Jun - Aug 07 / Vol 01 / Issue 10

FINACLE CONNECT

CONNECTING THE BANKING WORLD

featuring research from

TowerGroup℠
The Power of Knowledge

Win in the Flat World

Inside Talk
Interview
Roberto Nicastro
Head of Retail
UniCredit

Cover Story
Banking in the Flat World

Kaleidoscope
Banking on BRIC

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FinacleConnect is a quarterly journal on banking technology published by Infosys Technologies Limited.
For more information contact: Sumit Virmani, Infosys Technologies Limited, # 44 Electronics City, Hosur Road, Bangalore 560100, India.
Tel: +91-80-41057020 or write to us at: finaclemktg@infosys.com

Voice from the Desk

Flat World Banking

Today, we live in a world far different from the one in which we were born. While this statement might have been repeated time and again by every generation, you would agree with me that it is more apt today than ever before. The confluence of globalization, Internet and communication technologies, the rise of emerging economies, the increasingly stringent regulatory landscape and changing demographics is leveling the playing field for businesses across the globe – essentially creating a 'Flat World'. Over the past decade the banking industry too has been a witness to these dramatic transformational forces. These forces are creating a paradigm shift in the way banking needs to be done today and has compelling implications for the future. 'Banking in a Flat World' is therefore, the theme for this issue of FinacleConnect with the cover story discussing the key forces flattening the banking world and the strategic imperatives to enable banks to WIN in the Flat World.

In our regular interview section, we interview Roberto Nicastro, head of retail, UniCredit, one of the largest banking and financial services organizations in Europe today. To be successful in a Flat World, Nicastro says that UniCredit is focusing on customer delight, cost efficiency and specialist banking.

FinacleConnect also goes back to the basics and explores the origins of the term 'Flat World' by reviewing the bestselling book by Pulitzer Prize winning journalist Thomas Friedman, "The World is Flat: The Globalized World in the Twenty-First Century". In this engaging book, Friedman takes us on a journey from the office of Infosys CEO, Nandan Nilekani, who inspired him to coin the term 'Flat World', to discussing why the world is flat; its implications on individuals as well as businesses and how to succeed in the Flat World. In keeping with the Flat World theme, Kaleidoscope provides an analysis of the BRIC (Brazil, Russia, India, China) phenomenon and discusses key banking trends in each of these countries. With the rising influence of BRIC economies in the global economic and political scenario, we are sure this will make for an interesting read.

Fundamental innovation based on advanced technologies is becoming financial institutions' top strategic business driver for 2007, says TowerGroup senior analyst, Guillermo Kopp in this issue's feature article. It is therefore appropriate, that Tech Watch explores SOA implementation in the area of transaction banking. As the authors opine, SOA is emerging as one of the popular approaches to meet banks' requirements and infuse agility, flexibility and reusability into their business processes.

This promises to be an information-packed issue of FinacleConnect. We hope you enjoy reading it and please do keep your feedback coming in. We would especially be interested in hearing your views on how banks can Win in the Flat World.

Till next time!

Merwin Fernandes
Vice President and Business Head - Finacle
Infosys Technologies Ltd.

Feature

TowerGroup℠
The Power of Knowledge

Innovation: Financial Services in a Brave New World

TowerGroup Take-Aways

- Financial Services Institutions (FSIs), by the very nature of managing risk prudently, have unwittingly embedded some signifcant barriers to innovation in their organizational and operational structures.
- Companies in adjacent business domains are keen on pioneering advanced technologies, products, and services and are surpassing FSIs in creative momentum and opportunity for customer value.
- Lacking an appetite for internal experimentation with new technologies, FSIs must tap into the creative momentum that is building externally.
- TowerGroup fnds that fundamental innovation based on advanced technologies is becoming FSIs' top strategic business driver for 2007.
- Without investment in technology and business process transformation, the possibility of innovation in an FSI is a mere illusion, and without tangible value, hyped technologies quickly fade away.
- The rising rate of adoption of electronic delivery channels in Financial Services, coupled with interactive transaction formats, will bring about structural change through interconnected business fows.

Report Coverage

This TowerGroup Research Note highlights emerging trends and challenges in financial services business models and their underlying technologies. It explores innovative breakthroughs in products and services that are shifting the value proposition and shaping a more fulfilling customer experience.

Introduction

The market for traditional financial services products is saturated. Duplicative tactical technology initiatives have added extra burden to Financial Services Institutions' (FSIs') fragmented business operations and administrative overhead. The sophistication and complexity of FSIs' products and services are inching upward. But, by the very nature of managing risk prudently, FSIs have unwittingly embedded some significant barriers to innovation in their organizational and operational structures. Structural constraints make it difficult for FSIs to leverage the many disruptive, breakthrough technologies and business models that are being championed in other industries. Companies in adjacent business domains that are keen on pioneering advanced technologies, products, and services are outstripping FSIs in creative momentum, improving the customer experience and opportunity for customer value. Some network operators and Internet service providers have been leveraging advanced technologies to craft the kind of superior interaction that customers are demanding. TowerGroup finds that fundamental innovation, based on real-time transactions, interconnected services, advanced customer analytics, and business intelligence, is the top strategic business driver for FSIs for 2007. A central challenge for banks, securities firms, and insurance companies is to transcend their traditional business confines and operational models and partner with innovators that offer fresh ideas.

Challenges for the Financial Services Industry

Connectivity, video, and electronic presentation technologies have been reformulating the customer experience. Almost two centuries ago, Louis Daguerre introduced a rudimentary form of still photography. It took another century for the first silent movies to be produced. By 1929, sound added to film technologies took over the nascent Hollywood film industry. A decade later, television broadcasts started in the United States and Europe. Color film and color television further enriched visuals. Computer screens similarly underwent a rapid metamorphosis. In the 1970s, plain electronic text was the rudimentary computer interaction form, but a decade later, graphical user interfaces (GUIs) became commonplace and pictures and graphics brightened the full screen. In the 1990s, laptop computers and flat screens encapsulated a more compact and portable format and the Internet provided the means for globalization. With the new millennium, digital television became the preferred broadcast system and invaded the computer screens. Broadband wireless technologies signal the most recent shift, bringing digital video to the mobile phone screen. Every advance in visual technology has spawned new industries hosting large vendor ecosystems. Following the accelerated evolution of image and computer technologies, broadband video is taking hold. After over a century of wire transfers and other basic forms of electronic transactions, FSIs are waking up to a new era of electronic interaction.

Competition from Best-Performing Industries

Facing internal and external competitors, FSIs strive to create new value and sustain differentiation in business performance. To understand the compound challenge presented by adjacent industries, it is important to examine the current level of

performance. Exhibit 1 depicts the comparative performance of selected stock portfolios across diverse industry clusters.

In this sample benchmark, the appreciation of company shares listed on the New York Stock Exchange (NYSE) serves as a proxy for corporate performance as perceived by the market. The lists of stock ticker symbols above the columns identify companies that have demonstrated appreciation of performance in both the long term and the short. Each peer group cluster displays the logo of the top-performing company. The left bars show short-term (1-year) gains in market value for each cluster, while the taller bars to the right show equivalent gains for a long-term (5-year) period. The blue clusters highlight the main lines of business in financial services.

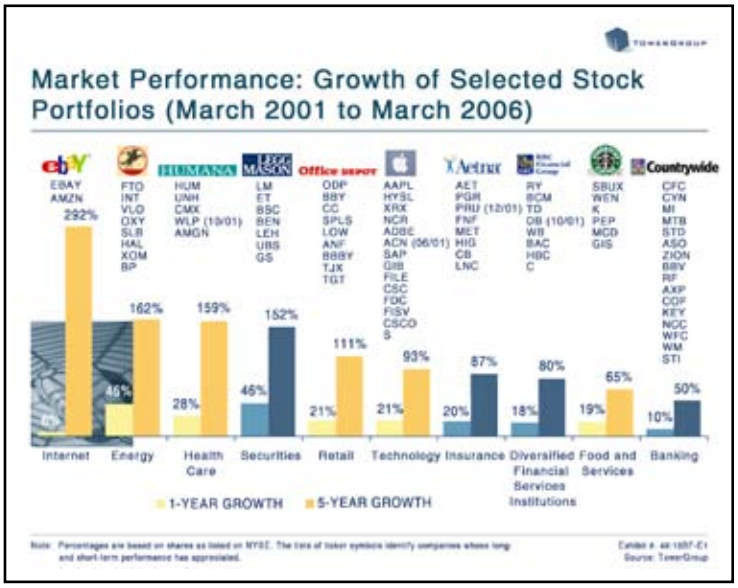


Exhibit 1 *Source: TowerGroup*

Despite the gloom that followed the dot-com bust in 2001, networked technologies and services such as eBay are very much in vogue. Health care and energy stocks also demonstrate robust performance, given the rise in oil prices and hospital services costs. While business buoyancy has favored certain financial services segments such as investment management firms, the banking sector has lagged significantly. In the technology sector, the performance of Apple Computer, Inc., stands out. This company reinvented itself by crafting a consumer breakthrough: the iPod device with its attached music and video services. In financial services, TowerGroup sees a renewed thrust in technology infrastructure, especially mobility over broadband and service-oriented architecture (SOA). Other current technology developments include real-time transaction processing, business process management, data management, and information security. Creative technology solutions are enabling enterprise synergies and strategic business transformation. Breakthrough IT solutions have a polarizing effect: FSIs that employ innovative approaches will deliver new value to their customers and may thus sustain higher levels of performance, whereas those with a wait-and-see attitude may find themselves relegated to commodity products and services with lower margins.

Investments in Business Model and Technology Innovation

For sustainable and effective differentiation of their core financial offerings, FSIs should pursue a three-dimensional strategy of technology innovation:

- Launch innovative products and services that employ emerging technologies ingeniously
- Create original value as an added benefit to the customer relationship
- Commit net new investments to drive the intended innovation and customer value

To achieve differentiation, FSIs must commit to all three dimensions: innovation, value, and investment. FSIs that shun innovative business and technology approaches remain mired in continual reframing of the same old resources. Novelty is

not enough: Without tangible or measurable value, technology infrastructure, software, and gizmos fade away quickly when the hype dies down. And without investment, FSIs' ability to innovate remains a mere illusion.

Along these three dimensions, leading FSIs find sweet spots for differentiation. Customers have already enjoyed the benefits of online applications and automated account opening. Progressive automation of the physical supply chain has opened a field of opportunity for wholesale banks to extend and customize their services to treasury optimization functions. Automation breakthroughs in retail and wholesale banking, such as leaner, self-directed transaction flows, can shorten the traditional loan approval cycle from a few days to a matter of minutes. Other service industries have been delighting customers with instant decision processes. As a consequence, FSIs' customers now expect faster turnaround in the consumer, corporate, and margin loan origination process.

Free from structural constraints and replete with entrepreneurial spirit, adjacent industries are leading the way in innovation. For example, device manufacturers are introducing handheld devices featuring rich electronic content (e.g., music, pictures, video, virtual communities, global positioning systems). Extending beyond the synergies attained by in-store bank branches, retailers like Wal-Mart in the United States and Mexico and Tesco in Europe are leveraging consumer analytics and advanced checkout software to pitch targeted financial services offerings at the point of sale.

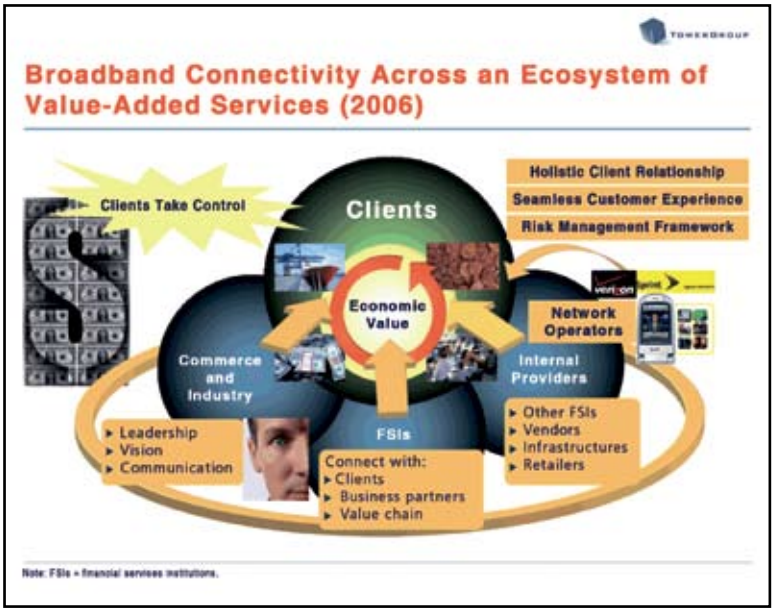


Exhibit 2 *Source: TowerGroup*

Network operators like Sprint and Verizon employ broadband wireless technologies to deliver live television and interactive electronic services to handsets. Consumers and corporate executives depend ever more on mobile news and services, and FSIs can therefore benefit by offering customers the possibility of dynamic interaction. Business connectivity prompts financial services and telecommunications industries to converge in the delivery of electronic transactions and content value to a common universe of customers.

Advanced services and technology solutions keep cropping up through bold innovations led by large vendors. As was the case with innovators such as Apple Computer, eBay, and Google, breakthrough solutions may disrupt the financial services value chain. Exhibit 2 sketches the influence of broadband connectivity in the interlocking of diverse industries in a new breed of products and services that build on rich interactive information.

Thanks to the enhanced capacity and dependability of broadband networks and the computing power of multifunctional business phones, mobile technologies are becoming pervasive. Gone are the days when low speed and scant availability of analog channels jeopardized the aspirations of wireless information services. But even with accelerated progress in delivery technologies, FSIs are still bound by legacy solutions and old business concepts and need to make significant

investments to prepare for interactive services. Mobile applications have merely scratched the surface. Broadband technologies are reaching a tipping point. New handheld devices, digital mobile network infrastructure, and interlocking IT services are finally opening the doors to a rich universe of broadband applications. Given mobile video networks' potential to extend both the Internet and cable TV, those networks are receiving massive inflows of advertising and content production dollars. GPS satellite and digital location technologies open many functional possibilities to track the movement of merchandize and employees.

Creative Technologies for Interlocking Business Connectivity

The path of technology-driven change is steep. In a relentless race affecting all service industries, the winners are pulling far ahead of the laggards. In financial services, progressive FSIs nurture innovation and sustain differentiation, while more conservative institutions become entangled in schemes based on legacy architectures and systems and may miss emerging opportunities. Visionary FSI leaders instill a culture of critical thinking and ingenuity, support customer-centered experimentation and discovery, pursue breakthrough business strategies, and manage innovation risk.

Many FSIs take a tactical rather than a strategic approach to risk management and compliance and therefore continually need duplicative IT and process changes to comply with regulations. Cumulatively across multiple lines of business, products, and jurisdictions, such duplication of effort turns out to be ineffectual and expensive. Besides the expense of business operations and technology, regulatory mandates absorb considerable time and attention of front-office personnel (e.g., relationship managers and client support staff), which causes stagnation in productivity and customer service. Combining disjoint efforts alleviates an FSI's compliance burden, releasing IT budget for innovation and growth.

The conservative culture that prevails at most FSIs causes them to lack an appetite for internal experimentation. As a result, many service delivery innovations are being spearheaded by peripheral industries and small companies. FSIs must tap into the creative momentum that is building externally. Those that recognize that speed in internalizing interconnected business models is a key differentiator are finding a competitive edge by partnering with trendsetting firms. To interlock business innovation with technology from external players effectively, FSIs should watch for emerging technologies that show promise of being disruptive and forge strategic partnerships in a timely manner.

Innovation or FSIs will germinate in visionary business FSI units that pay heed to emerging capabilities and customer needs. Nimble companies and developing economies provide fertile grounds for collaboration and have less inertia to overcome. Larger FSIs that embrace innovation as the basis for growth can leverage workplace collaboration tools. Combining domain expertise and original thinking is essential: FSIs must mobilize multidisciplinary innovation teams that can pursue new initiatives without neglecting their day-to-day responsibilities. FSIs should set aside seed money to incubate promising initiatives. Successful initiatives thrive on a transition cycle that progresses rapidly from concept to prototype to pilot. When teaming up with creative players, FSIs should avoid stifling this innovation cycle.

Business leaders must grasp the strategic potential of emerging technologies. For example, the following technologies and interaction features open new avenues for competitive differentiation:

- **Multi-channel integration**, to provide a consistent customer experience across all front-office and customer support processes

- **Multimedia presentation layer**, to displace dumb terminals and static browser formats with rich, interactive content that carries intrinsic value and enhances the customer experience.
- **Personalized product and service offerings**, to prompt targeted real-time business transactions that leverage insightful and actionable analytics about customer preferences and behaviors
- **Multifunctional transaction flows,** to link business functions and processes within the FSI and its service partners via flexible and responsive straight-through processing
- **Integrated information environments**, to gather data from disparate sources into a cohesive repository that provides a live, simple, granular, and universal view of common data elements

Another trend for FSIs to bear in mind when designing innovations is "peer-to-peer" connectivity in real time. Ubiquitous multimedia technologies are transforming the way people interact, collaborate, and transact. For example, securities traders have adopted instant messaging technologies as a preferred medium of communication and transaction. Similarly, video chat technologies may become useful in FSIs for transacting with partners and customers. Interactive technologies are widespread. TowerGroup estimates that the penetration of broadband connectivity in the consumer wireless market will be propelled by gaming applications, entertainment industries, and virtual communities and will reach almost half of the 2 billion mobile subscribers by 2010.

As a cradle of innovation, virtual communities and massively multiplayer online role-playing games (MMORPGs) appeal to youth market segments. The proliferation of online virtual social worlds and interactive video has created a personalized consumer experience that extends the service relationship. FSIs have already begun tapping these rich media environments, experimenting with online content and cybercurrencies for use in virtual social worlds, for example, and influencing customer preferences for financial products and services. For more information about opportunities for FSIs serving consumers who play in virtual social worlds, see TowerGroup ViewPoint Issue 165, *Online Social Worlds as Emerging Markets: A Dose of (Virtual) Reality.*

Innovation is contagious. Global connectivity has spurred an epidemic of innovation far beyond Silicon Valley. Countries in the Asia-Pacific region and Europe are investing higher proportions of their resources in technology research and development. Providers of outsourcing in India and other regions have been honing their financial services technologies and vertical domain expertise. Collaborative networks link around 1 million technology developers globally via interoperable architectures and open source platforms. Service-oriented architectures allow businesses to gain flexibility and productivity by harnessing the power of these innovative solution components.

New Value in Financial Services

The demographics of FSI customers are also changing dramatically. Global connectivity, regional markets, and emerging economic powers such as China and India affect the distribution of customer demand and service offerings across geographies. Concurrently, the age distribution gap is widening: In developed economies, the population is aging, while in emerging markets, over 60% of the people are teenagers or younger. Technology innovation is becoming an imperative at both ends of the demographic spectrum. Sophisticated, wealthy customers demand a personalized and integrated view of the relationship. High transaction volumes of lower value across new and expanded customer segments require efficient processing and delivery platforms. At the intersection between the high-end

and expanded segments, a cadre of upwardly mobile entrepreneurs favors custom features that combine consumer- and wholesale-oriented offerings.

Leveraging Technology Through SOA Connectivity

Rather than manufacturing all products and services under one roof, FSIs are leveraging a network of internal and external providers. SOA strategies allow them to bridge diverse functional units and business partners and give them more freedom to organize services and supporting staff. Given its comprehensive scope, SOA requires a firm to align IT tightly with business strategies. The most effective synergies occur when business sponsors take active ownership of technology projects and IT personnel become more conversant and involved in the business challenges. Business process management (BPM) tools with visual workflows and user-friendly rules engines put business and technology literally on the same page. When users pull business logic from underlying technologies to a higher level of abstraction, as SOA enables them to do, business processes become interoperable. FSIs that prioritize process improvements for operational leverage may employ BPM tools and interconnecting business process execution language (BPEL) technologies as a path to SOA implementation. Logical, complete, and intuitive views of business processes help in managing the complexities and ambiguities of disparate technology assets.

Other avenues to implementing SOA for universal business connectivity employ clear and intuitive descriptions of elementary metadata objects as building blocks. Gaining momentum for managing SOA components amid a welter of global connectivity and open source developments are data semantics tools such as OWL, the Web ontology language. Smart queries and data presentation tools break away from old spreadsheet formats that dictate rigid and duplicative workflows, enabling the dynamic orchestration of business intelligence functions.

Strategic Innovation Avenues

The financial services industry has core competencies that must be preserved and revitalized into emerging business models. FSIs must also adopt new conceptual frameworks and business operations. As shown in Exhibit 3, FSIs are employing innovative technologies to partake in the evolution of business functions and reinvent their value proposition. Possible first steps involve reframing operations within existing business models or tapping new technologies to renovate existing competencies. Ultimately, breakthrough approaches in business innovation lead to creating new value for customers over an array of interlocked business functions.

The waves of change in adjacent industries should stimulate FSIs to discover new ways to redefine and reinvent their business role. Without strategic reinvention, FSIs may find only transitory relief from business stagnation and competitive pressures by reengineering internal business processes and tweaking their products and services. Retaining their irreplaceable assets of trust and dependable processing, they should be reaching for deeper transformation, and new conceptual frameworks and business models can help them attain that goal.

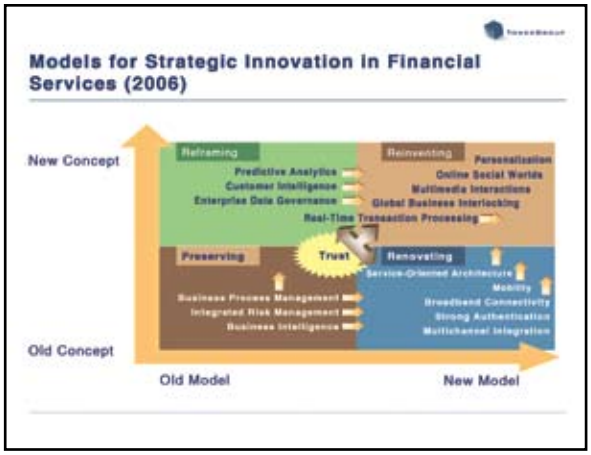


Exhibit 3 *Source: TowerGroup*

New forms of commercial electronic content have arisen. The widespread adoption of electronic delivery channels in financial services has led to interactive transaction formats that are bringing structural change through interconnected business flows. Massive electronic transaction volumes represent an incipient form of market, economic, and political power and are affecting a global world order that is still dominated by the physical exchange of goods. The dawn of Google, eBay, and other powerful electronic service companies signals the end of complacency for FSIs that have been indifferent to the change in business models introduced by the rapid spread of interactive technologies. Proactive institutions that incubate embryonic business and technology models will naturally prevail in this emerging electronic order.

New business opportunities are up for grabs and will be seized by leading companies wielding innovative products and services. Decades-old FSI systems are inadequate to support large volumes of interactive transaction flows and will have to be replaced if the FSIs are to remain competitive. TowerGroup estimates that FSIs' investments in new and replacement technologies will reach $146 billion (USD) in 2006, which amounts to 39% of their global IT spending, and will increase at a strong 8.5% compound annual growth rate through 2009.

Summary

Financial Services Institutions saturated in tradition have unwittingly embedded barriers to innovation in their organizational and operational structures. Meanwhile, companies in adjacent business domains have been pioneering advanced technologies, products, and services. As broadband connectivity takes hold, FSIs are waking up to a new era in electronic interaction with customers. Lacking the ability to experiment with new technologies and develop all products and services on their own, many FSIs must tap into the creative momentum that is building throughout a network of internal and external providers. As interactive transaction formats bring structural change in the interconnected flows, FSIs must embrace the emerging business and technology models ▪

Guillermo Kopp
Executive Director
Global Research Fellow
TowerGroup

Cover Story

Banking in the Flat World

Introduction

The term 'Flat World' is often used to describe the paradigm shift taking place in the world as a result of the confluence of technology, globalization, demographics and regulation. This new world order is leveling the playing field and has significant implications on the competitiveness of banks, for while it challenges existing norms, it also presents tremendous opportunities. In the following sections we will discuss what banks must do to compete and win in the Flat World.

Foreword – by Nandan Nilekani

Co-Chairman of the Board, Infosys Technologies Ltd.

There is no doubt today that the business world is dramatically different from what it was even a decade ago. Most business leaders we interact with talk about how customers are getting more demanding and new and diverse customer segments are emerging by the day. Competition is springing up (seemingly) out of nowhere and young upstart companies with disruptive business models are redefining the rules of the game. Delving a bit deeper, we can see that several of the changes evident today are being driven by a powerful alchemy of technology, globalization, demographics, regulation and the rising economic power of India and China. This is challenging preset business assumptions and forcing businesses to revisit their operating models and strategic priorities. We believe that this radical development is having a profound influence on the business world today, like the one experienced in the early 20th century when mass manufacturing transformed the industrial revolution.

Thomas Friedman, in his latest book, described this new world order as the 'Flat World'. In this new environment, companies that are agile and able to convert the regulatory challenge into an opportunity, leverage technology to innovate and differentiate, globalize their sourcing and markets, and continuously lower their cost of operations, will derive sustainable competitive advantage.

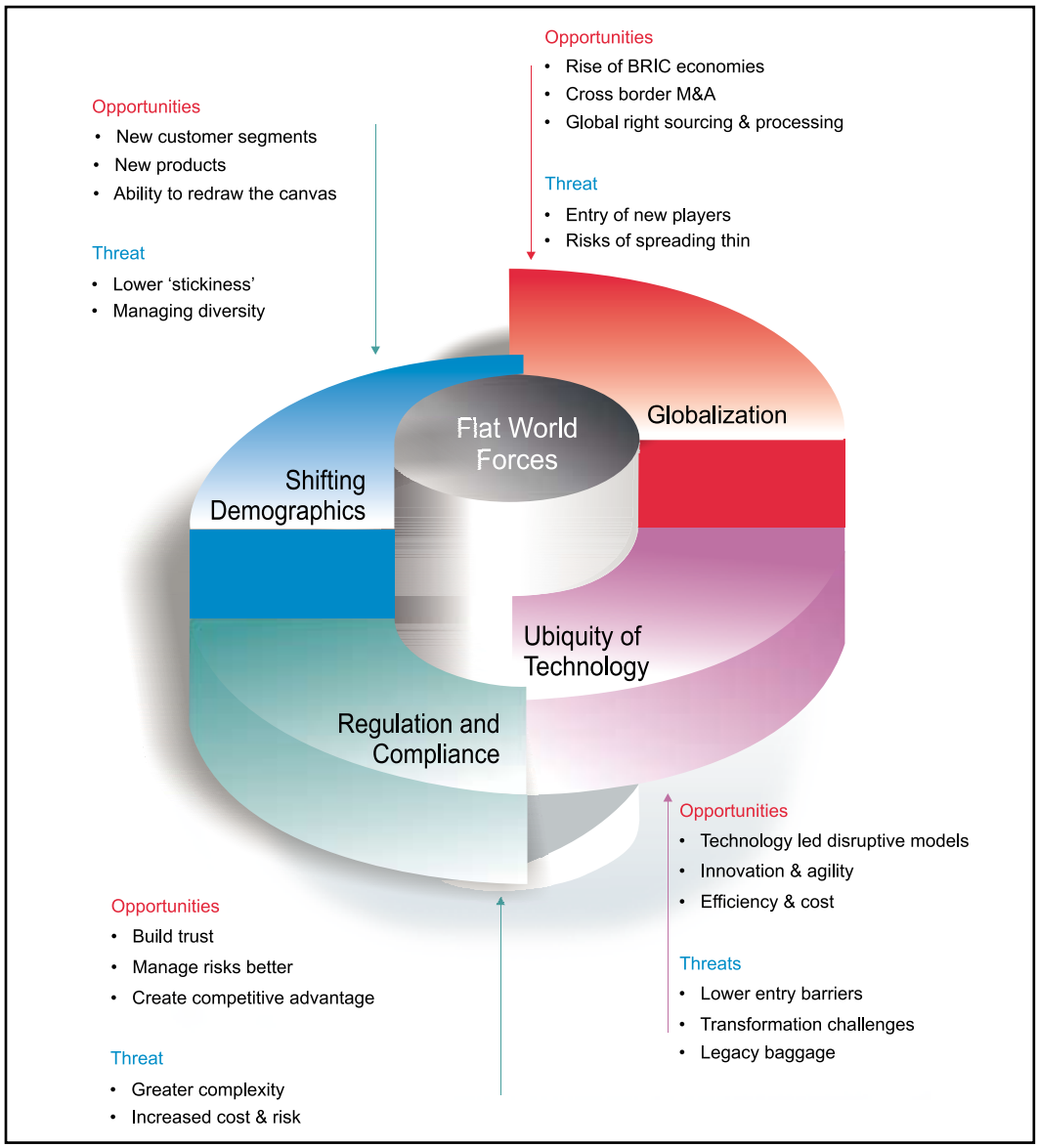
The Flat World has slightly different implications for various businesses. However, one tenet holds true; the playing field is leveled across businesses, irrespective of size or location. In the banking space the Flat World manifests itself with trends like growing cross border M&As, emergence of diverse customer segments coupled with reduced stickiness, emergence of newer non-bank players with disruptive business models, increasingly stringent regulatory frameworks, a shift towards making money from information, usage of technology as the key differentiator, global sourcing, product factories and so on.

Along with challenges, the Flat World offer banks a host of opportunities. The following viewpoint presents our perspective on what banks must do to compete and WIN in the Flat World. This viewpoint is as much about changing the existing mind-set as it is about recommending changes in strategies and operations. Banks that can quickly grasp the impact of the changing banking landscape, respond to its threats and harness its opportunities are the ones that will ultimately be winners.

To understand the implications of the Flat World, let us first explore the four forces that are flattening the banking world, namely, globalization mainly characterized today by the opening of emerging economies, shifting customer demographics, ubiquity of technology and the constantly increasing pressure of regulation and compliance.

- **Opening of Emerging Economies**

  With the rapid opening up of Asian, Latin American and Eastern European economies, (specifically the BRIC – Brazil, Russia, India, China - economies), banks across the world are scrambling to tap this emerging mega opportunity. With these economies increasingly being seen as key drivers of the world economy and rapidly growing in size and complexity, global financial institutions are fast moving in to bridge the gap in their BRIC strategy. They are realizing that these economies are the key to their future growth and market leadership. This scramble is visible across India, China as well as several other emerging economies and several leading



European and American banks. However, in this process the global giants are also realizing that emerging economies are 'a different cup of tea' and to succeed here they need to well and truly reinvent themselves.

A reverse osmosis from BRIC nations and other emerging economies is also reshaping the industry. Fuelled by rapid growth and globalization in these economies, a new set of banks with lean and disruptive business models are emerging and going global. The global foray of many Indian banks chasing the opportunity created by the vast overseas Indian community and rapidly globalizing Indian business is a case in point.

- **Shifting Demographics**

Banks have long ceased to address the needs of a comfortably and predictably homogenous segment. Significant demographic shifts across the globe are creating new opportunities of limitless scope. Trends like a large surge in minorities' in countries like the US (the Hispanic population is a case in point); an aging population in Japan, Germany and some other European countries; emergence of Islamic banking as a large and growing niche; rapid rise of the globally mobile neo rich, vast youth population and rising middle class in the BRIC economies; and the growing segment of new age Internet-savvy customers worldwide - are creating a paradigm shift in the banking landscape. These trends are creating a fundamentally new set of challenges and opportunities for banks worldwide.

These new customer segments characterized by low stickiness, high level of access to information and diverse expectations are forcing banks to innovate constantly to stay ahead of the curve and succeed in the Flat World.

- **Ubiquity of Technology**

Technology has become all pervasive and is perhaps the single biggest force enabling and driving the Flat World. Thanks to the Internet and mobile revolutions, customers today have instant access to a whole range of financial information and tools while making their financial decisions. Banks, the world over, are moving from using technology to drive automation and efficiencies, to leveraging technology for differentiation. Technology has moved from the realm of operations to the realm of strategy in the Flat World. Newer technologies like Services oriented Architecture (SoA) and Business Process Management (BPM) are enabling banks to redefine their business and operating model and drive unprecedented levels of efficiency, productivity, globalization, customer convenience and innovation across the value chain.

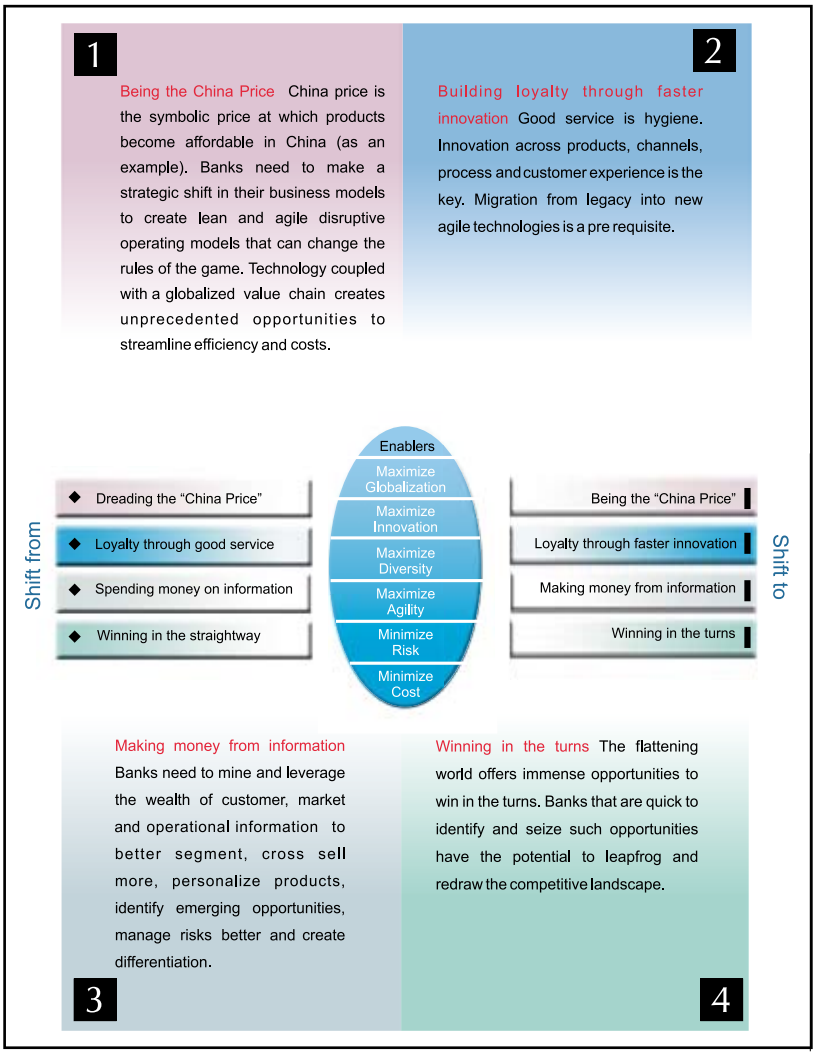
- **Regulation and Compliance**

Banking is amongst the most highly regulated sectors globally. New regulations (Basel II, SEPA, IAS39, Sarbanes Oxley, etc) are emerging at a rapid pace and compliance is an imperative for the bank's survival and success. While compliance may be viewed as bringing in tremendous complexity and increase in risk and cost of doing business, if handled right it provides an excellent opportunity to build trust and manage enterprise risk effectively. It can also be a boon to banks that evolve and implement a technology-enabled holistic enterprise risk management and compliance strategy. Lower capital adequacy requirement for better managed banks under Basel II is a case in point. In this context 'time-to-compliance' has emerged as key a competitive advantage as 'time-to-market'.

Strategic Shifts in the Flat World

Competing in a Flat World requires banks to quickly grasp the impact of the changing business world, respond to its threats and harness its opportunities. Winning in the Flat World goes beyond contemporary technology adoption. It requires banks to shift their strategic and operational priorities and think of new ways of doing business. We believe that to compete and win in the Flat World, banks need to bring four paradigm shifts.

In the following section, we will discuss the six key enablers for banks to leverage the Flat World Forces and achieve the strategic shifts required to win in the Flat World.



Key Enablers to Achieve the Strategic Shifts

The six key enablers to help banks achieve the strategic shifts in order to WIN in the Flat World are described below:

- **Maximize Globalization**

  What we are witnessing today is the emergence of a new and qualitatively higher level of globalization. Trends like the opening up of emerging economies; accelerated cross border M & As within financial services; a reverse capital flow from emerging markets like India and China into the global markets; a growing demand for cross border financial services from the global citizens of the Flat World as well as the hordes of businesses that are globalizing and global regulatory convergence as seen through regulatory initiatives like Basel II, Sarbanes Oxley, IAS and so on – are creating hitherto unexplored and unprecedented opportunities for growth. Banks across the world - including the existing global giants, the rapidly growing banks from emerging economies as well as the nimble new age players with disruptive business models - are grappling with the challenges of globalization in the Flat World and strategizing to seize this opportunity.

  Globalization is flattening the world and threatening the existing status-quo. Banks that are agile and able to make the most of this opportunity will redefine the banking landscape.

- **Maximize Diversity**

  Emergence of several new customer segments across the world is creating tremendous opportunity for banks to grow rapidly and gain new market share. While old loyalties are fast

dying, new ones are being created. To maximize this opportunity, banks are redefining their segmentation strategies, leveraging advanced analytics and dynamic micro segmentation and relationship based pricing; launching several new innovative products like product bundles, offset accounts, global mobility accounts, cross border payments, and so on; creating new lines of businesses – Islamic banking, wealth management for the mass affluent are cases in point; adopting global sourcing and processing across their value chain to gain higher efficiency in their operations; while on one hand centralizing and standardizing their processing, on the other banks are aggressively localizing their products and services to build customer intimacy.

- **Maximize Innovation**

  In a world where service is increasingly seen as a hygiene factor, where new players and new products emerge seemingly out of nowhere, and where commoditization of products is the order of the day, the winning banks in the flat world are investing in creating differentiation through continuous innovation. These banks are aggressively and effectively leveraging technology to drive innovation and are taking innovation beyond the traditional realms of products and channels into process and customer experience. In the flat world innovation has clearly emerged as the key winning strategy for banks to gain customer loyalty and competitive differentiation. Increasingly speed and cost of innovation is what will separate the winners from the losers in the flat world.

- **Maximize Agility**

  Every dimension of a bank's business today demands an unprecedented shift in speed and agility. The forces flattening the banking world – globalization, demographics, technology and regulation – demand the highest level of agility from banks. Agile banks are able to respond to competitive pressures and regulatory challenges quickly and can proactively identify and seize emerging opportunities. Technology has certainly emerged as both the enabler and the driver to achieve unprecedented levels of agility. Ability of banks to assimilate new generation technologies like SOA, BPM, internet and mobile and at the same time effectively migrate from constraining legacy systems into new generation solutions will to a great extent determine the agility a bank gains to succeed in the Flat World. Agile technology foundation is also key to effective management of enterprise risk and complexity in the flat world.

- **Minimize Cost**

  The flattening of the world is throwing multiple opportunities for banks to dramatically reinvent their operating model leading to reduced complexity, greater standardization and lower cost. It's also an imperative for survival and success in the flat world

  Technology is one of the key enablers in this regard and is opening up a whole new set of possibilities.

  Global sourcing, product factories, global or regional processing hubs and process standardization are some of the other strategies banks are adopting to flatten their organizations and create a lean operating model.

  Process orchestration through enterprise business process management technologies is another key strategy banks adopt to achieve a greater degree of automation and straight-through-processing leading to higher productivity, streamlined operations and lower costs.

We believe that a simplified and optimized operating model leveraging technology will enable banks to compete in the flat world by being the China Price in a global environment.

- **Minimize Risk**

The Flat World context brings with it a host of risks; from risks on the compliance front with a growing host of regulations, to market and currency risks in an integrated global economy, to the political and cultural risks intrinsic to a fast globalizing world, to the technology risks in a world where technology has almost make or break power over an organization, to the risks inherent in any such transformational journey as is the case with the aim of achieving strategic shifts required to compete in a Flat World. The challenge is in successfully managing, and where relevant, minimizing risks. Realizing the criticality of this task for survival and success in the Flat World, banks are focusing on evolving and implementing holistic enterprise risk management (ERM) strategies. ERM impacts all aspects of the enterprise including structure, process, people and technology and cuts across business and operations.

In addition, transformational programs carry strategic risks, financial risks, process risks, transition risks and operations or IT risks. These risks assume significant relevance in a Flat World context because transformation programs often span multiple geographies or countries, different organizational practices and disparate processes and systems. Picking the right partner for the transformational journey is critical. Partners working on such a program must have impeccable credentials as a transformation agent and a track record of delivering with the highest predictability, transparency and long term stability. From the bank's side it is essential that individuals with the right kind of leadership are assigned to the transformation program. Ensuring that all participants in the transformational risk ecosystem work towards managing and minimizing risks is crucial to success.

Win in the Flat World

While the six enablers will help a bank achieve the strategic shifts, compete effectively and succeed in the fast world, we believe that the critical underlying assumption and key factor across all six enablers is the role of technology. While the role of technology in general is well appreciated, we believe that the three key strategies banks need to adopt in this context are adopt and implement SoA as the enterprise architecture, leverage BPM to achieve process orchestration and fast forward migration from legacy systems (especially the back office side) into new generation solutions. These would be the pre-requisites to create a *Winning Flat World Bank.*

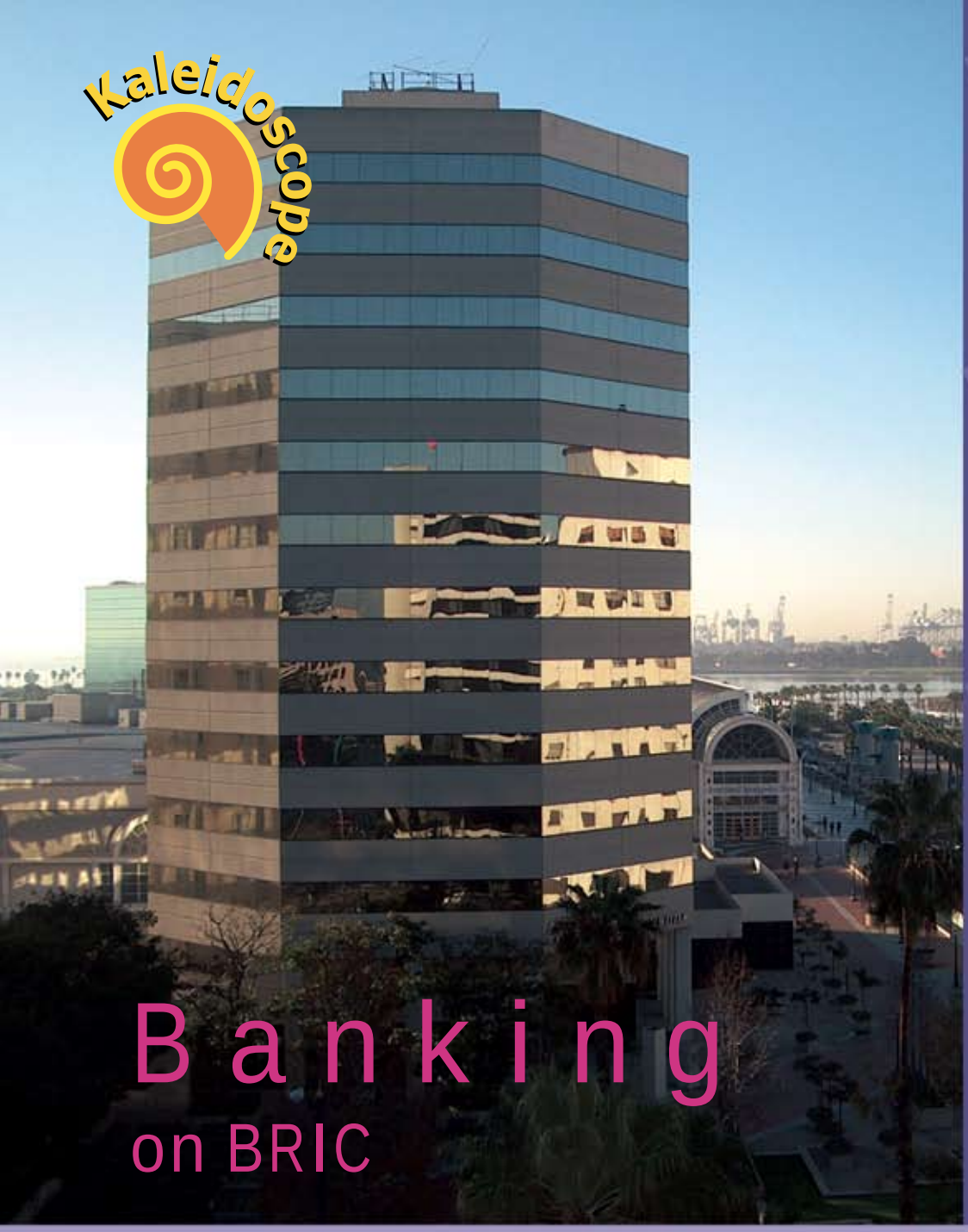
Competing in the Flat World necessitates quickly grasping the impact of the changing business world and responding to its threats while harnessing its opportunities. This new world order requires banks to leverage the key enablers to achieve the strategic and operational shifts. This means abandoning the familiar for the unconventional and exploring possibilities with disciplined, yet groundbreaking thinking to succeed in the Flat World.

Merwin Fernandes

Vice President and Business Head - Finacle

Infosys Technologies Ltd.

Kaleidoscope



Banking on BRIC

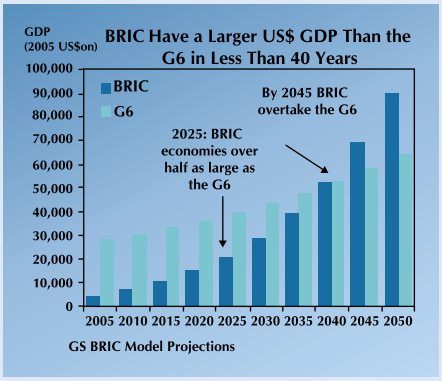
Understanding the BRIC Phenomenon

Despite volatility and crisis, emerging markets have witnessed tremendous growth in the past decade. Leading accounting and consulting firm, Grant Thornton International estimates that by mid-century, emerging markets will account for almost 80 percent of world output. This dynamic expansion combined with their future growth potential, have seen these markets hog headlines and attract trade and investment flows.

Notably, while emerging markets, as a whole, refers to several countries across Africa, Asia, Eastern Europe and South America, the spotlight in recent years has predominantly been focused on the four largest developing countries - Brazil, Russia, India and China, collectively referred to as the BRIC economies. Industry experts today, almost unanimously regard these BRIC economies as holding the key to the world's future economic development. "The BRIC countries are the new motor of the world economy," notes Michael Kaimakliotis, portfolio manager at Credit Suisse in a paper published in January 2007, which discusses the key features of a fund developed by Credit Suisse to

Some of the Key Findings from 'Dreaming with BRIC: The Path to 2050' by Goldman Sachs (Oct 2003)

- Over the next 50 years, Brazil, Russia, India and China—the BRIC economies—could become a much larger force in the world economy.
- The results are startling. If things go right, in less than 40 years, the BRIC economies together could be larger than the G6 in US dollar terms. By 2025 they could account for over half the size of the G6. Currently they are worth less than 15%. Of the current G6, only the US and Japan may be among the six largest economies in US dollar terms in 2050.
- The shift in GDP relative to the G6 takes place steadily over the period, but is most dramatic in the first 30 years.
- The list of the world's ten largest economies may look quite different in 2050. The largest economies in the world (by GDP) may no longer be the richest (by income per capita), making strategic choices for firms more complex.



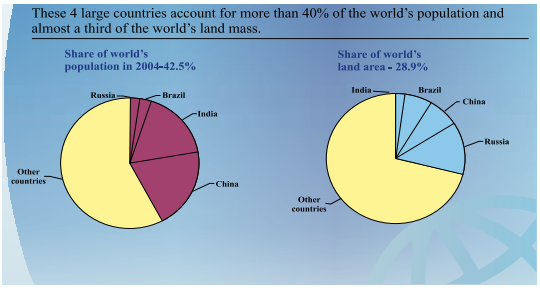
exploit growth potential in the BRIC markets. "These four countries have come to symbolize the exciting challenges and opportunities presented by dynamic emerging markets," echoes Alex MacBeath, global leader of privately held business services at Grant Thornton International.

The credit for recognizing the importance of the BRIC economies and drawing world attention towards them goes to leading investment bank, Goldman Sachs. In a seminal piece of research titled 'Dreaming with BRIC: The Path to 2050', published in October 2003, the bank's economists predicted a profound shift in economic power in the coming decades from the world's six most developed countries to the BRIC economies. Highlighting the remarkable growth potential of the BRIC countries, the paper stated that whereas in 2003 the BRIC economies collectively accounted for less than 15 percent of the G6 countries (US, Japan, UK, Germany, France and Italy) in US dollar terms, in less than 40 years, these countries could together be larger than the G6 nations.

Jim O'Neill, Managing Director and Head of Global Economic Research at Goldman Sachs, who dreamt up the acronym, says about their conclusions, "Many people think that this (BRIC growth) is just a dream and may or may not happen and that the focus on BRIC is overstated. It is very important to realize, however, that already the BRIC economies are having a huge influence on the world economy. We calculate that over the past 5 years, more than a quarter of the world's growth in US dollar terms has come from the BRIC economies."

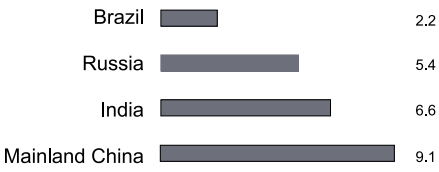
The importance of the BRIC economies comes not only from their vast size, but also from other factors such as their unique ability to provide products or services competitively. Some of the key distinguishing factors of the BRIC phenomenon are highlighted below:

- Unique offering: China's main offering is its manufacturing sector, while for India it is the software services sector that is driving its economic growth. Brazil's strength lies in its raw materials and Russia's core competence is its energy sector.
- Population: Both India and China have huge populations of over 1 billion each, together accounting for almost 40 percent of the world's population. Brazil and Russia have much smaller populations. Brazil's population is around 186 million and growing steadily, while Russia's population of 142 million is decreasing in size. With their huge population, BRIC countries offer a significant source of labour. In India, for instance, the vast pool of low cost educated labour is one of the key driving forces behind the success of the country's software services sector.
- Growing middle-class: According to the Goldman Report, the middle classes in the BRIC economies i.e. people with income over $3000/ head will grow four fold in the next decade.
- Booming domestic consumption: Not only



Source: World Development Indicators

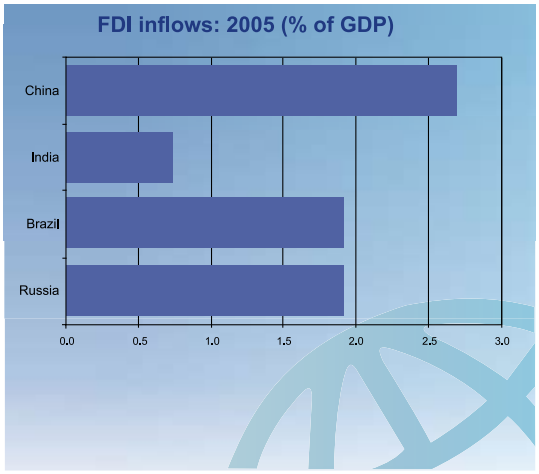
Figure 2: GDP real growth 1998-2006 (% per annum)



Source: IMF World Economic Outlook

are the BRIC economies leaders in the export market, their economic prosperity is already fuelling a huge domestic demand for a variety of products and services, from raw materials to finished goods, retail loans and energy. Industry experts state that as growth accelerates and per capita incomes rise in the heavily populated BRIC countries, they will become the world's most important consumer markets.

- Influencing global policy: With the balance of economic power shifting towards the BRIC economies, the geopolitical importance of these regions has increased and they have a major say in global policy making.



Source: World Development Indicators, World Economic Outlook

Banking on BRIC

The economic growth being experienced by the BRIC economies is mirrored in their respective banking sectors as well with these countries witnessing a near exponential increase in the uptake of retail loans specially housing, car, education, credit cards and other personal loans in the last few years. A recent banking industry report released by Boston Consulting Group (BCG), estimated that in both the long and short term, the banking sectors in the BRIC economies significantly outperformed the global average and in addition to becoming larger, banks in emerging markets have become more competitive, greatly outperforming Western banks over the past five years. For instance, three Chinese banks now rank among the world's ten largest banks, all with market capitalizations of well over $100 billion while Russia's Sberbank boasts a five-year shareholder return (adjusted for risk and local market influences) of 12.9 percent per year— the highest for any bank.

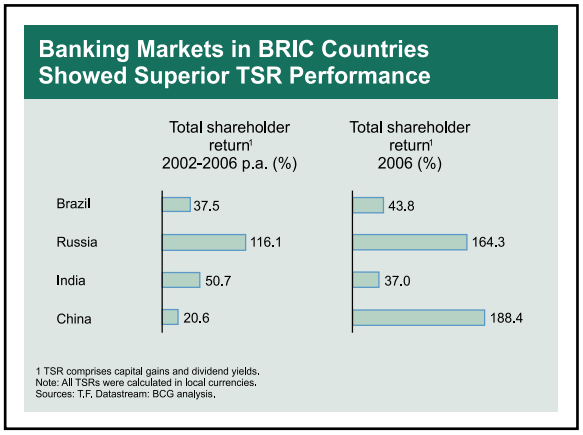
"Banks in the BRIC countries will continue to grow much faster than their Western peers and a few could emerge as global challengers over the next five to ten years," said Tjun Tang, one of the report's co-authors and a BCG partner. He predicts that BRIC-country banking revenues will increase by an average of 8 percent, on an inflation-adjusted basis, each year until 2015.

The following sections explore the banking sectors in each of the BRIC countries in greater detail:

Brazil

GDP size US$1,536bn
Population 186m

Among the BRIC nations, Brazil has the most developed economy, but the slowest growing market (Brazilian annual real GDP growth averaged 2.6% since 2000, compared to 9.6% in China, 6.7% in Russia and 6.7% in India). Industry experts regard Brazil's weak performance as largely due to outstanding structural impediments that result in high interest and tax rates, which effectively block faster growth. Chief among these is a massively bloated public sector, in addition to an outmoded labour system and an overtaxed and overregulated business environment. Nonetheless, the country has enjoyed a sustained period of macroeconomic stability and shows an immense potential to grow further.



The global banking industry total shareholder return (TSR) climbed from 13.8 percent in 2005 to 25.6 percent.

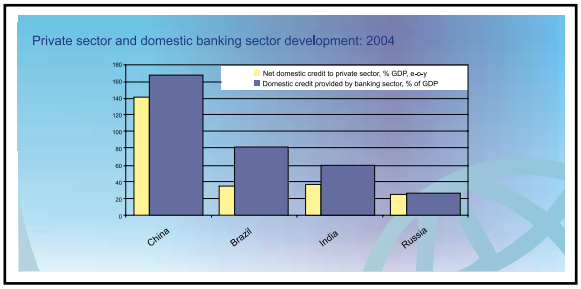
In the Latin American region, Brazil not only has the largest economy, but also with over 160 banks and 63000 bank branches, the largest banking market. The country has witnessed a high level of consolidation which has seen the number of banks in the country drop from 253 in 1996 to 163 in 2005. Consolidation has led to increased concentration, so Brazil's top 10 banks now control roughly 70 percent of all assets in the banking system. Interestingly, Brazil is the only country in Latin America where the leading players are local. Among the 10 largest banks in Brazil in terms of assets, seven are Brazilian and three are foreign. The biggest banks by assets in Brazil are the state-owned enterprises such as Banco do Brasil and Caixa Economica Federal. Experts suggest that the scale of the Brazilian banking system has acted as a barrier to foreign investors, largely due to the amount of investments that need to be made not only in the acquisition but also in technology and marketing. Many foreign banks entered the Brazilian market and left afterwards because of the difficulties in dealing with a huge retailing operation.

The BCG Report on banking states that Brazil still has a relatively low rate of market penetration—measured by the proportion of deposit and loan volumes to nominal gross domestic product (GDP)—which underscores its high potential for growth, not only in products that are already booming, such as consumer and personal credit, but also in its nascent mortgage sector, and among low-income segments. As such, retail banking is generally seen as the key area for future growth.

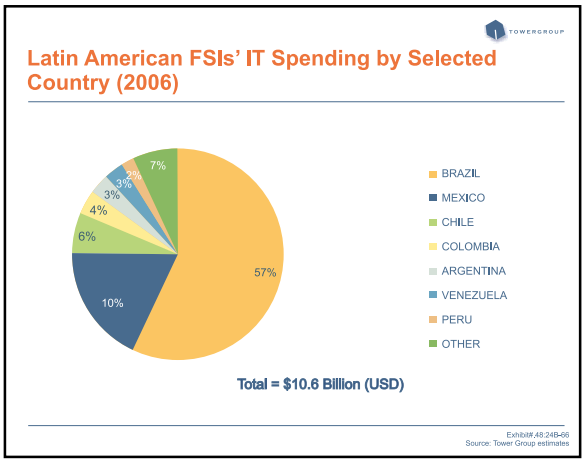
Automation levels are high among banks in Brazil and the level of technology investment by financial institutions is the highest in the region. It has a sophisticated settlement and payments infrastructure, which allows on-line transfer of funds between any financial institution anywhere in the country, reliably and securely. All checks deposited are cleared within 24 or 48 hours, all bank transfers over US$2,000 are done in real time and 80 percent of the over 30 billion annual banking transactions are made automatically (ATM, Web, phone, fixed and mobile).

The level of ATM penetration is very high in the country and has grown rapidly from around 8000 in 1997 to over 90000 by 2005. The Internet penetration in the country too is extremely high. Brazil in fact introduced online banking in Latin America. Currently, 99 percent of tax returns are filed electronically and the country has over 19 million Internet banking customers.

Banks like Banco Bradesco and Banco Itaú are two of the most technologically advanced banks in Brazil and in Latin America, and have invested millions on a variety of areas including information security, customer relationship management systems, business continuity and disaster recovery and risk management systems. Banco Bradesco is also upgrading its legacy infrastructure, an issue that is impacting a number of banks in the region. It is spending over USD 350 million in overhauling its entire IT infrastructure to create a flexible and dynamic system that allows it to create and roll out products quickly.



Source: World Development Indicators



Russia

GDP size US$1,584bn

Population 142m

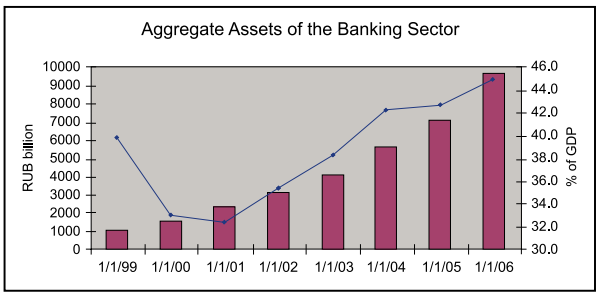
Russia is enjoying strong macroeconomic conditions. Over the past seven years, the economy has been growing by more than 6 percent a year and has been helped by strong commodity and energy prices. Further, individual income levels are growing, which is giving rise to strong consumer demand. However, despite bright economic prospects, experts contend that the economy is too reliant on energy exports and much still remains to be done with regards to the legal system, corruption levels and regulation.

Russia's banking sector has recovered quite remarkably from the 1998 financial crisis, when the burgeoning budget deficit led to the default of the Russian government and the collapse of the Ruble with Russian banks unable to fulfill their obligations stemming from ruble forward contracts. In 2005 in fact, the Russian banking sector grew faster than Russia's economy as a whole – and at a higher pace than the previous year. As of January 1, 2006, the banking sector's aggregate assets totaled 9.75 trillion rubles ($338.7 billion), up 36.6% year-on-year compared to 27.4% in 2004. Aggregate retail deposits grew by a healthy 39.3% in 2005, reaching 2.75 trillion rubles ($95.8 billion) by January 1, 2006.

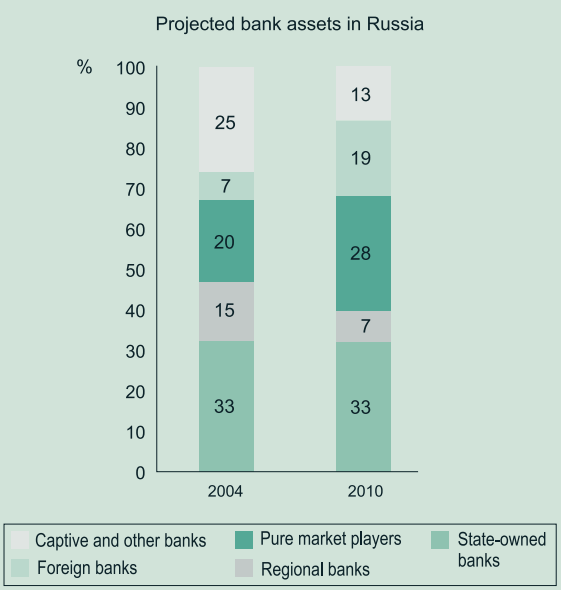
Overall, the banking system is highly fragmented. There are over 1200 commercial banks in the country, and the 100 largest banks account for over 80 percent of total assets and 70 percent of capital. Less than one-tenth of Russians have ATM or credit cards and the country boasts a mere 1.1 bank branches for every 10,000 people, one-fifth the corresponding number for the EU. Nearly half the country's population is outside the banking network. Notably, unlike other countries where private sector banks usually play the role of the growth engine in a banking system, in Russia, state owned players have more weight in the market. The dominant state-owned bank is Sberbank which has over 20000 branches, holds 60 percent of all retail deposits, issues over 40 percent of all retail loans and accounts for over 25 percent of all assets and capital in the banking system. Analysts note that, despite prospects for more dynamism in the Russian banking industry, the plodding pace of bank reform and the government's push to reinforce state banks' dominance are holding back improvement of private sector banks.

According to a BCG Report, this country's banking industry owes its impressive performance primarily to the success of Sberbank which is also the only truly liquid stock among Russian banks. Despite several recent mergers and acquisitions in Russia, states the report, the market remains relatively fragmented: URALSIB Financial Corporation, the largest private bank and fifth in the overall ranking, has a market share of only 2 percent in total assets as well as in retail loans.

There are significant gaps in the market, both in terms of product and service offerings and hence several foreign players have entered the market in recent years such as Citibank, Societe Generale,



Consolidation and the Entry of Foreign Players Will Be Key Trends in Russian Banking



Source: BCG analysis

Nordea and Banca Intesa either directly or through acquisitions. Raiffeisen Bank, the Austrian cooperative bank, which started retail banking operations in Russia seven years ago, when most Russian financial institutions did not take the retail business seriously has been very successful in the Moscow retail banking market. Banks like Barclays and HSBC too are targeting the lucrative Russian market now.

Industry experts suggest that retail banking promises to be the major area of growth in the coming years for Russia. A recently published research by Alpha Bank, the total retail banking market reached $42 billion by the end of 2005, and by 2010 is expected to reach as high as $112 billion. To compete successfully in this increasingly competitive and vibrant market space and to keep up with the rapid expansion of branches, customers and products, several players are seeking to replace their existing banking systems. Moreover, not only are banks replacing their core banking systems, they are also investing in ancillary solutions. Russ-Bank for instance has invested in a suite of solutions to support its card business country wide. And the Commercial Bank for Industrial Integration, Moscow is planning to deploy multi-channel banking software to drive their Internet and SMS channels.

India

GDP size US$3,666bn
Population 1103m

With the world's fourth largest economy that has been growing at over 6.5 percent over the past decade, India represents one of the fastest growing economies among emerging countries. The stock market is booming and foreign direct investment (FDI) grew more than twenty-fold, from just under US$0.13 billion in 1992 to almost US$2.86 billion in 2003. The Indian economy recorded a strong growth rate of 8.4 per cent during 2005-06 on top of 7.5 per cent growth in the previous year and this strong growth is expected to continue. The country has benefited from large scale reforms in various industry sectors that were initiated in the early 1990s. Further, with its vast pool of low cost educated English-speaking workforce, India has established itself as a provider of IT and business process outsourcing services.

The banking sector, among the key beneficiaries of the structural reform process of the early nineties, has seen remarkable growth ever since. The reforms encouraged the entry of private sector players in the banking sector that was till then primarily dominated by state-led entities. These new-age private sector banks such as ICICI Bank and HDFC Bank focused strongly on technology and ushered in a new era of competitiveness where transparency in reporting procedures, automation levels, efficient use of manpower and customer-centricity were key differentiating factors.

Between 2000 to 2005, the total industry assets grew from USD 265 billion to USD 562 billion and profits from USD 1.7 billion to USD 5 billion. By 2010, industry assets are expected to exceed USD 1 trillion with total profit pegged between USD 10-12 billion. Ratings agency, Standard & Poors states that the Indian banking industry is ahead of several other Asian countries including China, Indonesia, Phillipines and Vietnam. Moody Investor Services

on the other hand, rates India as ahead of banking industries in developed countries such as Japan, Singapore and Australia in terms of RoE (Return on Equity).

Currently, there are around 85 scheduled commercial banks (SCBs) in India, with nearly equal numbers of private, public sector (state-led) and foreign banks, and there are around 60,000 bank branches spread across the length and breadth of the country. The largest bank in the country is the state-led State Bank of India, which has around 9000 branches around the country. It is followed by ICICI Bank in second place, which in just over a decade has carved a formidable reputation in the market space. Overall, private sector banks have reported an over 40 percent growth rate, nearly three times the growth rate experienced by public sector banks. However, despite the rapid growth experienced by private sector banks, the Indian banking industry continues to be dominated by state-led institutions that account for nearly 75 percent of the banking industry's over USD 560 billion assets.

There has been a sharp pick up in bank credit in India in recent years. The prime driver for this has been the near exponential growth in retails loans, which grew from USD 9 billion in 2000 to USD 66 billion in 2005 and is projected to reach USD 320 billion in 2010.

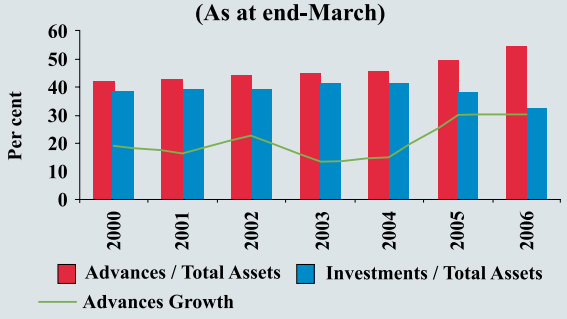
Given intense price competition in the retail segment, profits in India have been derived mainly from corporate banking. However, as with other BRIC markets, most banks in India view retail business as the key to future growth. In addition, the investment banking sector has witnessed plenty of new entrants, and the derivatives market, dominated by foreign banks, is growing quickly.

Notably, the penetration of banking services to Indian households stands at a mere 35.5 percent. While some banks are developing innovative business models to access rural India, others, are beginning to target smaller towns and cities.

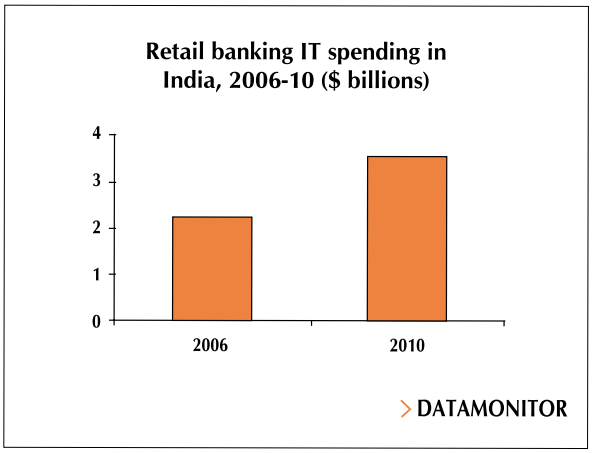
An interesting development in the coming years will be the increasing play by foreign players in the market that currently account for a mere 7 percent of total assets. The country's central bank, Reserve Bank of India (RBI) has announced that by 2009 it plans to allow foreign banks that were so far restricted to branch operations to open branches in rural locations as well as take up to 74 percent ownership in a private sector bank. This announcement has already led to heightened activity by existing dominant foreign players such as Citibank and HSBC along with others such as Bank of America and Barclays Bank.

In terms of levels of automation, Indian banks have been steadily investing in technology over the past decade and while private banks such as ICICI Bank have been the leaders in technology led innovation, public sector banks have also adopted banking automation to meet customer requirements in the highly competitive market space. Interestingly, due to the relatively late adoption of technology, Indian banks have not had to suffer issues regarding legacy core systems like their counterparts in developed economies. Core systems renewal is nonetheless on the agenda for several banks in the country. Additionally, most of the banks today offer banking services through multiple delivery channels, although the usage of ATMs, credit cards and Internet banking is predominantly evident in the big cities. Industry analysts estimate that in 2004, there were 12000 ATMs in the country and the number is expected to touch 35000 by the end of this year. Banks are also investing in risk management systems to comply with Basel II regulations as well as customer relationship management systems.

Chart 1: Bank Credit and Investment of Banks (As at end-March)



Source: Reserve Bank of India



Analyst firm, Datamonitor estimates that in India retail banking IT spend totaled $2.5 billion in 2006, and this is expected to rise to $3.6 billion by 2010. A majority of this investment, they state, will be towards core systems and channels platforms.

A survey conducted by the Federation of Indian Chambers of Commerce & Industry (FICCI) in September 2006 to analyze the potential of the Indian banking system, highlighted technological advancement as one of the key strengths revealed that has helped the country create a mark in the global banking scene. Other parameters where the Indian banking system was rated very highly were its regulatory systems, economic growth rate, risk assessment systems and credit quality. Some of the areas that need to be focused to gain global competitiveness, identified by the survey respondents were diversification of markets beyond big cities, consolidation, higher FDI limits and strict corporate governance norms.

China

GDP US$8883bn
Population 1313m

China has experienced exponential growth rates in recent years and is now regarded as the new economic superpower. The economy has developed very quickly over the past 25 years, sustaining growth at almost 10 percent a year. This growth has been underpinned by a transition from a centrally planned system, to a more market-oriented economy with a rapidly growing private sector and is based on the country's ability to produce goods at low cost. On some measures, states Grant Thornton, mainland China is second only to the US in terms of economic size. As such economic development has generally been more rapid in the southern coastal provinces than in the north and the interior. However, these regions are now the focus of much new investment.

After years of slow, ineffectual development, the Chinese banking system is showing positive signs of progress in recent years. Not only has the government opened up the market to foreign players, it has also made systemic improvements in domestic banks to help them ready themselves for the new competitive environment. Estimates by the China Banking Regulatory Commission (CBRC) state that the total assets of China's banking industry at the end of 2006 was 43.9 trillion yuan (US$5.48 trillion), up 17.3 percent from the previous year. Three Chinese banks now rank among the world's ten largest banks, all with market capitalizations of well over $100 billion. China's ICBC holds the number-two spot after raising $21.9 billion in an IPO last year. Bank of China, which also went public last year, ranks sixth, and China Construction Bank, which first issued shares in 2005, ranks seventh.

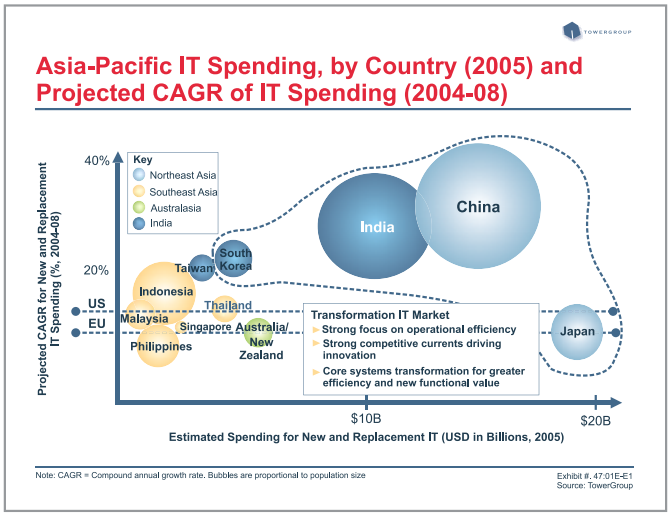
In a major development, in December last year, China fully opened its banking industry. Under the regulations, China will allow foreign-funded banks to conduct Renminbi business for Chinese citizens in line with its commitments to the World Trade Organization (WTO). Previously foreign banks were allowed to offer such services, on a limited scale, only in 20 major cities.The Chinese government is encouraging foreign banks to incorporate locally and set up subsidiaries to minimize risks for Chinese customers.

In readiness for the opening up of the Chinese market, foreign players have been making huge investments. 2005 saw foreign banks take stakes worth USD18 billion in China's biggest banks which, says McKinsey, reflected both their belief in the country's banking system as well as the recognition that the performance and governance of these institutions are

much improved. By the end of last year, 74 foreign banks had set up branches in China, and another 186 had established representative offices there. Now with the opening up of the market, there is a huge rush among them to compete for the nation's USD 2.2 trillion in household deposits. A survey by PricewaterhouseCoopers shows that overseas banks expect to double their total workforce in China by 2010 to almost 36,000. Citibank plans to double its number of outlets in China this year, bringing the total to 30 while HSBC will add 35 branches, bringing its total to 60.

In the coming months it will be interesting to see how the market develops - while Chinese banks have a huge asset base and large branch networks, the foreign banks have good systems, efficient processes and a customer focused outlook.

It is important to note however, that there are still some areas of concern within the banking industry. Governmental control is still very much present even though banks have achieved a certain level of autonomy. Often described as "the Big Four", the four state-owned commercial banks - Bank of China, China Construction Bank, the Industrial and Commercial Bank of China, and the Agricultural Bank of China - hold a dominant market share in China's banking sector, accounting for over 50 percent of the sector's total assets. Twelve joint-stock commercial banks, including the Bank of Communications, account for 16.2 percent, city commercial banks occupy 5.9 percent and the remaining 26.6 percent are covered by other financial institutions.



The most obvious problem that plagues China's banks is that of the huge amount of non-performing loans (NPLs) on their books. Until recently, banks in China traditionally met government policy demands by financing the operations of the country's state-owned enterprises (SOEs), regardless of their profitability or risk. Exposure to poor-performing SOEs has had a major impact on domestic banks overall performance. Leading international consultants McKinsey, state that many Chinese banks lack the commercial skills or the mind-set to price loans appropriately and therefore lend too much money to underproductive state-owned enterprises. Few banks have mechanisms in place to prevent bad loans from accruing. Moreover, Chinese companies get loans at abnormally low rates, which encourage overcapacity and inefficient investments in many sectors. All told, McKinsey estimates that the inefficiencies in China's banking system cost the country USD 25 billion annually and by addressing this problem, China would raise its GDP by USD 259 billion a year.

Consulting firm BCG argues that despite its problems, prospects for growth for China's banking sector are promising. The retail sector, they estimate, is growing twice as fast as the corporate sector, mainly due to low penetration rates and the rise of the Chinese consumer. Total banking revenue pools in China are projected to grow by 8.5 percent annually on a real basis until 2015, transforming China into the third largest banking market in the world.

Chinese banks have been investing in information technology solutions in recent years in preparation for the impending competition. A recent TowerGroup report states that for large areas of Chinese financial operations, the basic infrastructure for consumer banking and payments, service networks, credit cards, credit scoring and risk management systems,

databases, and branch automation, is rudimentary or nonexistent. TowerGroup estimates that bank information technology spending in China increased 32 percent annually from 2004 to 2007, from USD10.1 billion to USD23.2 billion, which is faster than anywhere else in the world, and may exceed 50 percent CAGR in the near future. Estimates by the Economist suggest that over half of C-suite banking executives rank legacy systems as among their most serious development challenges. Another 54 percent cite the costs of redevelopment as one of their biggest obstacles. Most of their IT investment is therefore in core systems replacements, channel development and other ancillary projects.

Conclusion

The emergence of the BRIC economies and the sharp rise in their global influence has created a paradigm shift in global economic strategies and politics. There is no doubt that the BRIC economies are likely to maintain their comparative advantages in the coming years which will help ensure their growth rates and increasing share in the world market. In the banking space too these countries are going to witness continuous growth and involvement of foreign banks in the domestic space. But it is important to note that while this growth will continue in the short term, to maintain their advantage in the longer term, these economies need to invest in sound and stable macroeconomic and development policies, development of strong and capable institutions, investment in technology and strengthening the legal infrastructure.

Rekha Menon

Research and Contributing Editor

FinacleConnect

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Banking on Specialization

Interview with Roberto Nicastro

Head of Retail,
UniCredit

Over the past decade, the UniCredit Group has dramatically transformed from a local Italian bank to a European powerhouse. In the process, the Bank has witnessed several mergers and acquisitions not only with banks in Italy, but also with Central and Eastern European banks. Two years ago, in one of the largest cross-border banking deals in Europe, UniCredit merged with HypoVereinsbank, becoming a leading player in Germany and Austria as well.

Today, with over 7000 branches across 20 countries in the region and market capitalization of around 70 billion Euros, UniCredit is one of the largest banking and financial services organizations in Europe.

UniCredit's Head of Retail, Roberto Nicastro talks to Rekha Menon, Research and Contributing Editor at FinacleConnect about the key strategic imperatives for the Bank and what it takes to successfully operate in an increasingly 'flat world'. Nicastro is the Chief Executive Officer of UniCredit Banca, the Group's Bank In-charge of Italian Retail, and also heads the Bank's retail division across Germany and Austria. Nicastro has been with UniCredit for the past 10 years in positions of increasing responsibility. Before that he was at leading consulting firm, McKinsey, for nearly 7 years.

Q What are the key challenges facing retail banking today?

A Retail banks need to focus on satisfying their customers. Customer centricity in a globalized scenario where banks operate in different regions is a big challenge today. For banks to be successful, it is very important to understand customer requirements while ensuring operational efficiencies and regulatory compliance across different markets

Q We define a 'flat world' as an increasingly inter-connected world, where geographical distances are no longer a barrier to providing products and services. How do you think banks can win in a flat world?

A In the past we thought that globalization was applicable only to investment banking and corporate banking, but now we are realizing that the principles of globalization can be applied to retail banking as well. If you drill deep, you realize that customers in different countries essentially demand the same things – customer commitment and price sensitivity. Customers require competent service from their service provider and value for money for the products and services they buy.

Q What are UniCredit's focus areas to succeed in a flat world?

A To be successful in a flat world, our number one priority is to put the customer at the heart of our strategy. Often, it is easier to say this than to actually practice it, because it is very difficult to actually implement a customer satisfaction program. We manage customer satisfaction by measuring it. We have actually interviewed around 400,000 customers last year, which I believe is the biggest worldwide expenditure on customer surveys. It has helped us increase market share for almost all our products in Italy, and we hope to repeat the same success story in Germany. Our second focus area is cost efficiency across all operational areas. For instance, since customer needs and requirements are more or less homogenized across borders, we are trying to implement a centralized technology, back-office and facilities management infrastructure.

Finally, we believe that developing specialization, as against being a universal bank is very important in the flat world. We have identified two key areas in the retail arena to specialize in – consumer lending and mortgage lending.

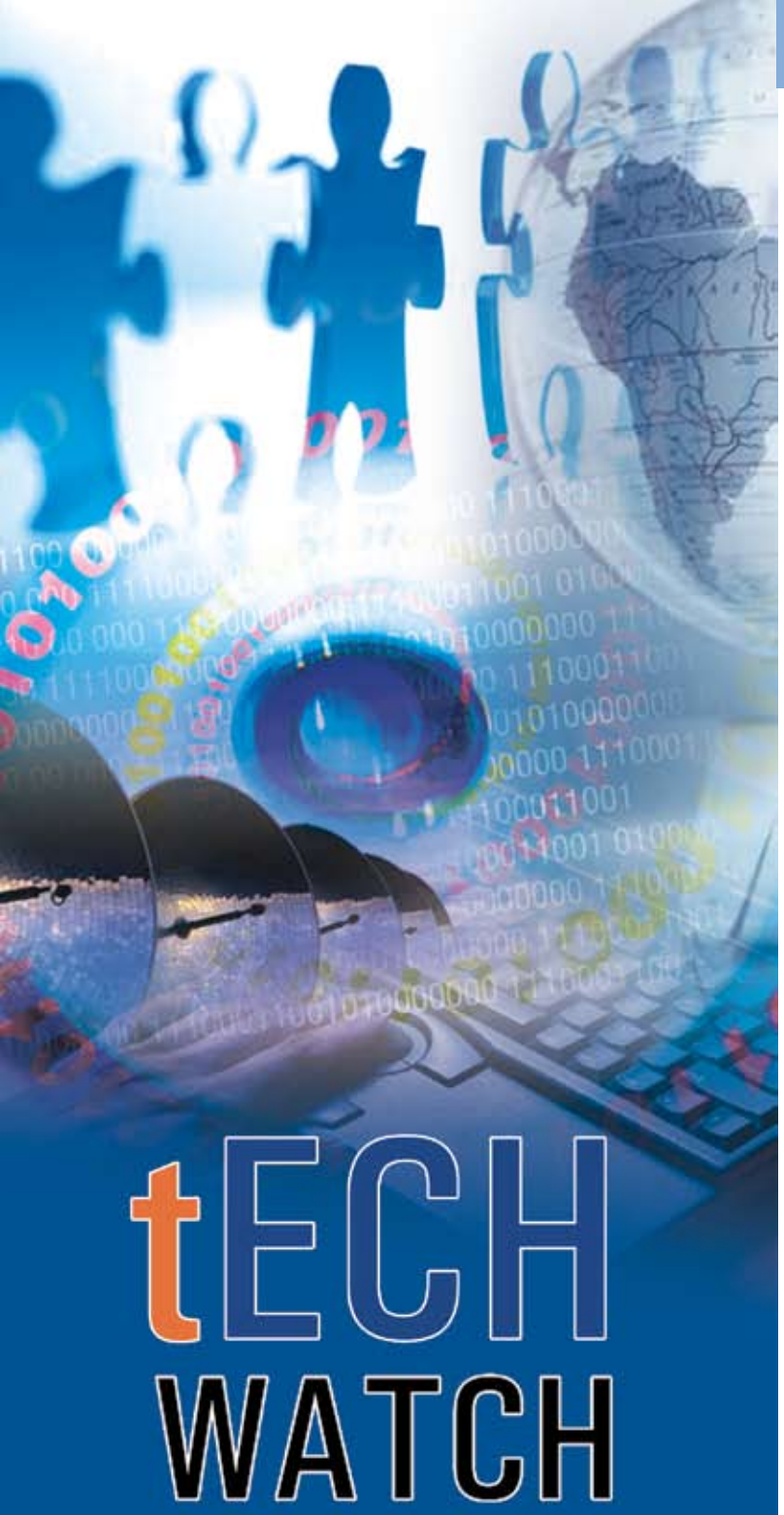
Q How important is technology in ensuring a bank's success and what are UniCredit's priorities regarding its technological infrastructure?

A In today's flat world, technology is critical to drive a bank's business initiatives. In UniCredit we want to centralize our IT infrastructure across Italy, Germany and Austria. I firmly believe that deploying one platform across different regions and markets is possible because retail follows the 70-30 thumb rule. 70 percent of core functionality is the same across all countries. The differences arise in areas like language and issues like taxation and regulation.

We have deployed one core banking system across all banks under the UniCredit fold, over a period of six years. The plan is to now extend this platform across Germany and Austria. We believe that we will be able to substantially increase efficiencies and reduce IT costs by 20-30 percent when the German and Austrian operations move to the core platform.

Q Going ahead, what are UniCredit's strategic imperatives?

A To build competitive advantage in Europe, our objective is to focus on specialization as the key success and differentiating factor. UniCredit's strategy is to leverage our current product capabilities and geographical reach to become the European regional specialist bank ▪



tECH WATCH

SOA Implementation in the Transaction Banking Domain

The Transaction Banking Domain faces competitive pressures to reduce time-to-market for new product introduction, increase STP, enable multi channel access and so on. SOA is emerging as one of the popular approaches to meet such requirements and infuse agility, flexibility and reusability into the business process.

Banking and Financial Services companies face tremendous competitive pressures when delivering new products and services that enable them to meet customer requirements. Competitive pressures, reducing shelf life of products, and declining first mover advantage makes it imperative for banks to constantly innovate and introduce newer products. Consequently, reducing the time-to-market for new product introduction is critical. There has been a raft of regulatory interventions in the recent past such as SOX, Basel II, SEPA, and banks have had to make substantial investments in technology to achieve compliance. There has been a need to balance fresh technology investments with re-use of existing infrastructure. The need to reduce the processing cost of transactions has meant increased operation and Straight Through Processing (STP). This calls for interoperability between various applications in the front-to-back processing of transactions. Interoperability becomes a critical requirement in developing a unified customer view and a key requirement from both the sales and risk management perspective that would need data to be gathered from multiple diverse applications across the enterprise landscape.

Technology plays an integral part in banks' ability to deliver products to the marketplace and in their ability to process them in large volumes, in an efficient manner. Cash management & payments businesses, like cards and mortgages processing, have been built leveraging technology and have often led technology investments as compared to other businesses. Consequently, these businesses have also been at the forefront of adoption of new technologies, design and development approaches.

Many surveys of CIOs of large companies across businesses indicate that their business models have significantly changed in the last two years. Their key constraint has been limited flexibility and adaptability in their

IT architecture. While there are many ways to achieve a flexible architecture, SOA is emerging as one of the hotly debated options. Celent in a recent report titled "North American Bank Priorities: Convention or Innovation" published in Aug 2006, mentioned that 36% of banks mentioned SOA as one of their key IT priority.

SOA represents the conceptual model of an enterprise where most of the collaborating systems produce or consume services that are loosely coupled entities representing coarse grained business functions. SOA, implemented using web services, leverages open standards to provide a flexible model of integration without dependency on a specific implementation technology. The key benefits of the SOA approach are

a) Ease of integration

b) Process flexibility and

c) Re-usability of services

In this paper we look at SOA Implementation in the Transaction Banking space and specifically in the cash management & payments space with particular focus around identification of business services. The typical cash management landscape (Figure 1) in a bank is dotted with a multitude of applications, across a variety of technology or software platforms ranging from legacy to the modern.

One of the primary steps in transforming the current landscape to a SOA model is to get an accurate understanding of the current architecture and define the 'to be' architecture. The current state architecture is often a jumbled potpourri of applications, and the documentation is often sparse, outdated and not in step with the changes made to the application portfolio.

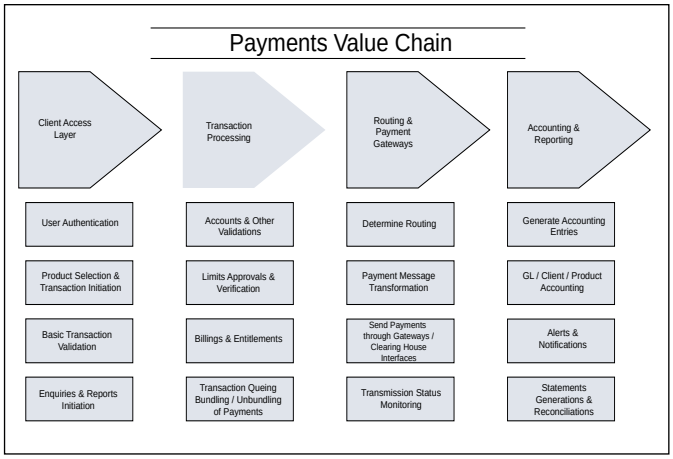


Fig.2 *Source Infosys Research*

Take for example, a front-to-back payments value chain as depicted in Figure 2.

The top layer broadly describes the high level process in the value chain while the boxes below indicate the functionality performed as part of the process. While functionalities such as validations, limit verifications, routing and so on, are expected to be present within the appropriate high-level process as indicated, they have often been found to be spread all across the value chain.

Some of the likely observations on the business functionality from the CSA study may typically be as follows:

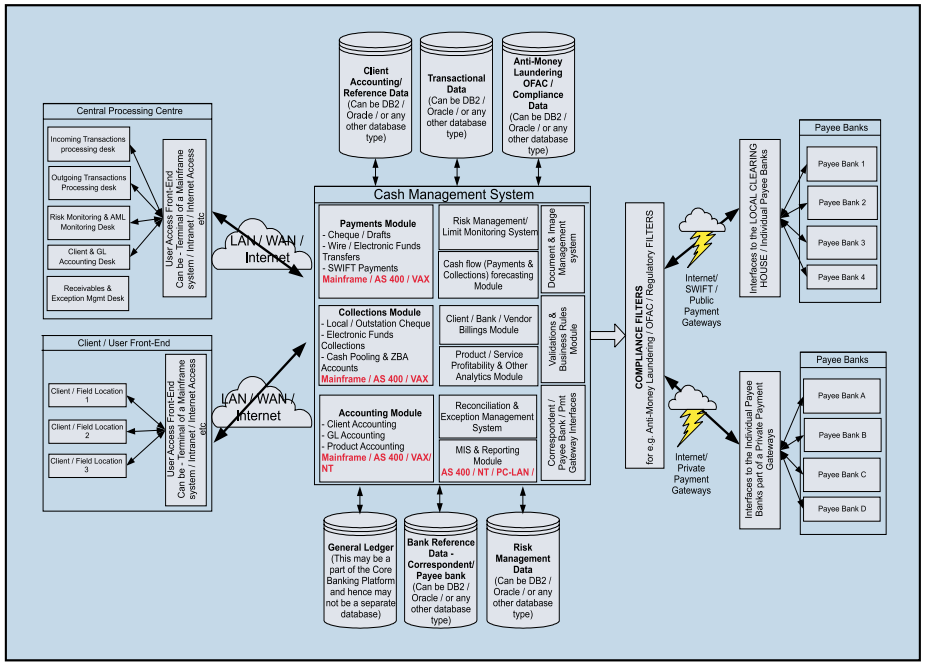


Fig.1 *Source Infosys Research*

Common business functionality executed at multiple places along the value chain

It has been observed that certain functions like client validations, authentications, payments or transaction queuing, and so on are performed in the front office as well as back-office applications. This implies that any common changes to a functionality, say validations, must be introduced at all places where they are performed thereby increasing the difficulty of change and the cost of change.

Common functionality present across similar business functions

Common functionalities such as user validations, transaction validations, limit verifications and so on, may be duplicated either across multiple applications with in the cash management businesses or even across other business lines such as trade finance or loans. For example, limits verification is a functionality that will be used by all applications that process credit products and interface with credit limit management systems. Therefore at an enterprise level, any changes to the limits verification functionality will need to be carried out at multiple places.

Complex business logic is strongly embedded in the core technical functions

Often complex business logic is tightly embedded in the code in combination with a technical service greatly reducing process flexibility. This also makes introducing changes to the business logic difficult and increases the time taken to introduce the desired changes to production. For example, the functionality for validation of file formats, duplicity, syntax, generic & specific business rules and so on may be intertwined in the payment routing function. Or the verification of limits prior to processing of the transaction which requires interfacing with credit systems may be combined with the various validation functions.

Implementation of Service Oriented Architecture (SOA) permits organizations the key features of re-usability, process flexibility and orchestration through identification and building of business services. This calls for decoupling business logic from core technical services and optimization by consolidating the business functionality spread across the value chain and evaluating the possibility of developing a common business service.

For example, validation functionality spread across the value chain can potentially be consolidated into a single business service component. This would mean that across the value chain wherever the validation functionality is to be performed this service component would be called. Thus the service needs to be developed, can be re-used many times and introducing changes to the validation functionality can be easily achieved.

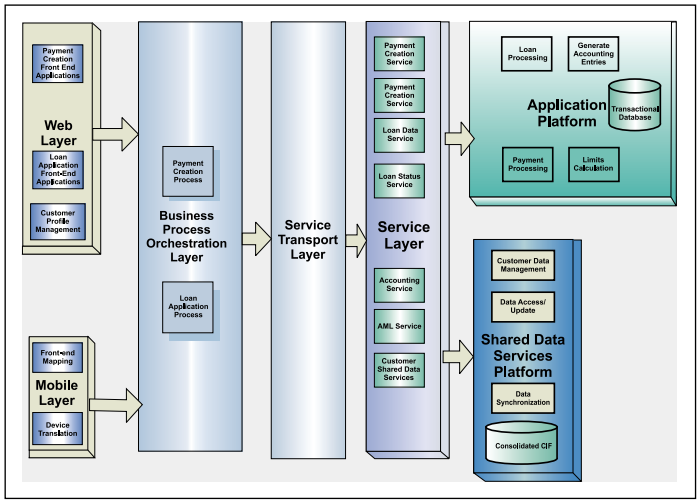


Fig.3 *Source Infosys Research*

There might, however, be a lot of constraints in such a service definition. One of the key decisions that must be made is around the service granularity – fine-grained service, may house only small business functionality and orchestrating a process would require many such services while a coarse-grained service may encompass a larger chunk of functionality becoming very complex though a lesser number of them may be required to orchestrate a process.

The possible landscape after implementation of a SOA approach would resemble the diagram shown in Figure 3.

The landscape would comprise a layered architecture with the presentation layer, orchestration layer, service layer and so on, clearly defined and implemented. The service transport layer would manage service calls from the orchestration layer and the service layer.

A sample set of services that may be identified for the cash management business are as follows:

a. Validations related services
   - Client Validations
   - Product Validations
   - Transaction Validations
   - Entitlement Validations

b. Limits related services
   - Get Limits service
   - Update Limits service
   - Block or Release Limits service

c. Accounting related services
   - Client Accounting service
   - Product Accounting service
   - GL Accounting service

d. Interest calculation related services

e. FX rates services
   - Get FX rates service
   - Calculate cross-rates service

Some of these services have a high degree of re-usability with other transaction processing functions such as trade finance or loans processing (limits service, FX rates service, interest calculation service and so on.)

SOA implementation is far more involved than just the identification of appropriate business services that would need to be composed. It encompasses much wider challenges around defining a roadmap, policies around governance (owners or service custodians), change management and so on. We have attempted to focus the discussion in this paper around identification and composition of the business services.

Jayakumar Venkataraman
Principal Consultant,
Banking Domain Competency Group,
Infosys Technologies Ltd.

Siddhartha Vijay Joshi
Consultant, Banking Domain Competency Group
Infosys Technologies Ltd.

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Note: This paper was originally published in the InfosysSET Labs briefing Volume 5, No. 2, PP, 37 -42

Infosys in the news

Hallmark

Infosys YoY growth up 44%

Infosys Technologies Limited announced financial results for its fourth quarter ended March 31, 2007. Revenues for the quarter aggregated $ 863 million up 45.5% from the corresponding quarter last fiscal. Net income was $259 million ($152 million for the quarter ended March 31, 2006). 34 new clients and 5992 new employees were added during the quarter.

Infosys Technologies Limited announced Fiscal 2007 revenues of $ 3.1 billion; YoY growth of 44%. Net income was $850 million ($555 million for the Fiscal 2006).

Senior management changes (effective June 22, 2007)

- Mr. Nandan M. Nilekani becomes the Co-Chairman of the Board
- Mr. S. Gopalakrishnan assumes the role of Chief Executive Officer and Managing Director
- Mr. S. D. Shibulal assumes the role of Chief Operating Officer of the Company

Infosys Expands Operations in Central Europe

Infosys Technologies Limited announced the expansion of its nearshore facility in Brno, Czech Republic. Infosys has set up a 400-seat facility to provide BPO as well as IT services to its clients in Europe. With existing nearshore development centers in London, Germany and Mauritius, the new centre will significantly widen service capabilities. Infosys BPO, Brno, operational since August 2004, focuses on end-to-end transformational outsourcing solutions to its portfolio of clients. It currently services clients in the Automotive, Manufacturing, Banking & Capital Markets and Insurance sectors in a variety of horizontal and vertical processes. The new Brno facility will house employees from over 20 nationalities, 80% of which are locally hired. It provides foreign language capabilities in over 20 languages, including German, Spanish and French. The facility also provides Infrastructure Management Services (IMS) to clients in Europe.

Finacle – The Universal Banking Solution from Infosys

Finacle shines at The Banker Technology Awards 2007

Finacle bagged The Banker Technology Awards 2007, with a 'Highly Commended' mention under the Back Office Project Category for Retail Banking. This win acknowledges Finacle's implementation expertise across several multi-location projects.

HPB Live with Finacle e-Banking Solution in Croatia

Hrvatska Postanska Banka (HPB), the largest state-owned bank in Croatia, in a bid to maintain its competitive edge in the market and ensure that it adapted to changing customer needs, chose Finacle Universal Banking Solution to drive its technology-led transformation initiative. Following a rapid implementation of Finacle e-Banking Solution in less than six months, HPB is now geared to provide its customers a broader spectrum of retail banking services. With Finacle e-Banking solution being available in Croatian language and the payment module configured to Croatian law, HPB customers will be able to make enquiries and transactions in the local language through internet banking, which also includes making payments to beneficiaries such as tax authorities and utility service providers.

Finacle wins Asian Banker Implementation Award 2006

Finacle won the prestigious Asian Banker Implementation Award for 2006 at Jakarta. Finacle along with Centurion Bank of Punjab emerged Winner in the category of Best Core Banking project for mid-sized banks and Finacle with State Bank of India earned a Letter of Commendation under the category, Best Core Banking Project for Large Banks. This win confirms Finacle's leadership in the APAC region and its unparalleled implementation excellence.

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*Source: http://www.tpc.org, http://www.spec.org

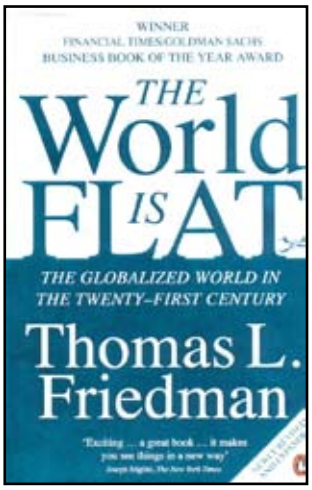
Thomas L. Friedman

The World is Flat: The Globalized World in the Twenty-First Century

How does the Internet connect businesses and individuals around the world? How does the desktop PC empower individuals around the globe? Why has the cost of communication fallen and how does all this enable the new age of globalization where outsourcing and offshoring are an integral part of the world economy? What are the several benefits of this open, networked world that we occupy today, and what are the pitfalls? These are some of the key issues that Pulitzer Prize winning journalist Thomas Friedman discusses in depth, in his much-acclaimed latest book, 'The World is Flat: The Globalized World in the Twenty-First Century'.

Using interesting anecdotes to substantiate his theories, Friedman skillfully weaves together a compelling story about how the latest wave of globalization is being fuelled by intersecting technologies and falling telecommunication costs, helping connect people and businesses in remote parts of the globe. The process of globalization, that began way back when Columbus opened the lines of trade between different countries, and was taken forward by multinational companies that went global for new markets and labour, is now in its third wave, says Friedman. The Year 2000, ushered in Globalization 3.0 which is being driven by developing economies on the one hand and individuals empowered by the PC and the Internet revolution on the other. "It is now possible for more people than ever to collaborate and compete in real time with more other people on more different kinds of work from more different corners of the planet and on a more equal footing than at any previous time in the history of the world – using computers, e-mail, fibre-optic networks, teleconferencing, and dynamic new software", says Friedman.

These dramatic changes over the past decade not only allow individuals worldwide to interact with each other, but also enable businesses around the world to share information and compete on a level playing field, in effect 'flattening' the world. Friedman argues that if politics and terrorism do not get in the way, this flattening of the world could usher in an amazing era of prosperity, innovation, and collaboration, for companies, communities and individuals.



Taking us on a journey that starts from Infosys's CEO, Nandan Nilekani's office in Bangalore, when seeing and discussing how firms can remotely service the intellectual needs of their clients at the other end of the world, it first struck Friedman that the world was shrinking to the extent of having become 'flat'. He goes on to discuss the main forces that have flattened the world, the kind of policies developing countries must follow to create the right environment to thrive in a flat world and the implications a flat world has for companies and how they can exploit opportunities in this changing landscape. Importantly, as developed economies like the US try to adjust to a new 'flat world' reality, Friedman advises as to how they can meet current challenges and benefit from it as well. Finally, he throws in a word of caution about how the flattening process could go wrong. Touching on some of the players currently being excluded, Friedman details the need to include them. Bringing geopolitics into the discussion, he explains how some constituents, essentially terrorists, can misuse the flat world.

It is a fascinating journey. No doubt, topics such as globalization, the growth of the Internet, the rise of outsourcing and offshoring and growth of emerging economies have been discussed at length in various forums, in recent years. But where Friedman scores in 'The World is Flat' is in linking together all these complex strands into a cohesive, engaging story and presenting new insights as well. Friedman infuses a powerful energy into his arguments and possesses the rare ability to discuss even the most technical and arcane subject in an interesting, easy-to-understand manner. Complementing the delightful prose are the highly relatable examples, ranging from those of companies in countries like India and China, providing products and services, to firms in industrial nations, to examples of small enterprises in the US, innovating to stay ahead of the curve.

'The World is Flat' is a highly engaging and thought-provoking book, a must-read both for those who might not have understood the ramifications of the changes sweeping the world in recent years, as well as those who have been a part of the change process ▪

Rekha Menon
Research and Contributing Editor
FinacleConnect

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Cover Story

Banking in the Flat World

Introduction

The term 'Flat World' is often used to describe the paradigm shift taking place in the world as a result of the confluence of technology, globalization, demographics and regulation. This new world order is leveling the playing field and has significant implications on the competitiveness of banks, for while it challenges existing norms, it also presents tremendous opportunities. In the following sections we will discuss what banks must do to compete and win in the Flat World.

Foreword – by Nandan Nilekani

Co-Chairman of the Board, Infosys Technologies Ltd.

There is no doubt today that the business world is dramatically different from what it was even a decade ago. Most business leaders we interact with talk about how customers are getting more demanding by the day. How competition is emerging (seemingly) out of nowhere and young upstart companies with new business models are giving established incumbents a run for their money. Delving a bit deeper, we can see that several of the changes evident today are being driven by a powerful alchemy of technology, globalization, demographics and the rising economic power of India and China. It is challenging preset business assumptions and forcing businesses to revisit their existing operating models. We believe that this radical development is having a similar influence on the business world today like the one experienced in the early 20th century when mass manufacturing transformed the industrial revolution.

Thomas Friedman, in his latest book, described this new world order as the 'Flat World'. In this new environment, companies that are able to increase productivity, use technology intelligently, globalize their talent base and practice financial discipline, will derive sustainable competitive advantage.

The Flat World has slightly different implications for various businesses. However, one tenet holds true; the playing field is leveled across businesses, irrespective of size or location. In the banking space the Flat World manifests itself with increased competition from banks around the world and technologies that enable the new banking customer to avoid traditional players, opting instead for a service provider who best meets their price and service needs.

Along with challenges, the Flat World offers banks a host of opportunities. The following viewpoint presents our perspective on what banks must do to compete and WIN in the FlatWorld. This viewpoint is as much about changing the existing mind-set as it is about recommending changes in strategies and operations. Banks that can quickly grasp the impact of the changing banking landscape, respond to its threats and harness its opportunities are the ones that will ultimately be the winners.