

Key Challenges and Hazards of Digital Transformation of Financial Services Sector

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Abstract

Purpose: Financial services sector has been one of the oldest modes of business and with technological interventions, today, it presents itself in a digitized form. The focus has been on process automation, organizational flexibility, and customer service. With technology at core, the transformation is varied between the different financial products due to difference in levels of ownership, visionary thought, risk taking ability and understanding of technology amongst its leadership. The aim of this paper is to trace the key challenges faced by the financial services sector while moving from a simple paper-based operation to computerization and finally digitization. The aim is also to identify the challenges that the financial institutions may have faced during this transformation and ascertain reasons for the varying outcomes. It would also be pertinent to understand which segments transformed seamlessly and the impact on the degree of risks for the customers.

Design/methodology/approach: The approach to undertaking this study is based on extensive secondary research. Information will be gathered and examined systematically to develop findings that will aid in future research. Sources of information include white papers, research papers, blogs, and government organization reports.

Findings: This study has shown that legacy institutions have reservations with change and are content with cosmetic treatments to appear digitally transformed. However, this strategy would be detrimental in the long run and newer entrants with products and services that are new age would have gained a stronghold. Digital transformation, like any other change management situation should stem from the leadership. One of the main challenges seen is that digital transformation has become the core objective of the CIO of financial establishments whereas it should be the common responsibility of all levels of the management, right down to the shop floor. There has been a huge migration towards use of digital services by customers fuelling further growth in this sector. Cybercrime is one of the key hazards encountered in the financial services sector.

Research limitations: The Financial Services Sector is vast considering that the product/services available today range from banking, wealth management, mutual funds, insurance, treasury/debt instruments and so much more. The scope of this research was limited to studying the challenges faced while digitizing the Retail banking segment.

Originality/value: This paper provides insights into the challenges faced during the transformation process. While physical transformation took place with the help of developing technologies, the main challenge lay with the people – both practitioners and customers. This paper highlights the need for a holistic change management approach for the outcomes to be valuable.

Keywords: Technology, Platform, Organization Transformation, PaaS, Visionary Leadership, Risk Perception, Cyber-attack, Business Continuity Plan, Artificial Intelligence, Machine Learning

1. Introduction

Digital transformation in the financial sector happened with the re-organization of the finance and accounting function with the aid of technology without making radical changes in the traditional processes albeit streamlining the same and bringing in heightened efficiencies. Simply put, it is seen as the method of transferring finance related information from paper or manual recording system to digital medium. This process was the beginning of digital transformation of Financial Services sector, and it got an unprecedented boost due to the Covid-19 pandemic. The sector has been in the transformation mode since early 2000. Some companies chose to accelerate the process by banking deeply on technology and have taken their businesses to a different level. While many orthodox companies, especially those controlled by governments have had an uphill task (Farris, 2020).

Analog records or hard copies have always been a statutory requirement since the industrial revolution, however uncontrolled and unorganised hoarding of duplicate records was only occupying warehouse space. During times of need and analysis none of these would be available or relevant. With time, machines and digital practices became an integral part of documentation process. Archiving as a digital process became popular, and most organizations started integrating paper records into digital documents (*Ibid*).

The Financial services sector being a diverse set of businesses has had varied digital transformation successes. However, customer expectation of a simple and trustworthy process that can provide immediate support anytime of the day has to a large extent, propelled the digital transformation. This paper has been prepared with the purpose to examine the financial services sector – which includes Banking, Wealth Management, Mutual Funds, Insurance, Stock Market, Treasury/Debt Instruments, Tax/Audit Consulting, and various business services aligned to the sector; and to study its digital transformation over the years, especially during the last decade to understand if these transformations have been rewarding or not. The aim is also to identify the challenges that the financial institutions may have faced during this transformation and ascertain reasons for the varying outcomes. It would also be pertinent to understand which segments transformed seamlessly and the impact on the degree of risks for the customers.

2. Digital Transformation & Financial Services Sector

2.1. Digital transformation

Digital transformation essentially uses technology to create or enhance processes, products, experiences for employees, stakeholders, and customers. It is also inherently a “People transformation” process. The ability and enthusiasm of a company’s talent to embrace and use technology for delivering better business results is the key to Digital transformation (Kotter International, 2022).

What started in the late 1990s because of computerization across all industries is currently seen as the adoption of technology in every sphere of work and life. It has transformed the way employees engage with each other, their customers, statutory bodies, and the society at large. It is a disruption which allows companies to get rid of archaic practices, challenge the status quo, examine uncertainties, and create a new future (Farris, 2020).

Businesses which have been able to complete the digital transformation journey have a few salient common features. Their working style is collaborative with all employees focussed on a common objective. Their business services are cloud based which makes them economical and agile. Most of such businesses have a mobile rendered engagement application as a large

part of web traffic is mobile based. Their process of innovation, improvement, customer experience enhancement and better use of data is continuous and ever evolving. This has resulted in businesses being very transparent, employee friendly, open to cultural and societal changes, highly customer-centric and obsessed with the business goals (Slack Technologies LLC, 2019).

While technology is at the core of digital transformation, a key ingredient is the right talent. Businesses that take this transformative journey require to form a cohesive team having expertise in four major streams namely, technology, data, process, and organizational change management. Technology is the driving force of digital transformation, data is the source of energy, process is the compass, and organizational change capability are the wheels. All these need to perform as a well-oiled machinery that has been assembled by a good leader so that they collectively function as one, seamlessly and efficiently (Davenport and Redman, 2020; Forth et al, 2021).

2.2. *Financial Services Sector*

This sector has evolved over several thousand years. Financial transactions and services which started as barter trades have changed in nature, but the essence remains constant. The economic functions performed by the first modern banks of Renaissance Italy, for instance, still apply today (Freixas and Rochet, 2008)

The Financial Services Sector includes depository institutions, providers of investment products, insurance companies, credit and financing organizations, and the providers of financial utilities and services that support these functions. Financial institutions vary widely in size and presence. This sector provides its customers services such as:

- i. Facilities to deposit funds and make payments to other parties
- ii. Provide credit and liquidity to customers
- iii. Invest funds for both long and short periods
- iv. Transfer financial risks between customers
- v. Provide professional advice
- vi. Undertake financial transactions for a fee

The Financial Services sector is the backbone of any country's economy. Liquidity in the market indicates the strength of the country's economy. The industries depend upon the Financial Services Sector for loans and credit for their day-to-day operations. The Financial Services Sector is estimated to contribute 20% – 25% of the global economy. It is estimated that by the end of 2021, the value of this sector will be approximately \$22.5 trillion with a growth rate of 9.9%, a slight dip due to the corona virus pandemic (ResearchandMarkets, 2021).

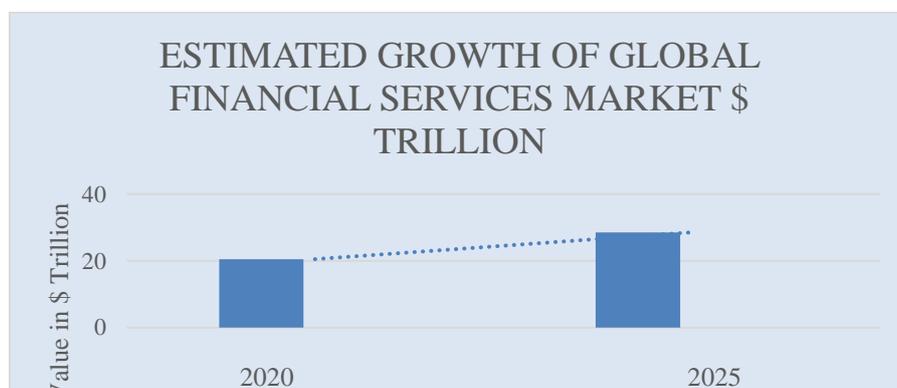


Figure 1: Estimated growth of financial services sector globally (ResearchAndMarkets.com, 2021).

The importance of the Financial Services Sector can't be emphasized enough. The following data from UK is an illustration of the same (Hutton and Shalchi, 2021).

- In 2020, the financial services sector contributed £164.8 billion (\$ 223.09 billion) to the UK economy, 8.6% of total economic output.
- The sector was largest in London, where half of the sector's output was generated.
- In Q1 2021, 1.1 million financial services jobs in the UK, 3.3% of all jobs.
- Exports of UK financial services were worth £62 billion in 2020 and imports were worth £16 billion, resulting in surplus in financial services trade of £46 billion

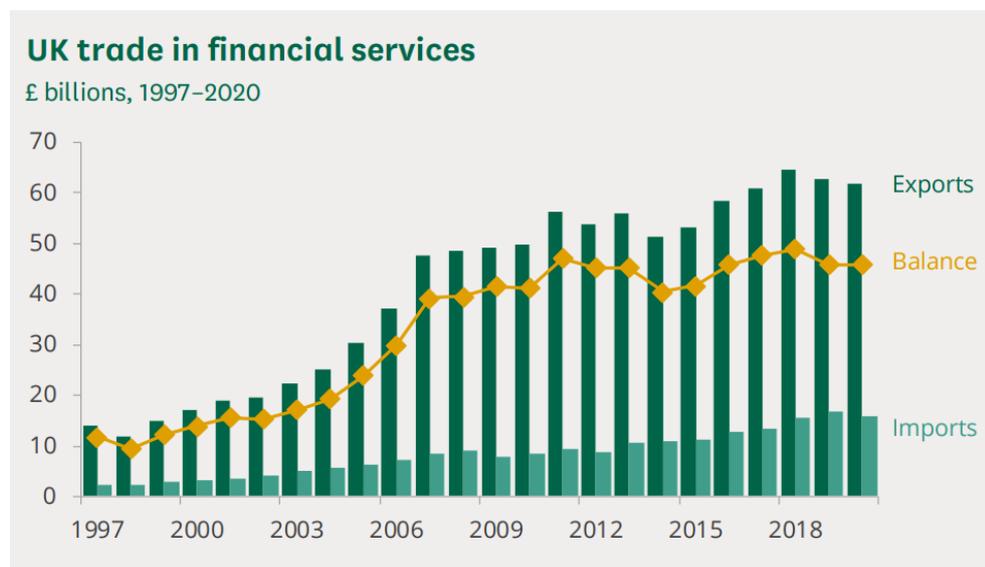


Figure 2: UK Trade in financial services. 1997 to 2020 (Hutton and Shalchi, 2021).

2.3. Digital transformation of financial services sector

This sector has a wide spectrum from Banks and Financial institutions to Insurance to Advisory to Wealth Management etc. One aspect common in all these components of the sector is that they all deal with people, assets, and risks of one kind or another. It is estimated that digital transformation of this sector began in the 1990s. Post the world upheaval after World War II, independence achieved by many formerly colonised countries, development of the third world etc, Banks became an integral part of fund and asset management. Rather than stashing away their gold coins in a safe, more and more people got the confidence to park their money in banks and enthusiastically participated in deposit schemes which would offer interest and allow the idle money to grow (Swamy, 2015). Over the years, this created large amount of funds being available at the disposal of Banks. Soon Banks evolved to larger roles, started managing portfolios, investing in developing sectors, stock market etc. Similarly, lot of financial institutions saw the promise of using data to predict future trends in financial markets. One of the pioneers of digital transformation was Cap Gemini (MIT Center for Digital Business and Capgemini, 2011). A recent development in the Financial Services sector is the introduction of Decentralised Finance or DeFi, a confluence of digital assets, financial services and blockchain technology. In a very short time it has become popular, \$1 billion worth of digital assets in 2019 have gone beyond \$80 billion by May 2021. The key distinguishing characteristic of DeFi is that it operates in a completely decentralized ecosystem encoded in open-source software protocols. The main services provided in the

credit, derivatives, coins, insurance, and asset markets (Wharton, University of Pennsylvania, 2021). Another prevalent digital innovation in the financial sector is the advent of the Central bank Digital currencies, a government initiated digital token of monetary value in the national currency to be transacted as one and exchangeable with the fiat currency. Now it is popular with financial institutions but has immense potential for use in businesses and households as the use of paper currency is on a downward trend (Deloitte, 2021).

3. Challenges faced in the digital transformation journey

Like any other transformation, this was not an easy process. A detailed report by MIT Center for Digital Business and Capgemini Consulting, captioned – “Digital Transformation: A Roadmap for Billion-Dollar Organizations” takes us through many of the challenges in this path.

3.1 *Difficulty in kicking-off the process:*

Inertia is bound to affect any change and since digital transformation is so vast and all-encompassing, it is difficult to get the ball rolling. It is a fact that organisational transformation of any kind must flow from top to bottom with very good alignment at all levels of the hierarchy specially the middle management. However, if the senior executives were not fully convinced of the transformation’s purpose and results and was difficult to move ahead. Some examples of this are:

- Scepticism of the new technology’s efficacy. Senior executives were well versed with their existing business processes and systems. A new technology turning everything upside down and challenging the status-quo was difficult to accept.
- Due to undocumented or unevidenced results, leadership is most likely to take the stance that it is better to be the “first follower” and have a shorter learning curve rather than being a “pioneer” and being fully exposed to all known and unknown risks.
- Senior Management was also closed to the wider window of opportunities offered by the transformation. In most cases due to lack of insight or ignorance.
- Plausible threats to the business due to Digital transformation was also a reason that prompted the leadership to defer the process and not throw their weight behind it.
- Lack of clarity amongst the leadership about regulatory or statutory norms pertaining to the new business model and the risk of taking a hit on the business’ goodwill and reputation amongst stakeholders and society at large if there is an uncontrollable fallout in social media gave the leadership a reason to either not embark on the journey or take it slow.

3.2 *Challenges while executing the actions for the transformation roadmap.*

- Digital transformation needs very specific skills at different stages of the journey. Since the business has been operating in a different way, all along, it was difficult to get a clear grasp of what are the exact skills required. In some cases, it meant a combination of multiple dynamic components. Without a technology leader, an organizational change expert and a business leader all working together, the path surely seemed uphill.
- When a business decides to go ahead with digital transformation, it works on a concept and an overall philosophy of how things are going to be. The transformation from present to future will be through various digital interventions. Technical experts working on these interventions may understand how the technology works but unfortunately do not have inherent understanding of the

business. Hence integration of technical knowledge with shop floor realities can be a huge challenge.

- Since the transformation primarily must cascade from top to bottom, there would be changes that have been cleared off at the board room without much fuss. However, when the situation unravels at the worker level, there could be concerns, doubts and misinformation. There are often situations when the transformation hits a roadblock because the front-line workers feel that this is not in their favour and may result in reduction of jobs or positions becoming redundant
- Digital transformation for a business must be based on a robust technology platform. It should be planned for substantial scalability in transactional volume and modular expansion capability for new business verticals to be added in the future. The way the technology performs, it should be reliable and able to perform with some predictability. However, in many cases, the technology is a stitched-up set of solutions which may be sitting on an existing software which the business had already invested in its earlier years. Probably such solutions are likely to give bad results and prove harmful in the long run.
- Another key aspect is the IT team in the pre-digitization era would be a small department mainly ensuring that the computers worked, the LAN was up, servers were functioning optimally, and the software did not have glitches. They were headed by a middle management leader. In the new scenario the CIO of the business is the person fully immersed in the transformation. He has to have a team of people down the line who are either subject matter experts or are hired from an external entity to do a turnkey task. Businesses often make the mistake of planning this huge transformation without much thought about the capability and domain depth of its IT team.

3.3 Inability of senior management to administer change of such large proportion.

Undoubtedly, a business' digital transformation is like creating a new entity altogether. The only difficulty is that you need to unlearn and undo (to some extent) what you have been doing, and then relearn, reskill, and do everything all over again. Leaders make the mistake of treating this as an exercise which can be done in a cosmetic manner with some changes here and there, a website that looks modern and then continue with what has been the age-old practice. It is essential for the leaders to buy in wholeheartedly to this transformative vision. The task is gigantic and needs all the talent in the organization to pull the right way.

While there could be multiple actions, interventions etc happening in different functional areas – all contributing to the transformation, it is also essential that an overarching structure is created which binds them together and paves the path towards the digital goals and the business' future. Orthodox businesses had a particular purpose of functioning. They created competencies to be good at those purposes and aspired for goals which were similarly aligned. In the new digital era, these boundaries do hold good. A business bank uses its strength to move to retail, an investment fund buys into an e-commerce business, an advisory firm places its bets on the burgeoning infrastructure sector and invests in expressways. This out of the box thinking is essential in the board rooms for businesses to succeed.

With all processes going through an upheaval, the focus is on making the customer's experience as smooth and pleasant as possible, while at the same time ensuring that the employee team is not burdened with repetitive, archaic, and non-challenging tasks. These tasks are to be automated or outsourced with substantial expense optimization. Hence, challenging the status-quo is an essential part of the digital transformation and it is not a pleasant one. People don't want to move out of comfort zone and familiarities. The constant

questioning of the current practices is, however, what makes the new process lean and efficient.

In many cases while changing the customer experience and simplifying processes, the transformation has not been fully carried through. Some bit of the orthodox regulations, fear of government objection etc result in the process incomplete. Here the challenge is that the change has not gone far enough. It has been held back. In the transformation there are a set of old and orthodox objectives, goals, hierarchy, organogram, job-roles, processes and then there is a whole new set with some more. All this change must happen while business is still running. A major challenge are the coordination issues between teams, process changes, and role changes between the traditional and the new (MIT Center for Digital Business and Capgemini Consulting, 2011).

ECONOMIC	BURNING PLATFORM
Traditional capital budgeting processes emphasizing measurable cost or revenue improvements.	"bet the business" investments made in response to rapidly declining performance in the existing businesses.
STRATEGIC FOUNDATION INVESTMENT	LOW-RISK EXPERIMENT
Traditional capital budgeting processes emphasizing measurable cost or revenue improvements.	investments structured with limited size and risk to learn about technologies, customers or potential capabilities

Figure 3: Justification of digital transformation investments (MIT Center for Digital Business and Capgemini Consulting, 2011)

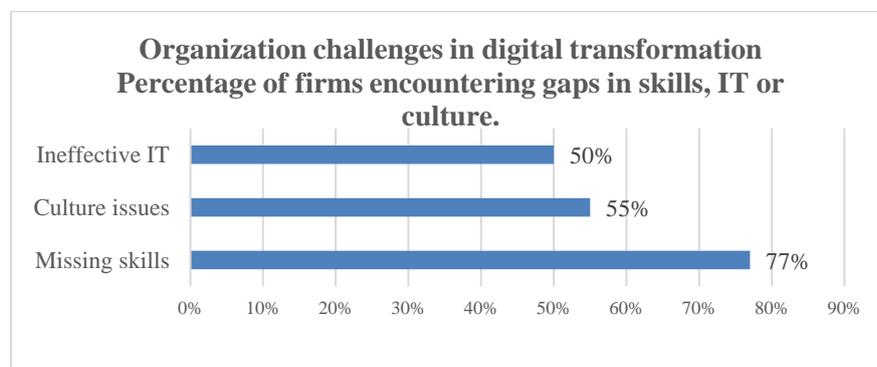


Figure 4: Organization challenges in digital transformation (MIT Center for Digital Business and Capgemini Consulting, 2011)

4. Risks and hazards

While digital transformation has opened many doorways of opportunities, new revenue streams, new business verticals for the financial services sector, it is susceptible to many risks and hazards too. As per a survey of PWC published in January 2022, “The top threat for CEOs in the financial services industry is cyber risks”. It scores much higher than other threats such as Health risks, Macroeconomic volatility, Climate change, Geopolitical conflict & Social inequality (PWC, 2022). The Covid 19 pandemic has compelled several modifications. With retail branches shut, offices decommissioned, the banks had to overnight make changes in the way employees operated and customers could engage with the bank.

This exposed the bank to unplanned resultant of artificial intelligence (AI) actions and integration issues of migration of infrastructure to cloud (Watson and Gennarini, 2021).

On one hand while digital transformation is critical and urgent, the speed of transformation should not be at the expense of resilience provided by a technology solution which is agile, scalable, functional 24/7, prevents cyber-attacks, and protects data. Digital transformation has created situations wherein customers and employees who are highly networked on email communication platforms, social media etc, face the risk of getting themselves exposed to financial crimes like phishing, hacking, spoofing, trojans, unauthorised data access & theft, intellectual property theft, malware insertion and false promotions on behalf of the banks are a few examples of cybercrime. The worrisome part is that there isn't yet any substantial law and order mechanism to fight cybercrime. It is essential for businesses to align with third party apps for various customer experience centric activities. Some of them would be social networking apps as well. A breach through these apps into the business' confidential data or the customer's information is a potent risk (Stone, 2022).

Some related issues include failure of technology causing in disruption or non-availability of services or malfunction of processes. The possibility of data leakage, theft, or misuse. Since all services are not provided by the financial institution themselves, there is dependence on the resilience of third-party applications which are linked to the business' cloud server. There are privacy issues pertaining to improper handling of personal data and information of customers and/or employees. There may be a lapse in the ability of the server to capture evidence of any malpractice which is acceptable under forensic norms in a court of law. There are possible risks associated with non-compliance of any of the regulatory laws, mandates from statutory bodies and other agencies involved. These risks can be better managed by constant upskilling internal tech teams to overcome risks that are linked to cloud computing, predictive analysis, artificial intelligence (AI) and machine learning (ML) (Deloitte, 2018).

5 Findings specific to retail banking business of Financial Services Sector

1. *Change in expectations due to new age apps*

Customers' acceptance of a wide range of new technologies is increasing the pressures for retail banking. Over the last couple of years customers have used e-commerce to such a large extent that the traditional banking experience is no longer a preferred scenario. This has resulted in banks to fast-track and scale digital transformation and customer experience across the touch points. Many banks in this sector are not equipped for this change because of their complex legacy-based IT systems. Due to a narrow approach toward digital transformation, many banks have focussed on small user facing features like mobile apps. However, true digital transformation requires banks to replace their core processing systems progressively with a cloud-native intelligent banking platform designed for seamless scale and digital agility fostering continuous innovation (Kope, 2022).

2. *Key recommendations for a Retail bank to consider for successful digital transformation*

- Developing a backbone of a robust digital banking platform with full-spectrum capability across all channels that a customer uses.
- Have personal finance management features built into the solution.
- Digital transformation is also how the employees transform. This will happen only when they are adequately empowered. A banker should be able to create customized products for their customer with minimum intervention or approval processes.

- Inputs from the bankers is very critical in developing the right interface. Their user experience is of utmost value and cannot be ignored in the development phase.
- Technology platforms should be able to handle product management lifecycle for creation of financial products and personalizing customer's user. In addition, its feedback mechanism should be simple but very focussed and well monitored.
- Banks should explore robust, secure and scalable cloud-based solutions offering PaaS (Platform-as-a-Service) and SaaS (Software-as-a-Service)- in order to reduce the immediate high cost and time required for development (Chitra and Keshavamurthy, 2021)
- In the transformation process, it is important that banks understand the importance of digitalizing their most in-demand products or services. Survey results of mobile app usage permissions have revealed that:
 - Out of Europe's 58 banks surveyed, only 39 % allow customers to take a personal loan using the app.
 - Less than 40% of banks allow customers to apply for a personal loan or purchase home insurance from their app.
 - Less than 30 % of the banks allow customers to start a mortgage loan application or open pension savings accounts from their mobile app (Stardust Testing, 2022)

3. *Profound effect of Covid-19 on the retail banking sector and customer behaviour*

- Usage pattern shift towards online and Mobile Banking as shown in these surveys (Stardust Testing, 2022)
 - 200% increase in registrations for mobile banking in April 2020, and 85% increase in mobile banking traffic – survey by Fidelity National Information Services (FIS).
 - 50% consumers interacted with their bank using a mobile app or website, atleast once a week in 2020, compared to 32% in 2018 – survey by Accenture.
 - Contactless payments have jumped 40 % worldwide, since commencement of the pandemic
 - 50% of people living in the United States began using mobile wallets like Google Pay or other contactless payment methods.

6 Conclusions & Recommendations

Digital transformation is now an accepted fact for all aspects of our life. Technological advances and newer versions are moving away from analogue versions to the digital. In many sectors technology which was in vogue and highly used even a few decades ago is absolute today. We can compare mobile handsets, internet modems, PCs of early 2000 to the contemporary versions and see the vast transformation. It is obvious that the businesses behind these products have also gone through this transformation or wound up or moved away to some other sector. In the automotive sector there has been a vast change in the manufacturing process, engines are optimized through intelligent systems, but the inherent mechanical functioning of the engine remained the same for the last two decades. However, with the advent of hybrid and electrical vehicles the situation is changing rapidly. An electric car's engine has just about 6 moving parts whereas a conventional internal combustion engine has more than a hundred. With this transformation the entire automotive sector is on the cusp of a huge transition.

Financial services sector cannot be insulated from digital transformation. Evolving technologies have been instrumental in the creation of businesses in this sector such as – Advisory, Portfolio Management, Corporate consulting, Risk Management etc. Broadly, the sector can be divided into three parts based on their extent of digital transformation.

- Traditional businesses which are shy of digital transformation. Large orthodox legacy banks are example of this segment. Most have created cosmetic interventions, an attractive website, a few applications which can be accessed by the customer on their mobile app or online. However, their digital transformation is not based on a seamless and robust solution. They have created independent solutions talking to each other sitting on the platform of their original IT infrastructure which is neither agile nor cloud based.
- Businesses which have embraced the transformation and done a good job at it. Commercial banks which moved into retail later are a large part of this segment. Their leadership had the initial vision of operating their business on a robust IT solution. Hence, for them to accept the change was not difficult. They improved or created a new platform and moved into retail solutions riding on solutions which would seem like the earlier instance but much more seamless in their internal functioning. Scalability, predictability, and robustness of their solutions are the key reasons for their ability to carry out the technological transformation. ING, DBS are good examples of this segment.
- New age businesses which have formed in the digital age and are leaders in innovation for the sector. They are the harbingers of digital age to the financial services sector. Some of the top consulting firms of the world like KPMG, EY, Deloitte, Bain & Company, Alvarez & Marsal, Boston Consulting Group, McKinsey & Company are highly successful leaders of the pack. Many of these have been legacy management & corporate consulting businesses to which they added financial consulting in the last few decades.

While the above three segments have been created based on technology, it is important to note that the difference between the shy transformers to the successful transformers is not technology but lack of vision and willingness to anchor the transformation amongst their leadership. They have carried on with their archaic IT platform and are slow pedalling the issue with justification of risk prevention etc, but they have caused more harm to their businesses by doing so. Many such non-transforming institutions are government controlled or nationalized banks with outdated management ethos thus creating an inertia for digital transformation.

After studying multiple reports by business and financial sector leaders, some recommendations proposed are:

- i. Digital transformation is an organizational transformation issue. It must start from top and percolate down with strong support of middle management. Businesses need to address their vision, their leadership, and its commitment of the cause before commencing on this journey.
- ii. Technology is the core of this transformation. Old versions of platforms cannot be retrofitted to this purpose. Investment must be made in a robust, new, agile, cloud native platform but PaaS and SaaS should be considered if budget allocation is a constraint.
- iii. People are critical about any form of change or transformation. Their comfort of use, adapting to new roles, suggestions for improving customer experience should be key part of the transformation and not an optional matter.
- iv. Cosmetic changes, independent mobile apps are not going to be of much value if the inherent core platform is not upgraded. Such short-term solutions need to converge to a full-scale transformation.

- v. IT and HR are two key performers in this transformation. Their role should be central to all actions and not as support functions. In today's world the business CIO and CHRO are fully aligned to all business goals and accordingly taking the organization ahead in their respective functional areas.
- vi. Work towards building a resilient cyber system and infrastructure to overcome a breakdown of services and the impact it would have due to disruption of business activities, non-availability of functions.
- vii. Plan for business continuity, network recovery through a well-planned Crisis Management process.

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