Banking Transformation – In Global Context

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Abstract

This article exhibits the different stages of banking transformation from Level-0 which is the historical banking concept kept in papers to various other levels. We can also term this transformation as “paper to paper less banking”. Level-1 is termed as the primary transformation with the use of standby computers in bank premises. Under Level-2 we discuss more about the Core Banking Solution (CBS), with more information about the players involved in this space in the market globally and in Level-3 we discuss more about the alternate delivery channels (like ATMs/ CAMs, Debit Cards, IVR, Call centre/ Phone Banking, Internet Banking & Mobile Banking) which were used to deliver the banking services apart from the physical branches. We also discussed the future scope and the next generation plans and research towards possible transformation under section Level-4 with real-time examples and publications.
Originally, and at origin Banking was in papers. Those are the days, not too long back but just a decade before, where Banking was handwritten, I mean the records being maintained at Bank. I still remember those colourful, black and white days where different colour pens and pencils helped filling the pages of the Big Books (so called physical ledgers) and all transaction entries went manually as numerical on the broad and wide pages of different books. Even for the customers, the pay-in-challan were referred with different colours (like yellow for savings account, white for demand draft, green for current account...)

Month end interest calculations will be done with the help of small calculators. The yearend activity is really a festival and various audit firm assistants used to stay overnight in the banks for to arrive at a balance sheet of individual branches and use their calculators to arrive at the consolidated balance sheet for a big bank.

Next comes the computer era, where the banks started using few DBMS (Data base management system like Foxpro...) banks started migrating from papers to computers to store their records. This is just to manage their stand alone branches and in fact much customised software was available as a package, to manage the banks statements and few calculations like interest paid/received we call them as Applications. During that time, Banks never charged customer, since Bank is the ultimate consumer and no benefit is passed to customers at this migration or technical advancement.

This is just initiated by the bank to make use of the Technology; we can say this is the first step for banks thought of utilising the Technology in Banking.

Now, we can say we are in the Banking Revolution using the Core Banking Solution (CBS), what is it? Many of us may not be aware of this buzz word, on which banks are investing millions of dollars. This also started few years ago and even small banks and NBFC like micro finance and other lending institutions were started moving towards this core banking solutions.

Core Banking Solutions (CBS) is a new jargon frequently used in banking circles. The advancement in technology, especially internet and information technology has led to new ways of doing business in banking. These technologies have cut down time, working simultaneously on different issues and increasing efficiency. The platform where communication technology and information technology are merged to suit core needs of banking is known as CBS. Here, computer software is developed to perform core operations of banking like recording of transactions, passbook maintenance and interest calculations on loans and deposits, customer records, balance of payments and withdrawal. This software is installed at the bank server and banks will access the software by means of communication lines like telephones, satellite, internet etc. It allows the user (customers) to operate accounts from any branch if it has connected to this CBS. This new platform has changed widely the way banks are working.

Yes In reality, Banks can no longer remain idle on legacy stand alone applications. Growth, and perhaps even survival, Depends upon an agile, cost-effective core banking solution that delivers a differentiated service experience.

We will discuss about this in detail on a different section below.
Subsequent to CBS, banks started providing alternate channels to their customers like:
- ATMs/ CAMs
- Debit Cards,
- IVR,
- Call centre/ Phone Banking,
- Internet Banking &
- Mobile Banking.

Customers were able to perform all the transactions same like what they do in a physical branch with few limitations as per the bank’s technology policy and capability of the system they use for specific channel.

All these channels are integrated (connected) with the Core Banking Solution (CBS) since they are just the service channel and however the transaction is happening at CBS.

We will discuss about this in detail on a different section below.

**Level-4**

Regarding the Next Generation Banking, Bill Gates has once said “Banking is necessary but banks are not”. The next generation banking should aim to provide customer-centric features, giving users an extremely personalized experience while at the same time providing increased intelligence and automation to help banks sell appropriate products and services to their customers. Sooner you think future; it is true that world is shrinking:

**World = small town**
Changes in demography and how banks reposition themselves to reap the advantages of demographic dividend will be a crucial deciding factor for the success of bank.

This is supposed to be the next generation banking and many researches were being conducted by banks and banking software firms for this, which would be purely mobile banking using the Smart phones available in the mobile phone market.

We are not assuming anything here, what we are publishing here are based on the fact that many banks already published in media about the future banking refer the following video (an example from BNP Paribas):
http://www.youtube.com/watch?v=oYPtBhkn_HU&feature=feedwll&list=WL (or at)
http://www.infusion.com/Case-Study.aspx?ID=231&cat=4&sub=4

We also have a lively banking example, which took the banking already to the next level. DBS Bank in Singapore started launching mobile application in the name of “mBanking”, enabling customers to use their variety of smart phones to initiate and authorise banking transactions same like what they do using internet banking.

Refer the following URL for more real-time information on this new technology:
A detailed demo is also available as below, on how to use this in more than 400 handsets:
Gartner defines a core banking system as a back-end system that processes daily banking transactions, and posts updates to accounts and other financial records. Core banking systems typically include deposit, loan and credit-processing capabilities, with interfaces to general ledger systems and reporting tools. Strategic spending on these systems is based on a combination of service-oriented architecture and supporting technologies that create extensible, agile architectures.

The following are the list of Core Banking Solution (CBS) - Package available in the market globally along with the Provider as per www.inntron.com

<table>
<thead>
<tr>
<th>Package</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alnova Financial Solutions</td>
<td>Accenture / Alnova</td>
</tr>
<tr>
<td>Avaloq Banking System</td>
<td>Avaloq Group</td>
</tr>
<tr>
<td>BankFusion Universal Banking</td>
<td>Misys</td>
</tr>
<tr>
<td>Bankway</td>
<td>Fidelity National Information Services (FIS)</td>
</tr>
<tr>
<td>CFT-Bank</td>
<td>Center of Financial Technologies (CFT)</td>
</tr>
<tr>
<td>Corebank</td>
<td>Fidelity National Information Services (FIS)</td>
</tr>
<tr>
<td>CoreSoftt, SuVikas</td>
<td>VSoft Corporation</td>
</tr>
<tr>
<td>DIGIBANK</td>
<td>Oracle Financial Services Software</td>
</tr>
<tr>
<td>Finacle</td>
<td>Infosys</td>
</tr>
<tr>
<td>FLEXCUBE</td>
<td>Oracle Financial Services Software</td>
</tr>
<tr>
<td>Hogan</td>
<td>Computer Sciences Corporation</td>
</tr>
<tr>
<td>ICBA</td>
<td>Infopro Sdn Bhd</td>
</tr>
<tr>
<td>Insite Banking System</td>
<td>Automated Systems, Inc.</td>
</tr>
<tr>
<td>Lending Solutions</td>
<td>Indus, a business unit of R Systems International Ltd.</td>
</tr>
<tr>
<td>Misys Equation</td>
<td>Misys</td>
</tr>
<tr>
<td>Misys Midas Plus</td>
<td>Misys</td>
</tr>
<tr>
<td>Profile (software) (formerly Sanchez Profile)</td>
<td>Fidelity National Information Services (FIS)</td>
</tr>
<tr>
<td>SAB / SAMIC</td>
<td>SAB</td>
</tr>
<tr>
<td>SAP Banking Services</td>
<td>SAP AG</td>
</tr>
<tr>
<td>SFB / SCB</td>
<td>UNISYS</td>
</tr>
<tr>
<td>Signature (software)</td>
<td>Fiserv</td>
</tr>
<tr>
<td>SwiftCore</td>
<td>Saraswat Infotech Limited</td>
</tr>
<tr>
<td>Systematics</td>
<td>Fidelity National Information Services (FIS) (formerly Systematics, Inc/ Alltel)</td>
</tr>
<tr>
<td>TCS BaNCS</td>
<td>Tata Consultancy Services (TCS)</td>
</tr>
<tr>
<td>TEMENOS T24</td>
<td>Temenos Group</td>
</tr>
</tbody>
</table>

There may also be some more players in the niche markets, which may be missed out here, considering the size of clients and the functionalities covered.
Following is the Ranking of the Core banking solution as on May-2011

<table>
<thead>
<tr>
<th>Rank</th>
<th>Vendor</th>
<th>Product</th>
<th>Last 6 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oracle Financial Services Software (formerly i-flex Solutions)</td>
<td>Flexcube; Microbanker; Finware</td>
<td>1,1,1,1,1,2</td>
</tr>
<tr>
<td>2</td>
<td>TEMENOS</td>
<td>T24; T24 for Microfinance and Community Banking (MCB) formerly eMerge; GLOBUS; TEMENOS CoreBanking (TCB)</td>
<td>3,2,2,2,2,1</td>
</tr>
<tr>
<td>3</td>
<td>Infosys Technologies</td>
<td>Finacle</td>
<td>2,3,3,3,3,3</td>
</tr>
<tr>
<td>4</td>
<td>FIS</td>
<td>Corebank, FIS Alltel Systematics, Sanchez Profile, Horizon ACBS (Advanced Commercial Banking System), Kordoba, ALLprofits, MiSER, BancPac, Metavante</td>
<td>4,4,4,4,4,4</td>
</tr>
<tr>
<td>5</td>
<td>TCS FS - Tata Consultancy Services Financial Solutions - formerly FNS</td>
<td>BaNCS - TCS BaNCS (formerly FNS Bancs - Financial Network Services B@NCS-24)</td>
<td>5,5,5,5,5,5</td>
</tr>
<tr>
<td>6</td>
<td>Misys</td>
<td>BankFusion Universal Banking, Equation, BankFusion Equation, Equation Islamic Banking, Midas Plus, BankFusion Midas (Bankmaster)</td>
<td>6,6,6,6,6</td>
</tr>
<tr>
<td>7</td>
<td>Fiserv</td>
<td>ICBS (International)</td>
<td>Signature by Fiserv, - Fiserv CBS (US); Basys/Metabank; Catapult; Premier; Acumen</td>
</tr>
<tr>
<td>8</td>
<td>Sungard Ambit</td>
<td>Ambit EBS (Enterprise Banking Suite) core banking - Retail banking, Corporate banking (formerly System Access Symbols)</td>
<td>8,8,8,8,8,8</td>
</tr>
<tr>
<td>9</td>
<td>Silverlake Axis</td>
<td>Silverlake - SIBS, Silverlake Integrated Islamic Banking System (SIIBS)</td>
<td>9,11,11,12,12,12</td>
</tr>
<tr>
<td>10</td>
<td>Datapro Inc</td>
<td>Datapro eIBS (e-IBS) CORE</td>
<td>10,10,10,10,11,11</td>
</tr>
</tbody>
</table>

Source: [http://www.intron.com/core_banking.html](http://www.intron.com/core_banking.html)

From the above table, it is evident that there is a stiff competition among the top 3 players Oracle, Temenos & Infosys.

CBS are banking applications on a platform enabling a phased, strategic approach that is intended to allow banks to improve operations, reduce costs, and be prepared for growth. Implementing a modular, component-based enterprise solution facilitates integration with a bank's existing technologies. An overall service-oriented-architecture (SOA) helps banks reduce the risk that can result from manual data entry and out-of-date information, increases management information and review, and avoids the potential disruption to business caused by replacing entire systems.
In fact, during the past decade complexity has increased dramatically, to the point that hidden costs have begun to limit the benefits of economic scale. Banks suffer from significant duplication of process activities across products, which often lead to replicated IT applications and infrastructure. This happens even after process optimization initiatives as these initiatives are often uncoordinated. The result is increased costs associated with people, processes and technologies, as well as limited flexibility. Figure 1 outlines an example of cost breakdown of processing and manufacturing of a European retail bank. Components such as account maintenance and account opening are over 40% of the cost base of processing and manufacturing. In this particular bank, the potential cost reduction of account maintenance was 35% due to the significant level of duplication across different products.

Figure 1 outlines an example of the cost breakdown of processing and manufacturing of a European retail bank where IBM Global Business Services has led a client engagement.

**Progressive Transformation**

The objectives of progressively transforming your operations are to reduce implementation risks, optimize benefits and provide a flexible operating model which can respond to changes in market conditions or business strategy.

Many transformation failures where projected benefits were not realized or costs spiralled are due to large scale multi-year programs which are difficult to manage. In such programs it is often difficult to maintain focus on vision, costs, benefits and end solution. Additionally, the end solution may not be relevant should the business environment change.

Progressive transformation differs from such large scale change programs by breaking down the transformation journey into incremental steps that provide the flexibility to change direction should the business or technology environment change. These sequences of progressive changes drive quick
benefits and collectively lead to a long term vision that provides banks with efficiency and flexibility advantages which are difficult to copy by competitors.

Benefits

The Benefits CBS transformation should be the following, as per the article on “Banking on Change - Technology and operations excellence in the post-financial crisis world” by Price water house coopers.

“The increase in short-term operating expenses and transformation spend should be netted against the long-term benefits of revenue uplift, cost savings, reduction in future costs, and risk reduction as per the picture below”

Consolidation

Another transformation we cannot miss over the decade is the Consolidation; however it is coming under the level CBS. William R. Keeton is a senior economist at the Federal Reserve Bank of Kansas City. James Conner, a research associate at the bank, helped prepare the article. This article is on the bank’s web site at www.kc.frb.org.

While always in a state of flux, the nation’s banking system is now undergoing what is arguably the greatest transformation since the Great Depression. This change has taken three forms. First, banks have merged at an unprecedented pace during the last ten years. Second, banks and other financial companies have begun to offer their services over the Internet. And third, new legislation has opened up the doors to combining banking with other financial services.

While mergers have been going on for a long time, the pace increased significantly in the 1990s (Chart 1). Some mergers took advantage of new laws allowing banks to expand within and across state lines. Other mergers were undertaken to cut costs, although the evidence suggests they failed to achieve that goal more often than not (Berger). Finally, some mergers probably occurred because the participants were afraid of being left behind in what seemed to be the wave of the future.
Merger activity has subsided more recently, and some experts believe the decline is more than just a temporary pause. Some large banking companies have already achieved nationwide coverage, reducing their incentive to acquire more banks. Furthermore, to the extent Internet banking catches on, banking organizations keen on expanding may not have to depend on mergers to get bigger. Finally, some experts argue that acquisitions of small banks will not rebound because the mid-size companies that accounted for most of the small bank acquisitions in the 1980s and 1990s have largely disappeared from the scene. Even if merger activity does not return to previous levels, however, the large numbers of mergers that have already occurred have changed the banking system in important ways.

This is another big story and can be discussed while we deal with the Merger or consolidation, but now the scope is about the Technological Transformation, so let us be content and stop here to discuss more about the Next level.

**Level-3 in detail ALTERNATE DELIVERY CHANNEL:**

As we discussed in the Level-3 Introduction the alternate delivery channel for the banking services are playing a major role in banking transformation.

On 18 February 2011, Dr K C Chakrabarty, Deputy Governor of the Reserve Bank of India, addressed as follows at the Executive Roundtable organised by the Institute for Development and Research in Banking Technology (IDRBT) in collaboration with Union Bank of India.

“The major technological innovation in banking was the ATM over 25 years ago, and up until the early 1990s this was the only customer-facing technology that existed. Following this came the phone
banking, IVR systems, advent of the internet, increasing complex database mining, and remote distribution channels. While banking and retail financial services are generally considered a traditional business area, the fact is that there have been more changes in this sphere in the last 10 to 15 years than in the preceding 100 years. If I had told you 15 years ago that Google would be one of the largest global brands, you would have said “who”? If 5 years ago, I had told you the total number of Facebook users today would be greater than the physical population of about half countries in the world, you would have said “what”? In a similar fashion, it is possible that some enterprising corporate incubator will figure out the customer behaviour secret and construct a purpose-built retail bank that would take off like Twitter globally. We are experiencing an age where the impact of internet and mobile devices have made the rules in managing delivery channels and the mode of reaching customers a “moving target”. How the banks can reach this target would be challenge to be addressed by the banks.

I would pose a question here: What came first in this chicken and egg argument – technology or customer demand for technology? Does technology change customer behaviour or is it customer demand that influences technology in banking. In the earlier days, it used to be said about banking that: “build it and they will come”. However this will not hold well in the present day. Technology should work for the business in its aim to make its products and services relevant and accessible to its customers, instead of a fixed sunk cost that sits heavily on a bank’s P&L account. Technology should also not only be looked as a cost cutting tool but as a value creating opportunity to customers and through this to the organisation.

It is fact that while the telephone took approximately 50 years to reach “critical mass”, television took half of that (25–35 years), PCs about 12–14 years and, the Internet about just seven years. Ultimately now Facebook and Twitter are now being adopted not in years but in months. The lesson learnt here is that as we become more used to technology and innovation, it is taking less time to adopt these technologies into our lives, and this further encourages innovation and this, increases the impact on business. What I am trying to say here is that banks have less time to react and anticipate the impact of such changes on their business unless they deliver fast.”

There were so many studies in different part of the world, to find out either providing an alternate channel is costly or cheap? You can also google most of the results now!!! Here is an example of a result published in an US magazine that the Average Transaction cost is as follows in the picture:
Branch Banking and Channel Banking is broadly compared as below:

However there is still no answer for the question either customers demand these channels or banks provide these channel services to customer.

**Level-4 in detail NEXT GENERATION BANKING:**

We will discuss this in detail as a separate article since there are so many technologies to be discussed. Simply that will be latest trends on the Alternate Channels, because there is not much of hype or research or requirement on core banking solution except that CBS should be able to integrate all the latest facilities provided to clients using these latest technologies as Alternate channel.

**Reference:**

1. http://www.bis.org/regauth.htm

*** Thanks ***