure in line with their service delivery model.

The future lies in the current trends

- Mass affluent and high net worth client segments will continue to grow their wealth but at the same time look at more risk-mitigated strategies
- Acquiring and retaining clients and their assets with robust client servicing are the key challenges for service providers
- Service providers have determined the 'criteria' for success but believe that adequate technology tools are still not available
- Service providers are convinced that they need flexible service delivery models
- IT strategy should evolve around the service delivery models
- Service providers are taking a holistic view of their technology infrastructure moving away from the product silo approach

"The greatest success will be realized by those banks that comprehensively understand their clients."

Ultimately, the greatest success will be realized by those banks that comprehensively understand their clients. They will be able to leverage existing strengths to transform and adapt their service delivery and technology to cater effectively to client needs in their target growth markets.

Without doubt, technology is an important enabler in delivering efficient actionable advice, but it is only a supporting tool in the client-to-advisor relationship, which plays a key role in managing the institution's customers.

Other factors contributing to the success of a wealth management strategy include the quality of advisors, the business model, organizational structure, customer segmentation and diversity of offerings ▪

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Kaleidoscope

Banking in Europe: The Emerging Shape Special Focus on Germany

The financial crisis contagion has spread eastwards from the US and the European banking industry has been through a roller-coaster ride. While government bail-out plans have been effective to an extent, the European banking industry is bound to experience a slowdown in the coming months. This article explores the key trends in the European banking industry with a special focus on the banking industry in Germany.

The creation of a single economic and monetary market in Europe has long been the objective of policy makers.

The financial crisis that originated in the US subprime market in August 2007, has left the entire financial world gasping for breath. While initially several industry analysts had suggested that Europe would remain untouched by the credit crisis, this has not been the case. Europe has experienced a spate of bank failures, the first of which was Northern Rock in the UK. Some of the other casualties have been Iceland's Glitnir bank, Germany's Hypo Real Estate Holding and UK's HBOS. Belgium's largest banking group, Fortis, needed the intervention of the Belgian and Dutch governments and the sale of some of its assets to French giant BNP Paribas, to stay alive after getting into difficulty post purchase of Dutch bank ABN Amro. It is estimated that with this deal, BNP Paribas has become the largest bank in Europe.

Analyst firm Datamonitor says in its report, 'European Retail Banking Technology Business Update H1 2008', that till June 2008, European banks had performed write-downs totalling €90.5 billion ($121.4 billion).

While the credit crunch virtually brought the economy of Iceland to its knees, governments in the UK and several other countries in Europe including France, Germany, Spain and Italy, have announced bailout packages that involves part nationalization of the their banking sector. The British government has decided to inject €47.6 billion of public money into three banks HBOS, Lloyds TSB and Royal Bank of Scotland. France has announced a €320 billion rescue plan while the German government's rescue package includes €80 billion in fresh capital and €400 billion in loan guarantees.

Austria's Chancellor Alfred Gusenbauer recently said that his government would provide up to €85 billion ($114 billion) in inter-bank loan guarantees and up to €15 billion ($20 billion) in equity to support the country's banking sector. The government had already announced a guarantee for all personal bank savings, applicable from 1 October 2008.

An economic recession is very much on the cards and these events will no doubt have both a short and a long term impact on the European banking sector. However, it must not be forgotten that since the 1990s, the banking industry in Europe has experienced a period of rising profitability despite not-very-strong economic growth in many instances. It is believed that the fundamental developments of the past few decades will continue to shape the banking industry in the coming years.

Developments that shaped the European banking industry

According to data from The Banker's Top 1000 World Banks in 2008, Italy has the most profitable and Germany the weakest banking sector among the big five European economies (France, Germany, Italy, Spain and Britain). Spanish banks have been the most successful in expanding their presence internationally, while Italian banks such as UniCredit and France's Société Générale have been strategically increasing their presence within Europe itself.

Some of the main factors shaping the European banking industry are listed below.

- **Integration**

  The creation of a single economic and monetary market in Europe has long been the objective of policy makers. There has been considerable progress in this arena, starting from the creation of the European Union (EU) and the Euro. The EU comprises 27 member states, 15 of which comprise the Eurozone where the Euro is the sole currency. With almost 500 million citizens, the EU generates

Top 25 banks in Western Europe ($ million):

Source: The Banker July 2008

Regional ranking	World ranking	Bank	Country	Tier 1 capital
1	1	HSBC Holdings	UK	104,967
2	3	Royal Bank of Scotlan	UK	88,888
3	7	Credit Agricole Group	France	68,724
4	9	Santander Central Hispano	Spain	58,479
5	11	BNP Paribas	France	55,353
6	12	Barclays Bank	UK	54,915
7	14	HBOS	UK	48,864
8	16	UniCredit	Italy	47,854
9	17	ING Bank	Netherlands	43,827
10	20	Rabobank Group	Netherlands	41,931
11	21	Deutsche Bank	Germany	41,690
12	22	Fortis Bank	Belgium	37,789
13	24	Credit Mutuel	France	35,944
14	25	Intesa Sao Paolo	Italy	35,754
15	26	Groupe Caisse d'Epargne	France	32,121
16	27	Societe Generale	France	31,821
17	29	Credit Suisse Group	Switzerland	30,864
18	30	Banco Bilbao Vizcaya Argentaria	Spain	30,412
19	31	UBS	Switzerland	29,152
20	32	Lloyds TSB group	UK	27,954
21	35	Caja de Ahorros y Pen.de Barcelona	Spain	24,552
22	36	Commerzbank	Germany	24,044
23	37	Groupe Banques Populaires	France	22,257
24	40	Dexia	Belgium	21,418
25	42	Nordea Group	Sweden	20,948

Note: Some of the rankings might have changed because of recent market changes, for example HBOS' acquisition by Lloyds TSB would move Lloyds among the top five banks in the region.

an estimated 30% share of the world's nominal GDP. Apart from this, much has been achieved in the creation of a single market for the financial services industry. Work is ongoing towards the SEPA (Single Euro Payments Area) initiative that is set to make EU-wide payment transactions as convenient and efficient as those at a national level. Major steps have been taken towards the implementation of the Financial Services Action Plan (FSAP), especially in creating a single market in wholesale financial services with implementation of the Markets in Financial Instruments Directive (MiFID) from November 2007. The retail banking segment however remains fragmented along national borders.

Notably, regulatory control for a country's banking industry resides with its regulators. This makes coordinated action difficult, as was evidenced in the recent discussions regarding bailing out the industry from the financial crisis.

- **Consolidation**

Estimates by the European Central bank suggest that the number of credit institutions in the EU-15 decreased by 28% from 9,624 in 1997 to 6,926 in 2006. Consolidation has been the hallmark of the European banking industry driven primarily by a search for a newer customer base and, higher efficiencies and scale. Examples of cross-border European deals are HSBC's acquisition of Credit Commercial de France, Barclays' acquisition of Banco Zaragozano, Unicredit's acquisition of HVB and Santander's acquisition of Abbey National.

According to analysis by PricewaterhouseCoopers, one-third of the number of bank Merger & Acquisition deals in Europe over the last 10 years have involved banks in Western Europe acquiring all or part of banks in 'emerging' Europe, Central and Eastern Europe (CEE), the Commonwealth of Independent States (CIS), the Baltic States and Turkey. This was enabled by the privatization programs in these emerging countries that allowed Western European banks to enter the markets through the acquisition of state owned banks.

Merger activity is expected to continue as banks further consolidate their positions and weaker banks succumb. Recently the credit

turmoil saw the unexpected acquisition of HBOS by Lloyds TSB. Hectic M&A was also witnessed in the German banking industry.

- **Internationalization**

  Internationalization is a prominent feature of the European banking industry as banks look for growth and opportunities to diversify. Apart from global players such as Citigroup which has a significant presence throughout Europe, ICICI Bank (India) and numerous Chinese and Islamic banks have been targeting Europe. European banks themselves have been going outwards to emerging markets of India, China, Africa and Latin America either through acquisitions or by setting up direct operations Santander for instance, has been very active in acquiring banks in Latin America. The highly attractive US banking market has been a target of acquisitions as well. Firms such as Deutsche Bank, HSBC, BNP Paribas and HSBC have made strategic acquisitions in the US over the past decade.

- **Technological progress**

  Technology is one of the key factors influencing the banking sector in Europe. Most banks in the regions, especially Western Europe, have invested in automating their banking operations. Much of it was proprietary in nature. However, the availability of new, sophisticated technology solutions led to small and mid-tier banks adopting off-the-shelf solutions. Stymied by their legacy systems so far, even the tier 1 banks have started considering third party solutions. Analysis by Deutsche Bank Research suggest that European banks' IT spending increased from around 10% of total expenses at the beginning of the 1990s to 30% by 2005. Remote delivery channels are widely deployed by most banks in Europe especially those in the Scandinavian countries. The high availability of broadband facilities has made Internet banking taken-up increasingly over the past few years, while analysts predict that mobile banking, too, will take off in the near future. Increased focus on risk management and compliance requirements have seen high levels of technology investments in these areas as well.

  Going ahead, in the aftermath of the credit crisis, analysts suggest that IT investments though slightly reduced, will still be a key area of focus. Investments might be re-prioritized, although it is expected that areas such as risk management and core banking replacement will continue to be a key focus area.

"Stymied by their legacy systems so far, even the tier 1 banks have started considering third party solutions."

German banking industry : An overview

Europe's largest economy and the second-most populous nation, Germany was once celebrated as Europe's economic powerhouse. But falling exports combined with high costs due to an inflexible labour and services market and the modernization and integration of East Germany have contributed to muted economic growth. Amidst growing fears of a recession, the German government recently slashed its growth forecast for 2009 from 1.2% to 0.2%. In the face of the ongoing financial crisis the German Parliament has approved a €500 billion ($675 billion) financial rescue package. Earlier, on 6 October 2008, the government stepped in to avoid the collapse of Germany's second-biggest commercial property lender, Hypo Real Estate. In an attempt to prevent a subsequent run on banks, the government announced it would guarantee all personal bank deposits in the country.

The German banking industry is dominated by universal banks that combine the functions of commercial and investment banks, including the securities business. The Association of German

Banks estimates that universal banks contribute to over 75% of the industry's total business volume. A striking feature of the country's banking industry is the high number of banks and the dense branch network. There are over 2,300 banks in Germany with over 46,000 branches. Around 1,500 of the banks are very small in size with a business volume of less than €1 billion.

Germany's fragmented banking sector stands apart in the European banking landscape. Its large private banks, the "Big Five" - Deutsche Bank AG, HypoVereinsbank AG (HVB), Dresdner Bank AG, Commerzbank AG and Deutsche Postbank AG - account for a significantly smaller share of the sector compared to other economies. There are around 400 savings banks while of the 300-odd private banks, around 120 are foreign banks with branches in Germany. Bundesbank data shows that the top five banks together hold 12% of the nation's €1 trillion consumer lending market.

Historically, the country's banking system has been based on a unique three-pillar model comprising private commercial banks, public sector banks and cooperative banks. A recent paper from the Centre for European Reform states that savings banks control around 40% of the banking market, while the cooperative banks control around 30% of the market. Public sector banks include savings banks or "Sparkassen" that are organized on a regional basis and their head institutions are known as "Landesbanken". They focus primarily on the economic developments of their respective regions rather than profit maximization. This philosophy appeals to the ordinary consumer, especially during times of stress. Local media reports suggest that in face of the current financial crises, Germans are turning towards these savings banks to keep their savings safe. It is estimated that deposits at the 400-odd savings banks increased by more than €1 billion ($1.4 billion) in the first two weeks of October this year. However, the lack of competitiveness of co-operative banks has long been a cause of concern both for the German authorities and business.

According to an analysis by The Banker, in 2007 German banks overall managed to increase profits as a percentage of capital, to 7.47% in 2007 from 4.67% in 2006. But, says The Banker, this remains far behind the other large European economies, "owing to low profitability in the Landesbank and savings bank sectors."

Key trends in Germany

- **Consolidation**

  Consolidation is the main bug-bear of the German banking industry. In order to improve the profitability levels of individual institutions, banks are under tremendous pressure to consolidate and have been doing so over the past decade. According to a 2005 paper by the country's central bank, Deutsche Bundesbank, the number of banks declined from 4,177 to 2,160 due to mergers and acquisitions between 1991 and 2003, by far the largest decline in the European Union in that period. Yet, Germany still hosts the most number of banks in Europe and exhibits the most fragmented market in the region. Savings and co-operative banks account for more than 50% of the country's deposit base and close to 70% of the savings deposits. Much of the consolidation that has taken place has been between the smaller institutions themselves and past attempts of acquisition of savings banks by private banks have been thwarted because of legal issues. However, the consolidation that has been taking place in recent months is among the larger players, namely, sale of Landesbank Berlin (LBB) and sale of Citigroup's German consumer banking unit to France's Credit Mutuel Group. Apart from that, the German banking industry has been buzzing with the recently announced consolidation activity among the "Big Five", Dresdner Bank was acquired by

Commerzbank and Deutsche Bank acquired 30% of Deutsche Postbank with an option of increasing the stake in the coming months.

- **Competition**

  Competition is intense in the German retail banking sector. While on one hand, foreign banks such as Citi and Santander have established themselves in the highly competitive consumer finance segment, direct players such as ING DiBa, an online subsidiary of ING Bank of Netherlands, have a strong play in deposits and mortgage lending. ING DiBa has very successfully increased its customer base from 1 million in 2002 to over 6 million today. Another key player in the retail banking segment is Deutsche Bank, which for long had focused on expanding its investment banking operations abroad. Its retail banking ambitions are now obvious. In 2006 Deutsche Bank purchased Norisbank, a consumer bank and Berliner Bank, an up-market retail bank, and now has a stake in Postbank, the largest retail bank with 14.5 million customers in the country.

- **Business models**

  The direct banking model has proved highly successful in Germany. ING DiBa offers solely via phone, Internet, and a large network of ATMs and boasts of the third largest number of customers in the country. The financial services subsidiaries of German car makers such as Volkswagen also operate as direct banks. Volkswagen for instance, looks after 3 million private customers in Germany. Another banking business model gaining popularity is the cooperation of retailers and banks. Big German fashion retailer C&A founded its own bank in the beginning of 2007 and started offering consumer credits online as well as in its stores. In addition, C&A offers motor insurance contracts in collaboration with DA Direkt, a member of the Zurich Group. Another example of such a collaboration is Tchibo, a big German coffee bar and shop chain, which offers consumer credits of RBS, current and savings accounts of Deutsche Postbank, sight deposits of Comdirect and insurance products of Asstel. Tchibo sells these products only online or by phone.

- **Technology investment**

  In a country where technology forms the basis of industry, investment in technology among banks is very high, not only among the top tier players but smaller banks as well. Adoption of technology by customers is high too, as is evident from the popularity of direct banks. At Postbank, for instance, over 65% of its customer base use online banking. The demand for online banking services today is far more than account balance inquiries and transfers. Since the launch of Postbank's online brokerage, at the start of the new millennium, customers have been able to buy or sell shares, bonds and investment funds or subscribe to new issues. SMS alerts when salary payments are received or when chosen thresholds are reached in safe custody accounts complete the service offerings. In 2007, with iBanking, Postbank was the first bank in Germany to make it possible to use the iPhone for banking. Analyst firm, Forrester estimates that 39% of Germans now bank online. Forrester expects online banking to grow by about 4% each year with 47% of adults or 32 million Germans banking online by 2012. The main drivers of this trend will be users' confidence in the channel, banks' robust security measures, and strong competition for retail banking customers. Broadband connectivity too plays a key role in encouraging online banking usage. Forrester states that by the end of 2007, there were 16 million German broadband households — more than in any other Western European

"Investment in technology among banks is very high, not only among the top tier players but smaller banks as well."

country — but this equated to only 43% of German households. Forrester predicts a further 11 million households will have broadband access by the end of 2013, many of which have dial-up connections today.

German banks are also adopting Web 2.0 technologies and other innovative strategies to attract customers. Last year Wirecard Bank became the first German bank to establish a virtual branch in 3D online universe - Second Life. The bank said that in the virtual world, specially trained Wirecard Bank service personnel represented by avatars in the branches were available to assist customers. In addition, it said that access to Wirecard's payment services was available via Second Life. Commenting on the move into the virtual world, Burkhard Ley, CFO of Wirecard, said in a press release, "The intelligent link between technology and banking services is an objective that has been pursued by Wirecard Bank from the outset. To reinforce this strategic positioning on the market, the commitment to Second Life represents a logical step as far as we are concerned."

As with rest of Western European countries, German banks too suffer from legacy platforms, multiple banking systems and siloed architectures. Notably, due to the complexities of German banking regulation, proprietary platforms are prevalent in the country's banking sector. However, banks are increasingly looking to modernize their platforms and opt for state-of-the-art third party solutions. The main catalyst for change is the need for access to sophisticated banking solutions, customer centricity, efficiency and multi-channel integration – aspects difficult to achieve through proprietary, legacy solutions. The trend for mergers and acquisitions as in the recently announced Commerzbank-Dresdner Bank deal will be another factor influencing core systems transformation as banks realize that tremendous cost savings and process efficiencies can be achieved through IT systems rationalization and through creating a common integrated core system platform ▪

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Interview with Sean Gilchrist,

Director of Digital Banking at Barclays Bank, UK

The rise of alternative electronic delivery channels for banking is one of the remarkable developments in the banking industry over the past decade. Out of all the electronic delivery channels that have emerged in recent years, it is the Internet and now, the mobile that are proving to be extremely popular for customers. In fact, in a recent research report, analyst firm Celent predicts that the adoption of mobile banking in Western Europe should increase rapidly in major European markets from a current average of 6% to 25% of the Spanish, French, Italian, and British markets by 2010.

With over 6 million registered online banking customers, leading UK high street bank, Barclays, is one of the front runners of the digital banking revolution in the country. In 2007, the bank also became one of the few banks in the UK to offer mobile banking services. Sean Gilchrist, Director of Digital Banking at Barclays, who is responsible for the bank's Internet and mobile banking offerings, spoke to Rekha Menon, research and contributing editor of FinacleConnect, about the opportunities and challenges of digital channels for banks and also discussed Barclays' digital banking strategy. Gilchirst joined from Barclays Wealth where he established the online banking team and drove the commercial performance and development of the Barclays international online banking offering. Simultaneously he led Barclays Wealth's fight against online fraud. Gilchrist has been with Barclays for 6 years prior to which he has worked across a range of "blue chip" financial services companies.

Multi-channel integration is essential to ensure consistent levels of service across all delivery channels.

Q **What are the main challenges faced by banks while offering Internet banking services?**

A Looking at statistics around online adoption rates, we can safely assume that online banking adoption rates will continue at a steady pace. The challenge is to ensure that the same products and level of service is offered through the online channel as it is through other channels, such as the bank branch or telephone banking. Consumers today regard online banking as merely one of the many standard services provided by their bank. Multi-channel integration is therefore essential to ensure consistent levels of service across all delivery channels.

Q **Although predictions about mobile banking have been very positive, it has not yet taken off especially in countries like the UK. Would you say that mobile banking is just a passing fad?**

A No indeed, mobile banking is not a passing fad! The convenience of being able to access one's accounts while on the move is very real. The reason for low take-up of mobile banking in countries like the UK so far is the easy availability of high-speed Internet and broadband and the high take-up of online banking. In other markets such as Africa and India where internet penetration is low, mobile banking adoption rates are much higher.

Devices like the Nokia N-series and the iPhone offer a dynamic, rich media experience on the mobile. Once these devices become popular, the usage of mobile internet banking too will increase.

Q **What are the various options for offering mobile banking services?**

A Banks can offer mobile banking services through a variety of ways - SMS banking, mobile browser access, or through downloading of applications on the phone which can provide a much richer user interface. However, it is too early in terms of market maturity to comment on which is the best option. Lots of banks offer SMS-based mobile banking, however we at Barclays have gone down the mobile browser route.

Q **What are the benefits of browser-based mobile banking?**

A Browser-based mobile banking services can be offered from the same platform through which we offer Internet banking. Not only is it easier and quicker to implement, we will even offer customers almost the same user interface that they are used to in the Internet banking service. Moreover, it is available to all customers. At the moment we are seeing a 'smallish' number of customers using mobile banking and this number is growing month on month. Now, we are in the process of extending our service to offer SMS-based mobile banking.

Q **Are concerns about security a limiting factor in mobile banking take-up?**

A Security is always a concern for customers irrespective of the channel they are using to access their accounts and is a priority for banks. Customers want security to be 'overt'. The beauty of a mobile browser-based service is that it offers the same level of security as is available for the online channel. At Barclays, we offer several levels of online security protection such as free anti-virus software, two-factor authentication through a PINSentry device, text alerts and a hundred percent fraud guarantee. We also focus on educating customers about potential online security issues. Apart from these security features that are visible to customers, we conduct security checks behind the scenes as well.

Q **How do you see online and mobile banking evolve in the coming years?**

A The adoption of digital channels for banking is set to increase even further. This growth will be fuelled by the ever increasing usage of digital devices by the younger generation. At Barclays over 20% of our customers are active users of digital channels and we expect this to increase further. The key to enabling continuous growth of digital banking is to offer simple, intuitive and relevant services; ensure continuous availability of services through a powerful technology platform; and offer high levels of security ▪

tECH WATCH

Enterprise Master Data Management

Multiple copies of the same data have always plagued the agility of institutions, in general, and financial institutions in particular. For example, I have two logins from my bank, one to access my banking accounts and another to access my credit card information. If at a later date my residence address changes, I will need to login to two systems and change the address, in both instances. This problem arises because there are two separate master data copies maintained, in this case for customer data.

There are multiple definitions of enterprise master data. Based on our experience in dealing with several banks, we define enterprise master data as:

- Information used by multiple systems within a bank. For example, customer data shared by multiple systems within a bank. Data specific to an individual system cannot be considered enterprise master data. A branch front-end system may maintain teller-wise limits to post transactions through the branch. Assuming that this processing is carried out completely within the branch front-end, this information would be master data specific to the branch front-end system and not enterprise level master data.
- Master data is required to perform transactions but is distinct from transactional data. Master data represents nouns and transactional data represents actions. For example, currency conversion rates could be considered master data whereas foreign exchange operations performed using this data would be considered transaction data.

For the purpose of brevity, we will refer to enterprise master data as master data in this article.

Examples of master data

Some interesting examples of master data could be:

- Customer data: Multiple systems require customer data. For example, CASA (Current Account and Savings Account) system requires the customer address to send account statements and the credit card system may require the customer address to send out the credit card statement. Both systems may require nomination details for the account holder. Customer data can be considered as the single most important type of master data. In fact, when some banks

refer to master data, they refer to customer data implicitly.

- Prospect data: Banks require this data to simultaneously sell multiple products to the same prospect. For example, a housing loan and a credit card. These products could be handled by multiple back-end systems.
- Rate data for different currencies obtained from external agencies like Reuters: This information is of interest to multiple systems within a bank, like the treasury system and the core banking system.
- Reference data: City codes, state codes, country codes or currency codes are required by practically all systems at a bank to send messages through SWIFT or otherwise. These reference codes can be considered master data.
- User data: User e-mail address or mobile numbers would be required by multiple systems to send alerts. For example, both lending systems and trade finance systems may send alerts to a single user for approval of a loan or approval of a letter of credit application.
- Product data: This is required by multiple systems dealing with different channels and by various back-end systems that implement these products. For example, information about a loan product would be required to be disseminated through the Internet, branch and call center applications. It must also be accessible to the back-end system handling loan products.
- Limit data: Multiple systems, like the loan system and trade finance system may both check overall limits available for the user before granting a loan or accepting a letter of credit application. Loan applications and trade finance applications would both utilize the overall limit available for the customer.

"Master Data Management is the technology to manage master data."

Master Data Management

Master Data Management (MDM) is "the technology to manage master data".

- MDM refers to a system which maintains the master data. This can be considered as the system of records as far as specific master data is concerned. For example, CIF (Customer Information File) system could be considered as the MDM system for customer data. This is the system which would provide the user interface to add, maintain and delete master data and also provide access or replication services to other systems that require this data.
- Processing system refers to the system which uses the master data. A loan system which uses customer master data would be referred to as the "processing system" for the customer data. A processing system could either use master data directly or use a copy of the subset of the master data.

Approaches to Master Data Management

There are broadly two approaches to Master Data Management:

- Integration: Wherein a single copy of the master data is maintained. Different systems access the master data either through multiple views pointing to the same database tables or by invoking well-defined and published services provided to access the master data.
- Synchronization: Wherein multiple copies of data are maintained. Typically one copy is considered the master copy and the other copies are considered as slave copies. The MDM system maintains the master copy and individual processing systems maintain the slave copies. Updates are percolated from the MDM system to processing systems.

Integration to achieve Master Data Management

Architecture of the system where "integration" is used as the approach to master data management is as shown in figure 1. There are two possible mechanisms for integration:

- The MDM system could present views on its database tables to various processing systems. These views are created taking into account requirements of individual processing systems and their access permissions.
- The MDM system exposes services to access

the master data. These services could be exposed through multiple mechanisms including web services. Authentication and authorization mechanisms need to be built to guard the master data.

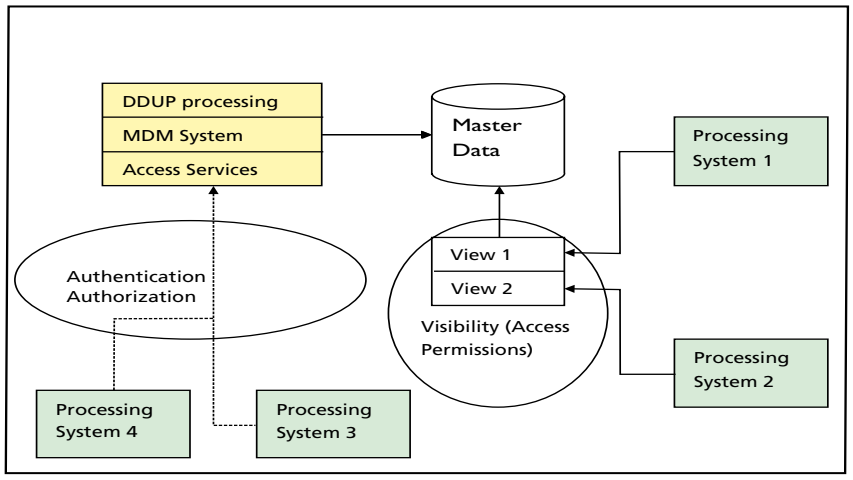

Figure 1: Using "integration" to achieve master data management

Synchronization to achieve Master Data Management

Architecture of the system where "synchronization" is used as the approach to master data management is as shown in figure 2. Synchronization could be carried out as follows:

- Whenever a master record is modified, an update event providing the update details will be queued for individual processing systems. If an individual processing system is authorized to view only a subset of the master data, the update event would carry only the information required to update the copy held by the processing system.
- A variant of the above mechanism is to update the copy held by the processing system on demand. Thus, whenever a processing system needs to access a customer, the necessary record could be pulled from the master data and created or updated in the copy held by the processing system.

Practical considerations

Irrespective of the approach taken, there are certain practical considerations:

- The MDM system needs to have 'Data Duplication' (DDUP) services to identify and merge possible duplicate records. For example, the CIF system should be able to identify possible duplicate customers and (after manual confirmation, if required) merge these records to create a single customer record.

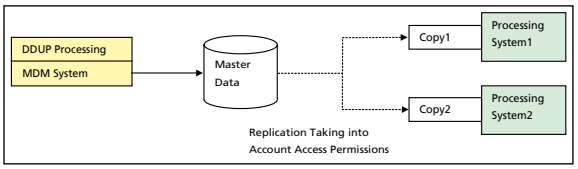

Figure 2: Using "synchronization" to achieve master data management

- Master data could be consolidated to leave only a few copies and these copies can then be synchronized. Consider the following example:
  a. The MDM system (assuming this is based on UNIX) and other UNIX-based processing systems could share a single copy of customer data. MDM is carried out through integration.
  b. Processing modules on mainframe could share another copy of customer data within the mainframe database. Customer data maintenance on mainframe acts like an MDM and other modules act as processing systems. Within the mainframe platform, MDM is carried out through integration.
  c. The master copy on UNIX and customer data on the mainframe database are kept in synch with each other using synchronization, typically based on messaging.
- The MDM system needs to be built to address the common requirements of all the processing systems. Thus, the CIF system will need to capture common customer attributes required by the core banking system, the credit card system, the insurance system and so on. This would imply the following:
  a. The MDM system needs to be designed keeping in mind common attributes required by the processing systems.
  b. The MDM system needs to provide for flexibility, through free fields or other mechanisms, to capture attributes not envisaged earlier when it was designed.
- There may be attributes specific to an

individual processing system. These are best left within the individual processing systems. This is because of the following considerations:

a. Capturing these attributes within the MDM system would imply putting all these validation rules within the MDM system and that would make the MDM system too complex. Let us consider this in context of the "user data". The core banking processing system requires "user class" attributes specific to it. If these attributes are captured within MDM, validation logic for this attribute will also need to be put within the MDM system.

b. Information related to specific attributes may not be available at the time of creation of master data. Continuing the above example, if the user created is a credit card administrator, information about "user class" is neither available nor required.

5. The MDM system needs to apply robust validations on data being captured since individual processing systems may take consistency of data for granted. For example, if the CIF system does not validate country code of customer, the core banking system which defaults currency code based on the country code will experience inconsistency of information.

"The MDM system needs to be built to address the common requirements of all the processing systems."

Benefits of Master Data Management

- MDM is required for consistent interactions within the bank's IT systems and between banks' IT systems and external entities. Considering the example of "product data", treating this as master data implies that the same product information is conveyed through all channel applications.
- This complements SOA. If a front-end system were to invoke a back-end service to issue a demand draft, both the systems sharing the customer ID obviates the need to perform the required mapping between customer ID as understood by front-end system and that understood by the back-end system.
- It simplifies the design and operation of individual processing systems by taking the master data maintenance away from these systems while the MDM system can focus on aspects like data validations, duplicate checks and so on.
- When MDM is used within the SaaS framework, individual processing systems across multiple entities could share information such as rates received from Reuters or basic information such as currency and country codes. (Sharing customer and prospect information across entities would typically not be possible due to privacy considerations).

Conclusion

Master Data Management is a set of technologies related to management of data used by multiple systems and this is required for consistent interactions between various systems used within the institution and in external entities. Typically, master data management is carried out using a combination of integration and synchronization ▪

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Infosys in the news

Q2 Revenues Grow 19 % YoY

Infosys Technologies Limited announced financial results for its second quarter ended September 30, 2008. Revenues for the quarter aggregated US $1,216 million, up 19% from US $1,022 million for the quarter ended September 30, 2007. Net income was US $318 million (US $271 million for the quarter ended September 30, 2007).

Infosys Ranked No. 14 Among the Most Respected Companies

Infosys has been ranked as the 14th most respected company in the world by Reputation Institute's Global Pulse 2008.

The Institute's Global Pulse Model assesses the reputation of the world's largest companies across dimensions of workplace, citizenship, governance, products / services, innovation, leadership and performance. Infosys was ranked in the Top 5 in four categories: Fifth in citizenship, fourth in governance, fourth in products / services and fifth in leadership.

Finacle – The Universal Banking Solution from Infosys

Finacle Powers e-Banking Growth at Israel Discount Bank

Israel Discount Bank and Infosys Technologies Limited announced that Israel Discount Bank (IDB), a leading financial group and the third largest bank in Israel has selected Finacle e-Banking solution. Finacle e-Banking will enable the bank to leverage Internet and mobile channels towards accelerating the growth of its corporate / SME and retail banking business. Finacle e-Banking solution will form a key component of the bank's portalisation strategy and will be offered as a portal-enabled solution on IBM technology.

IDB's new business strategy to leapfrog competition in the e-banking arena triggered the modernization of its technology platform. The bank planned to use the e-Banking platform to launch innovative products and to provide enhanced customer service through the Internet and mobile channels. Towards this end, the bank needed faster time-to-market for launching new features and products for its SME and retail banking operations, previously managed on software applications developed in-house. Infosys shall be partnering with Israeli technology services firm, Taldor for implementation of the e-Banking platform.

Customer Speak

"Our present market environment required a radical transformation in our e-banking infrastructure to improve our performance and enhance the channel experience for our customers. We chose Finacle for its proven new generation solution and excellent delivery track record backed by a global technology leader like Infosys. We are delighted to partner with Finacle and look forward to enhancing our productivity leveraging Finacle."

Mr. Shai Vardi,

Deputy Director Operation & IT Division, Israel Discount Bank

Infosys® Finacle Transforming Banking

Winning in the Turns

Building on the tremendous success from 2007, Finacle Conclave 2008, the client forum of Finacle in its third year, was hosted at Astir Palace Beach Resort in Athens, Greece. Bringing together thought leaders and visionaries from the world of banking – 111 delegates from 34 countries - it facilitated sharing of best practices through interactive sessions from subject matter experts, stimulating panel discussions and presentations.

Finacle Conclave 2008 began on Sept. 29 with a special address by Mr. Jason Jennings, International consultant and the author of – 'Hit the Ground Running', the exciting sequel to Jennings' hugely successful book, 'Think Big Act Small'. Mr. Nandan M. Nilekani, Co-Chairman of the Board of Directors of Infosys Technologies Limited, who was the keynote speaker, outlined the strategies which banks must adopt to win in the turns. Spread over 3 days and hosted in the breathtakingly beautiful resort, it provided the idyllic setting to debate and discuss how banks worldwide are gearing to 'Win in the Turns'.

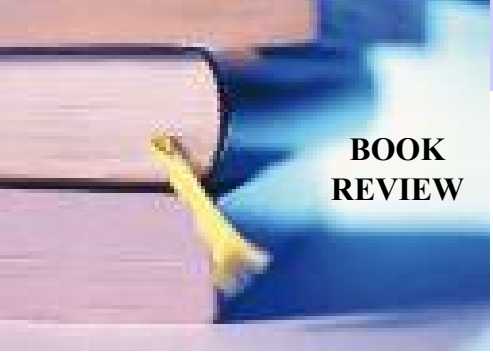
111 Delegates from 34 Countries

Future of Customer Experience

Action-packed Spouse Program

Leisure Networking Activities

Mixing Business and Pleasure

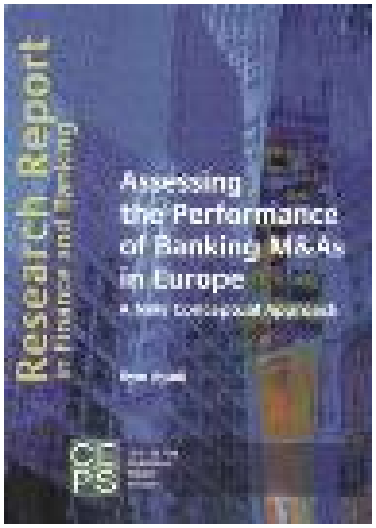


Rym Ayadi

Assessing the Performance of Banking M&As in Europe: A New Conceptual Approach

Consolidation has been the hallmark of the European banking industry over the past two decades. Earlier, consolidation was driven by factors such as globalisation, deregulation of banking activities, European integration and introduction of the Euro. Some of the major Mergers & Acquisitions (M&As) have been Santander's acquisition of Abbey National in 2004, takeover of Credit Lyonnais by Credit Agricole in 2002, HVB's acquisition of Bank Austria in 2000 and Royal Bank of Scotland's hostile takeover of Natwest. The events of recent months, namely the ongoing credit crisis, have further accelerated this consolidation. In such a climate, Rym Ayadi's book 'Assessing the Performance of Banking M&As in Europe' is truly well timed.

Some of the main benefits of M&As as suggested by proponents of such deals, are cost savings through economies of scale, greater operating efficiency, diversification of risks and wider geographical reach. However, several studies done in the past, both in the US and Europe, have concluded that banking M&As have often failed to deliver their promised value and that large deals have underperformed as compared to small and more domestically oriented deals. Ayadi suggests that several of the deals studied might have suffered due to factors such as strict existing regulatory norms or rigid labour markets. Additionally, she highlights some of the deficiencies of the studies themselves. For instance, she says that studies restricted to post-merger periods might fail to detect value gains that can only emerge slowly, after several years.



In 'Assessing the Performance of Banking M&As in Europe' Ayadi introduces a new conceptual approach to studying banking M&A deals where she plots the possible activity profiles and geographical scopes of the M&As on a matrix. Using this activity / geography matrix Ayadi has studied 71 M&A transactions in Europe between 1996 and 2000. She concludes that domestic transactions have a higher chance to reduce costs and increase profits, while cross-border transactions have largely failed to improve performance both in terms of costs and profits. Ayadi also found that the cost-reduction potential of domestic transactions, aimed at increasing the lines of business of a bank, is limited.

Ayadi's premise that the success or failure of a M&A depends on the optimal combination of a bank's initial activities and its geographical reach is certainly interesting and is a useful tool for both banks and regulators evaluating potential M&A deals. 'Assessing the Performance of Banking M&As in Europe' is, however, only a research paper. If the initial chapters were elaborated further with a more detailed analysis of the drivers and fallouts of M&As, then the discussions could well be converted into a very interesting and relevant book ▪

Rekha Menon
Research and Contributing Editor
FinacleConnect

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