

# Digital Banking: Evaluating Paths for Progressive Transformation

ORACLE WHITE PAPER | SEPTEMBER 2017





*"We view delivery of outstanding client service as a priority, which in today's world needs to be supported by the best technological core banking platform available".*

**CEO, A NEW TRADITIONAL PRIVATE BANK**

*"So let me spell it out very clearly: the days when our bank sought to be the biggest bank in the world - those days are well and truly over. We need to be a smaller, simpler and smarter bank. Our ambition is to be a bank that earns the trust of our customers every day".*

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*"The music industry has been transformed by iTunes, retailing by Amazon, but banking hasn't changed its approach in a long time. The same simple services traditionally offered in branches have just moved online and into apps. Empowered, tech-savvy consumers want and deserve more from their banks – they want easy, intelligent banking, not just mobile versions of paper statements".*

**CEO, A UK-BASED DIGITAL BANKING CORPORATION**



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## Banking in a Digital Age

In an era where digital is invading every aspect of life, it is likely that people will stop perceiving the difference between physical and digital worlds anytime now. Digital pervasiveness is real and happening very fast – from connected cars, internet of things, wearable devices, virtual reality, cognitive computing and a lot more. In 2015, 52.7 percent of the global mobile phone population accessed the internet from their mobile phones and this statistic is set to go up to 61.2 percent by 2018<sup>[1]</sup>. It's a significant shift from a time when many thought it unlikely that anybody will want to have a personal computer at home.

As digital technologies continue to gain ground, it will have a profound impact on banks and how they operate. Banks will have to deal with the customer in a completely new channel created by this physical-digital convergence. In fact there may be no more channels and the customer becomes the only channel for banks to deal with – banks can now stop planning for individual channels and start planning for the customer's journey. Beyond the changing customer, digital has given rise to a new wave of innovations that is slowly transforming the way the banking industry fundamentally operates. New players from the tech world and other industries – startups, tech giants and retailers are offering financial products and services where it is most relevant and convenient to customers.

Banks that were established decades ago were originally designed and setup for a traditional customer. Over the years, bankers managed to fulfill the changing needs of their customers by a piecemeal tweaking of conventional methods. However, in the age of digital disruption, bankers realize that they may no longer be in a position to replicate the same results or be able to establish the same emotional connect with customers with the tools they currently possess. Looking for smarter ways, bankers are going back to the drawing table to rethink strategies around people, data, products, processes, applications, networks and infrastructural needs. Making a strategic shift by embracing digital technologies across all aspects of banking is now recognized as crucial for a bank's success – to enhance customer engagement, improve agility and streamline operations.

But bankers must be careful of not falling into a trap and developing a tunnel vision while planning their digital journey. For example, considering digital as merely a cross over to mobile wallets & payments or just adding another channel for selected offerings. Yes, indeed they are important pieces of a digital transformation strategy but a bank's digital orientation must be based on its unique vision, business model, competition and a meticulous evaluation of its current operations. There is no one size fits all digital approach for banks to implement. For instance, some banks may choose to take a pure play digital route without any physical branches, while others may look at ways in transforming the in-branch activities through an enhanced digital experience.



A bank that has people, data, products and processes optimized by and designed for digital technologies to create a superior customer experience, streamlined operations, lower costs and drive innovation is a digital bank. Digital is powered by cloud, mobile, big data, analytics, social and related technologies – to provide a uniform customer experience, engage as per customer convenience and create an intimate customer engagement. Standout banks are likely to assess every aspect of their business to take full advantage of digital in running the bank – they develop a business strategy with digital integrated from end-to-end rather than setting-up an independent digital strategy.

## Customers are Changing the Game

Digital disruption and generational shifts are causing a few fundamental changes in customer behavior that are rapidly influencing customer expectations from banks. As per a study by Viacom Media <sup>[2]</sup>

- » A third of Millennials believe they will be able to live a bank-free existence in the future <sup>[2]</sup>
- » 53% think their bank does not offer anything different than the other banks <sup>[2]</sup>
- » 73% would be more excited by a banking solution from Google, Amazon, Apple, PayPal, Square than banks <sup>[2]</sup>

Customers are changing and especially the Millennials – who are digitally savvy, hyper-connected, always on and choice conscious. These customers are accustomed to the digital experiences offered by online retailers and expect the same or perhaps a richer experience from the banks. A study showed that traditional banks have lost 16% of their millennial clients in 2015 alone <sup>[3]</sup> highlighting the disconnect between Millennials and these banks. Millennials prefer to partner with banks that are able to relate to their needs and act as trusted advisors capable of providing a meaningful, contextual and personal engagement. They are also prepared to work outside the traditional financial setup when they find that the experiences working with such companies are better. Millennials are embracing digital wallets, bit coins, crowd funding, peer to peer lending, online payment platforms and care less about visiting brick & mortar branches or ATMs. Winning and retaining the loyalty of Millennials is entirely a new ball game where the bar for customer satisfaction raised to a very high level.

Customers are moving quickly and to stay relevant banks will need to create:

- » **Optimal channel Experience** <sup>[4]</sup>: Customers expect convenience when it comes to how and when they choose to engage. Banks must be able to respond and deliver in perhaps the most optimal channel<sup>[4]</sup> that best suits the customer needs
- » **Personalization**: Customers expect banks to understand their life styles and anticipate their needs – whether it is a new mortgage or an education loan for children, they demand personalized recommendations, tailored products & services, immediacy and exceptional experiences. Banks need to deliver a personalized engagement treating the customer as an individual.
- » **Support for mobility**: They expect to make payments the Uber way – as convenient as possible – convenience in completing a transaction while on a metro commuting to office or banking on the go while travelling. In addition to the influence of the mobile phone, this customer behavior and the need for mobility is only set to rise with the onset of internet of things and wearable devices. Banks need to support mobility and 24\*7 servicing.
- » **New age branches for self-service and quick solutions**: The nature of customer service at the branches is changing and transactions services which were the core function of the branch are decreasing. Branches are morphing into self services kiosks and sales centers with technology to connect with customers in more relevant ways.



» **Engagement on social channels:** Customers are also more likely to share their experiences on social channels post an interaction with a bank. Potential customers researching social channels are more likely to read, listen, interact and seek advice socially even before they start any direct engagement. It is important that the banks engage customers on social channels.

## FinTech Momentum

The FinTech industry has been gaining significant momentum over the last couple of years. An estimated FinTech investment of \$7.6 billion <sup>[5]</sup> was made globally in 2015 and further set to rise in 2016, according to Pitchbook – which is an increase from \$4.7 billion <sup>[5]</sup> in 2014 and \$1.3 billion <sup>[5]</sup> in 2013. Currently, an estimated number of 5000 to 6000 <sup>[6]</sup> FinTech startups are operating globally. Acknowledging the rise of FinTechs, banks are looking to boost their investments in technology, while some banks have even begun partnering or investing in them. From being on the fringes, Fintechs will start delivering more functions of banking from savings, investments, money transfers, payments, insurance, lending, and asset management among others.

Consumers have started embracing FinTechs and as per an EY estimate <sup>[7]</sup>, 15.5% of digital consumers surveyed shared that they have tried at least two FinTech products or services. The study identifies a growing trend for FinTech adoption with increasing awareness. Ease of use and convenience for consumers have been identified as the biggest drivers for FinTech growth – particularly, ‘ease of setting up an account’ has been identified as the top reason for FinTech usage. FinTechs clearly are on a major growth trajectory.

With fin techs at the gate, going digital is no longer a matter of choice for a bank. FinTechs will continue to increase their share in the pie gradually eating into the markets, customers and profits that were traditionally meant for banks. As a result, embracing digital becomes necessary for a bank’s very existence. This new age competition will drive banks to shift from traditional processes and systems into a modern bank suitable for the new age digital customer. As per a Goldman Sachs estimate <sup>[8]</sup>, FinTechs may snatch around \$4.7tn in revenue and \$470bn in profit from the traditional players. A McKinsey <sup>[9]</sup> estimate shows that major parts of retail business are at risk – between 10 to 40 percent of revenues and 20 to 60 percent of profits at risk by 2025. The threat of FinTechs today is perhaps greater in the context of banks losing retail and small business customers than corporate customers, where it may currently be limited to services in FX, trade finance and cash management.

In tandem, corporations across industries are also investing heavily on digital, and it is more likely that banks today are less digitally aligned than their clients. A corporate will want its bank to keep pace with their digital savviness and expect them to offer suitable products and services in the most convenient ways. For example, corporations expect banks to offer services through APIs where they are able to manage a number of activities from within their organization reducing the interactions, waiting times and the need for visiting the bank.

## Legacy Systems Impede Growth and Innovation

Most customers are likely to start their purchasing journey digitally, which includes even researching and evaluating products. Banks who suggest products that do not meet what the customers are looking for will not be in a position to either win or retain such informed customers. Nevertheless, many banks today often make the mistake of recommending irrelevant products to customers, and sometimes, customers do end up buying them based on trust, only to later realize that it wasn’t what they wanted, causing them considerable distress. In addition, some banks tend to offer services with bad experiences, or apply a pricing or levy charges that are unnecessarily high acting as spoilers in a customer relationship, eventually driving the customer to switch to a bank with better practices.



Customer expectations have never been higher than what it is today and the question to be asked is – why do banks let this happen? The answer to this perhaps lies on how much the banks really know about their customers. A majority of customer issues can be avoided or be easily dealt with if banks possessed the capability to fully understand their customers. Many banks have ended up building and expanding their product systems over many years, in some cases even decades, leaving the customer information reside and restricted to each of these product systems. An array of such disparate product systems result in keeping the customer information scattered in silos and in multiple formats across the landscape. At the time of setting up these product systems, the bank's focus was on pushing these products to as many customers as possible without a need for understanding the customer as an individual.

Given the requirements of a digital customer, banks need to respond by streamlining operations and adapting for agility. This will require re-designing some of the operations, processes and capabilities at the back-end. For example, a customer has the ability to make a transaction from anywhere and anytime based on the convenience offered by digital. Are banks capable of processing all of customer transactions, make updates across systems and communicate back to the customer in real time or near time, 24/7 with no or hardly any maintenance windows? Do banks have the capability of extending or incorporating services with third parties and adapt to the changing banking eco-system? While some newer banks and FinTechs are able to meet such requirements, older banks need to gain the flexibility at the back end to support a dynamic front end.

Finally, there is a growing pressure for banks to be nimble and able to adapt to the increasing number of regulations posed by regulators especially after the global financial crisis.

### Today's Decision – A Step Toward Success in the Digital Future

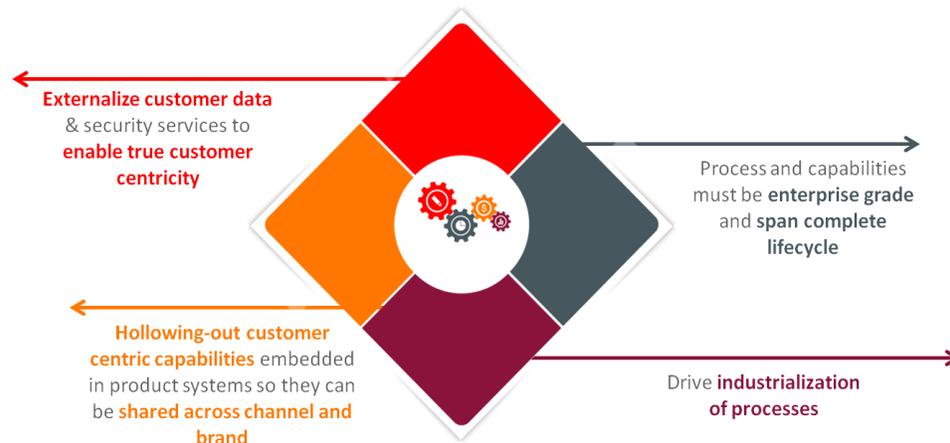
The digital age calls for a new way of banking and decisions that the banking leaders make today from a business and technology perspective will determine their ability to stay competitive. As financial institutions reshape their businesses and operating models to compete, grow, profit and thrive, they must recognize the limitations that their existing business and IT architecture will create.

The decisions on the IT landscape should not only be to cut cost, but should also focus on creating greater technical and business agility. Creating a culture of innovations in banking products and services will be essential to combat the onslaught of digital disruptors and maintain market leadership. Transforming legacy systems and upgrading to new technologies is easier said than done. Banks are risk averse with lengthy proof of concepts and testing cycles are obstacles to modernization plans. Not to mention the complexity, costs involved and high risk of failure. However, operating as they are in the 'age of the customer', banks cannot hold off their decisions on transforming their IT systems any longer.

Banks can build a pathway to enable innovation and agility by focusing on a rationalization and simplification agenda. Modernizing core systems take time but simply adding more capabilities in the channel layer is like merely applying 'lip stick on the pig'. It only creates further complexity in the eco-system impacting the ability to be agile. One way to solve this conundrum is for banks to adopt a 'two-speed' approach that can also be termed as 'Progressive Transformation'– a transformation that allows banks to leverage their existing systems while transforming their business processes and application landscapes.

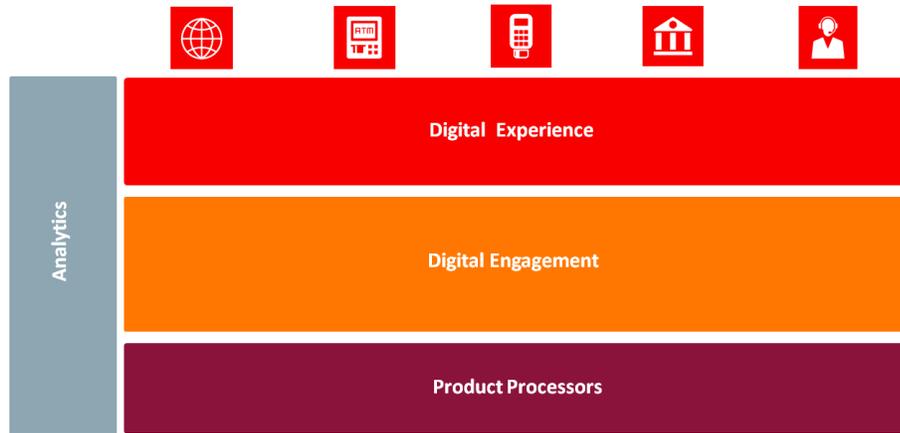
## Key Architectural Principles

Banking industry was an early adopter of IT, which has now resulted in decades-old legacy systems that are complex, inflexible and out of date. These systems were designed with an “inside-out” perspective and now more than 10/20 years on, these banks face the risk of obsolescence forcing them to consider options to modernize their core banking capabilities that support their current and future business strategies. While “rip and replace” is not an option given the high costs and risks involved, Oracle recommends a progressive approach to modernization. In order to embark on the path to progressive transformation, it’s important for banks to focus on 5 key architectural principles.



- » **Externalize all customer data** from transaction and process systems and ensure they are delivered to applications from a central store to enable customer centricity.
- » **Hollow out or abstract** the domain capabilities from the product processors so that these components are managed and shared from a common store – and that product processors are fundamentally thinned out to be just the systems of records or glorified posting ledgers.
- » **Drive industrialization of processes** and create the banking platform on top of these industrial strength processes to simplify and standardize operations and improve efficiencies.
- » **Ensure processes reflect the complete lifecycle of the customer** starting from needs assessment through customer on-boarding and originating bundles to activation, servicing, billing and collections.
- » **Externalize security services** (namely identification, authentication, authorization and entitlements) to organize the processes and capabilities across bank’s staff, customers and third parties to adapt and support differing banking models such as white labelling, multi branding, and broker based selling among others.

## Recomposing the Banking Architecture



Simplifying IT to support a progressive digital transformation calls for tweaking the traditional approach. Oracle's prescribed strategy is to recompose banking architecture striking a balance between innovation and simplification.

Today the product processor is the bank's most significant asset. However, they are product centric with data, business process and capabilities deeply embedded and difficult to get at. Migrating away from these systems is time consuming, risk prone and business benefits are difficult to justify. Banks need the ability to continue to harvest the value of these assets 'prolonging their life' by continuing to use them for what they do well while decoupling the customer centric capabilities from within individual systems to a common layer – Digital Engagement layer. Placed at the centre the digital engagement layer has the core set of capabilities that define what the bank offers to customers, who they are and the banks approach for customer interaction. This layer understands the interactions between customers and the bank and delivers customer intimacy

The digital experience layer is where the decoupled customer centric capabilities reside. The capabilities in this layer allow banks to consolidate data, business processes and logic from core and channel systems into a layer that is agnostic to channel, brand and product. This layer provides the foundation for digital transformation enabling customers, bankers and partners the omni-channel experience they demand. It also provides the opportunity for significant 'cost-savings' through rationalization and simplification leading to productivity benefits.

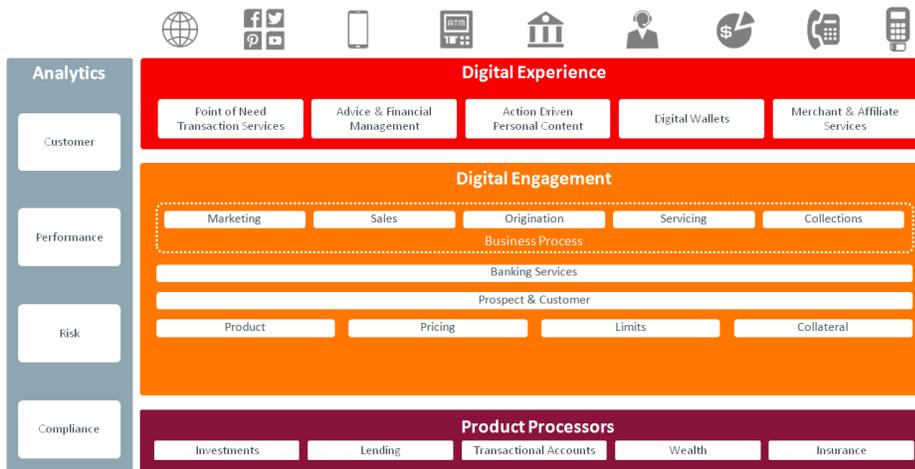
The product processor is the layer with product ledgers to manage the accounts and accounting entries and financials that track the customer's business with the bank. It is only a system of records.

**Analytics:** This layer delivers targeted and actionable customer analysis that enables both customers and bankers make timely, relevant decisions. It allows banks to leverage historical customer information and combined with customers latest digital footprint ensure that relevant and real time offers / advice; pricing based on a customer's risk or profitability profile and more. This insight is proactively shared with them at the right-time at their channel of choice.

All of these capabilities are then surfaced to customers, bankers and partners whenever and where-ever they want via whatever device they choose.

Financial Institutions can thus progressively transform by harvesting customer centric capabilities embedded in these systems and shifting them to an insulation layer to drive customer intimacy. This approach would allow banks to address the both agility and innovation along with simplification and efficiency agendas.

## Moving to a “Customer-In” Architecture



The capabilities in the ‘Digital Engagement’ layer allow banks to consolidate data, business processes and logic from core and channel systems into a layer that is agnostic to channel, brand and product. Digital Experience is now Omni-channel across all users of the ecosystem be it the customer, the banker or a third party. Analytics is no more 360°. It is 720°. It both learns from customer interactions and drives customer interactions

Banks can now re-engineer business process , also rationalize business processes and product offerings across brands to ensure that the bank is standardizing where possible and differentiating based on brand where it make sense to do so.

Done correctly – the ‘Digital Engagement’ layer provides the foundation for transformation, innovation or a simplification agenda and helps drive a Customer In behavior – by knowing the customer, empowering the customer and creating more consistent and ‘wow’ moments in the engagement. This also minimizes the risk and disruption to business and reduces the bank’s dependence on a rigid and aging core. All the capabilities in the ‘Digital Engagement’ layer become truly channel agnostic and brand aware. Banks can have multiple brands within an entity and multiple entities within an instance, which tremendously reduces the total cost of ownership.

Each capability is a “Master Data Management” in itself. Which means that it’s the single source of truth, and all of the other capabilities are essentially recognizing that, and using that as a single and golden source of information, be it related to Customer, Product, Pricing, Limits, Collaterals, all of the Services as well as the Processes. Every capability in the ‘Digital Engagement’ layer leverages analytical information to drive actionable insight. The capabilities can be deployed completely stand-alone and can co-exist with the Bank’s existing ecosystem, enabling a true progressive transformation.

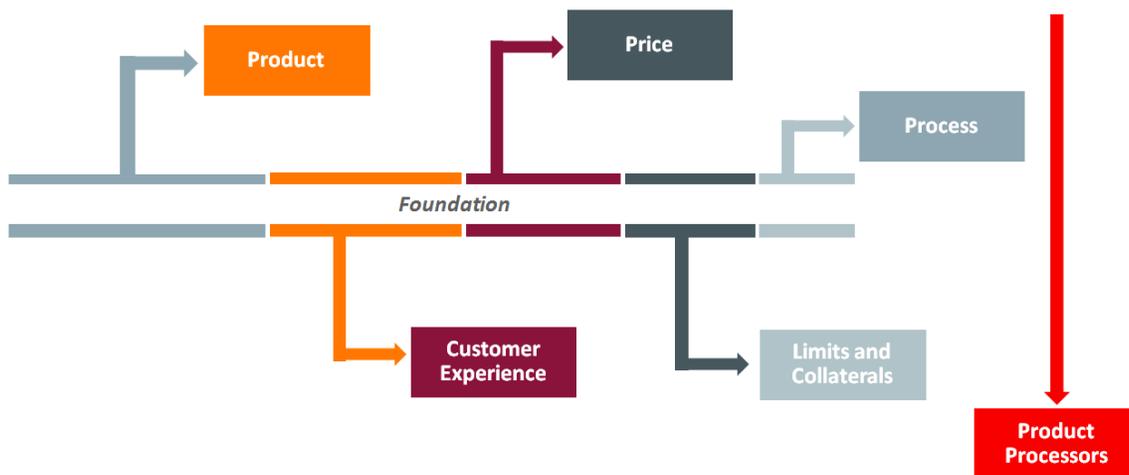
## Paths to Digital Proficiency

Financial institutions are increasingly approaching the digital transformation journey with a progressive transformation strategy. For most financial institutions, understanding the target end-state is not the challenge. Deciding where to begin the modernization journey is a far more difficult decision. While there isn't one right answer, there is ample evidence to suggest that an ideal transformation journey can either be Process-led or Component-led. So where and when would you begin your transformation journey?

Banks need to determine the various paths to transformation based on business priorities and risk appetite. They must also examine the complexities and rewards of various starting blocks in a progressive modernization program.

Modernizing aging infrastructure, with each of the 'new core' components deployed to either standalone or co-exist with the current eco system and leveraging enterprise services to externalize common capabilities allows banks to de-risk their programs.

**Componentized transformation** allows banks to take one component at a time and bring it into the existing IT landscape – progressively moving into the new and simplified architecture. Packaged components can be pulled together seamlessly and brought in to the enterprise in five different dimensions.



When pulling together each of these components, a singular tier of business services will help integrate existing applications and the future assets in the architecture.

The question for banks is to determine which one to go for first? Should banks start with process transformation? Or should banks go for product innovation? Or should they go for price innovation?

While there isn't one solution that fits for all financial institutions – judgments should be based on an evaluation of the bank's existing state – in the context of where a bank is in its journey. Simply put, the bank should factor in three things – rewards of the particular initiative, the risks and drawbacks before embarking on a transformation.



## Process Transformation

During a process transformation, banks may attempt to streamline activities by taking one process at a time that is linked to one product at a time. The recommended approach is to maintain a singular set of streamlined processes that are linked to a set of products at one singular place. For example, consider a scenario where a customer applies for a mortgage and when he is just about 10 steps down the application process; he receives yet another call from the same bank— offering him a loan of similar type. While at that point the only phone call the customer expected to receive from the bank was from a loan officer to validate his mortgage application. It shows that the new seller had no idea that the customer was already halfway down a complete origination process for a similar product. A process transformation must address such instances of customer friction. This can be achieved only when banks stop viewing, in this case, origination as a standalone processes linked to just that one product. Similarly, there may be banks today with five different DDA product processors linked to five different business processes. The process transformation recommendation here is to convert this into one single DDA origination process and as just one customer onboarding process. When starting a process transformation, in this case an origination process, banks must take into account commonalities that reside across, say for example a loan and a deposit. While on a loan origination process, the bank can originate a deposit along with it, or while on a deposit origination process, a bank can originate a credit card along with it. A bank can truly take advantage of a number of permutations and combinations arising from the process transformation.

Oracle has observed enormous value when Origination is chosen as the starting point of the transformation journey.

### Complexities involved in a process transformation:

Consider the above example – a customer applies for a loan through a mobile app. He also applies for a deposit together with a credit card through the website. He then visits a branch with the fund required for the deposit. Later that day, he makes a call to the call center to find out the status of his application across products. In order to respond instantly to the customer's query, the call center professional will need a single view on the status of all applications. Generating a single view is a challenge if different processes are tied to different channels. In such a scenario, it adds complexity to processes when the customer interacts through multiple touch points. Disconnected channels complicate processes which require invoking multiple applications and / or personnel in the back office or middle office – like for evaluating a credit risk.

Further complexity arises from customer information originating separately and tied to different products. Customer information from multiple sources must be verified, consolidated and then linked across the product portfolio without creating any customer information silos. Furthermore, the bank should ensure consistency in product information which is shared across all customer touch points. For a process transformation to be successful, it must not create any kind of negative impact on customer experience nor risks.

### Downside – What banks stand to lose by not transforming the processes?

When processes are not simplified, it creates longer turnaround times from start to finish because of certain activities which do not add any value. Process complexities with data and information silos create poor co-ordination and errors which will only grow over time. This increases the number of WIP (Work in Process) items resulting in slower process throughputs. Siloed processes do not support customer stickiness and enables only poor or below average customer service causing customer switching – to more agile banks and FinTechs.



## Upside

Process transformation when done right will eventually lead to enhanced customer experience because of outcomes in the form of better products, services and pricing. It will also lead to significant cost savings because of uniformed customer view, increased flexibility and faster turnaround times. Oracle's observation of resulting cost savings is about 30% when processes are at an enterprise level. With better co-ordination between channels, people and products, paper work is reduced, the amount of rework is reduced, and the number of people and activities involved in the front, middle and back office processes can be streamlined. Centers of excellence around Know Your Customer (KYC) could be setup. Further benefits like increased speed to market, reduction in client onboarding cycle time, faster throughput rates, straight throughput processing, etc can be achieved.

## Customer experience transformation

The second possible area of transformation is Customer Experience. Over time, most banks are likely to have developed a variety of customer experience transformations at some level. Historically, banks have aimed to design the best iPhone app or an Android app or the best website relative to other banks. The question is how good is that comparison? Why are the banks even attempting a comparison with other banks? Banks need to take a closer look at the level of convenience which they offer versus that of a retailer or an e-retailer – perhaps with what is offered by an Amazon or an AirBnB. Banks must evaluate what they offer as an experience - how many steps does it take for a customer to book a hotel room versus getting a bank account? Customers are currently living such experiences outside the banking realm and their expectation from banks for a similar level of convenience is completely natural. For example, take the case of a remote deposit capture – a customer is allowed to take a picture and upload it for processing; but it is usually not that simple, when it comes to the rest of the documents. Do banking processes allow for simple and easy customer experiences such as clicking a picture of required documents and uploading them using a mobile device? Would the banks not accept it? Customer expectations do not arise from another bank but it comes from another website – say Facebook or twitter. They expect the same level of convenience as taking a picture and posting it on Facebook right away, or having a personalized user interface. As banks start pulling together some of the basic aspects, the recommendation is that it should become the stepping stones for the next level of customer experience - from improving the screen layout or optimizing a set of steps to aggregating information and drawing deep customer insight – including utilizing the vast amount of unstructured data from social feeds.

## Complexities involved in a customer experience transformation

The percentage of customers who interact with the bank through mobile, social and online channels is on the rise. Structural complexity of banks is a challenge for channel integration which is essential in a mobile and online world. Transfer of information between channels, communication between personnel in different functional roles, eliminating data and information silos, data consistency, capturing the customer needs and behavior from the customer's journey in real time become more challenging for a bank with complex divisional structure as compared to a simple bank. These are crucial elements in building exceptional customer experience.

## Downside – What banks stand to lose by not transforming customer experience?

When a bank offers one price over the phone and a different one at the branch for the same product, it diminishes customer experience. Unsatisfactory customer experiences result in poor relationships which in turn lowers conversion rates, customer loyalty, brand image and profitability. Banks do not want to lose customers at a time when customer acquisition costs are increasing. Also, selling additional products to existing customers do not get



any easier when an increasing number of new players in the market are offering far superior customer experiences. Banks who cannot meet customer expectations will have higher customer attrition rates.

## **Upside**

Customer Experience transformation can help banks to offer customer convenience across channels. Banks can potentially go beyond understanding of customers' current needs to understanding of customers' future requirements based on a deeper insight gained from a customers' lifecycle. Banks can also move from following an approach of hard selling / pricing to a customer needs based selling and relationship based pricing. Getting involved in the customer journey will have a significant impact on customer acquisition, retention and cross selling. Availability of 24\*7 banking across most channels increases the percentage of customer self service reducing the number of calls to the call center. Improved customer experience leaves a positive impact on the brand image.

## **Product Innovation**

The third possible area of transformation is Product Innovation.

The heads of compliance or risk often have to deal with the question – how many products does the bank have? Most banks do not consider this question to be as simple as it sounds. For instance, Oracle has observed that banks in various geographies reportedly carry around 300 to 500 products – only in their retail banking division. This is an average number aggregated from many mid size banks, and one can safely assume that the large scale complex financial institutions carry a greater number of products. There are two major reasons as to why banks have managed to pile up such a big list. Firstly, every time they changed the price, they added a new product. The recommendation here is to disaggregate price and product. Secondly, every time there was a variation to a product – it became another new product on their list for the customer. They failed to differentiate between offers made to the customer versus products from the bank. For example, consider a term deposit which has two variants – one variant which has a credit card linked to it and a second variant which does not. Banks tend to consider these as two different products. A number of 500 is a result of the two reasons stated above. The recommendation here is to rationalize the products into bundles. When product variants are brought together it simply becomes a bundle. In most cases it is because of their banking architectures that have made them come together to be counted as products. The recommendation is to build an asset where banks can standardize product offerings, simplify them, unify them and have it all in one place, have a singular view of it – manufacture bundles, manufacture products and bundle them into offers at one place to get tremendous value. It also allows banks move up the value chain – by not only bundling up products and offerings from what is available within the bank's core product processors but also linking it up with 3rd party applications. For example, banks can offer deposits, loans and even perhaps a few investment solutions bundled up – without necessarily managing the product manufacturing or the product processing part of it. The recommendation is to combine this ability with customer insight for a true product innovation. For example, a bank should be able to recognize a customer's location from the digital experience tier – when the customer walks into a BestBuy, and be able to combine location, customer insight – high net worth, and the products to make an innovative offer. That's where the product innovation starts competing with the retail industry.

## **Complexities involved in product innovation**

Product innovation cuts across functions like marketing, sales, risk, finance, etc. to create products by taking into account factors like estimated financial performance, operational risk, credit risk, strategic risk, compliance,



marketing, competition, etc. Therefore the bank must take into account the complexities which arise from this very inter-disciplinary nature of product innovation. When rationalizing a product portfolio, the bank must be careful to create only those product sets which precisely meet the customer needs. Only related products must be bundled while redundant products are removed. The customer must remain at the center of any product portfolio redesign. All product information must be available in a way which is easily understood by the customer.

#### **Downside** – What banks stand to lose by not innovating products?

Multiple products with small differences in features result in a large portfolio, creating complexity for the bank staff and confusion in the minds of customers. It affects the performance of products in the marketplace and adds difficulty in monitoring the performance. A large number of products could lead to selling the wrong products, poor customer service, difficulty in managing data and hidden costs. Banks lose out on the opportunity of complementing great customer experience with relevant products. In most cases with large portfolios, majority of revenues are derived only from a small percentage of products. The remaining products either generate little or no revenue with some also adding losses reducing the profitability too.

#### **Upside**

Greater focus with a smaller and relevant product portfolio which suit customer needs will increase revenue and profitability. Lower the product complexity, better it supports straight through processing, compliance, risk reduction, channels integration and coordination between front - middle - back offices. Simpler portfolio and easy to understand product information contribute to easy migration to digital channels; simplify customer journeys and operation across channels – increasing operational efficiency and customer satisfaction. It also supports faster rollout of products as per the market dynamics, increases relevance to millennials, and customization as per geographical and demographic needs.

#### **Pricing Differentiation**

Price innovation and differentiation is essential for banks to remain relevant in a world of lowest possible margins and where costs are high – especially in terms of IT expenditure. Banks can utilize customer information, package it with a clear understanding of the market, and start innovating with pricing by applying relationship based rules – not only for customer onboarding but throughout the lifecycle. For example, a home loan together with a deposit, and a credit card offered to a customer at the beginning of 2014, no longer requires a credit card in 2016. Does the bank even recognize that such an event has happened? Is there a change to pricing because the product is now unbundled? Was it a bundle or a product? If it was a bundle and if the bank can unbundle it and get some feedback – that's the sweet spot. Pricing differentiation can be achieved by pricing it for relationship, bundling it up, unbundling when one part of the bundle goes out making it rules based and driving innovation by allowing for flexibility in pricing based on a number of data points around the customer relationship.

#### **Complexities involved in pricing differentiation**

Computation of product pricing is usually based on a number of aspects like net interest spread, target profits, operating expenditure estimates, funding cost (deposit side), return on deposits (lending side), cost associated with risks, market conditions, treasury rate, loss estimates, etc. However, customer information is a critical factor when it



comes to creating an advantage through price differentiation. The challenge for banks lies in integrating relevant and timely customer information to the already complex equation of price computation. The real complexity is in integrating real time customer information from external sources with that from within the application landscape for use in price computation. Further, the pricing information must be passed on to the customer consistently across all channels in near real time. In addition, there can be divisional differences within the bank which can result in disconnected or compartmentalized pricing structures that should be dealt with.

**Downside** – What banks stand to lose by not offering differentiated pricing?

Without differentiated pricing, banks tend to keep prices lower than market prices for all customers, say for loans which will increase credit risks. Banks will lose out on opportunities to deepen customer relationships. Newer banks and FinTechs, by virtue of smaller sizes, greater agility and better customer insight are able to meet customer expectations with differentiated pricing. The effective fees and rates offered by them is an important reason why customers tend to choose FinTechs over traditional banks.

**Upside**

A unified customer view created for differentiated pricing will also increase visibility across business functions including lending side and deposit side of business. This generates more insight to banks, especially on associated risks which are necessary in calculation of funds transfer pricing. With differentiated pricing, banks gain the ability to lower prices on products without affecting profit margins, increase fee revenue via true relationship pricing, consolidate pricing rules across all customer segments and develop an event based pricing strategy.

**Limits & Collateral Management**

The risk management part of the business – expense management, exposure management and cost management play an important role for the bottom line of the bank. Oracle solution rises to the top of the banking IT landscape and manages the limits real-time. For example, a bank offers somebody a loan against equity, and the value of equity shifts everyday as decided by the market. The bank decides to apply a good margin and gives out only 50% of current equity value. However, over time the equity rates shift and there is a change in valuation. It is the same with homes or other collateral that banks have. The recommendation is that banks build the ability to manage risks real-time – through real time information, real time limits management and real time collateral tracking. Banks need to develop the capability to react appropriately and manage exposure to every time there is change in valuation to the collateral. From the above example, banks can now say that 50% is not sacrosanct and a different pricing can be applied based on real-time information and not from a monthly report.

**Complexities involved in limits and collateral management**

In addition to creating a central view of the asset inventory, it will be challenging for banks to implement real time monitoring of market price changes, interest rates, forex rates, etc – to use them for a real time valuation of collateral and subsequent action like margin calls. It is a further challenge to bring together both aspects i.e. establishing real time collateral management and compliance to regulations / adherence to legal and accounting standards. Like all other transformations, success will depend on removing data / information silos – a common theme for accurate data to drive accurate decisions. Both risks (operational, etc) and market uncertainty will contribute to complexity.

## **Downside** – What banks stand to lose by not transforming Limits & Collateral management?

Banks cannot gain a holistic view on collateral exposure because of an inability to read early warnings of associated risks which in turn affects its ability to do more secure lending.

## **Upside**

Multi-currency, multi-dimensional credit limit structures enables online real-time tracking of exposures. Better risk management because of valuation of collateral is closer to real time as compared to being evaluated on a monthly basis. Enterprise wide view of the exposure across countries, applications, products and facilities improves efficiency and supports real time management.

## **The Merits of a Digitally Enabled Bank**

A transformation of any scale will require investments in technology, significant updates to banking processes and substantial efforts for a flawless implementation. Generally, banks can expect several tangible and intangible benefits but they can broadly be grouped under two categories – customer experience and operational excellence. Digital is a strategic imperative for banks to unlock customer value, reduce costs, reduce risks, increase integration and improve efficiency. Not all digital journeys are the same but usually all digital scenarios exhibit a pattern of benefits, and measuring the return on investment should be on planned time frames considering tech disruption is a constant phenomenon.

### **Customer Experience**

As banks build capabilities to leverage the wealth of customer information residing from both within their systems and from external sources, they will be in a position to provide a rich and rewarding customer experience. Unified customer view coupled with analytics, can help banks build a dynamic product strategy capable of creating a big impact in the form customer wins and retention – because of improved targeting and increased visibility for cross-selling opportunities. Besides, it also allows a bank to build a relationship based pricing, build compliance for KYC requirements and improve risk assessment capabilities among other benefits like:

- » **Customer stickiness:** A strategic shift from being product centric to being customer centric will improve customer stickiness and loyalty. A digital customer journey and customer loyalty is increasingly found to be closely related. A seamless integration for the customer journey across touch points – branches, IVRs, web, mobile, and social enabling a seamless experience will improve customer engagement levels, an indication of whether the customer is likely to remain with the bank. Unlike face to face interactions where a stronger emotional connect is established, a badly designed digital customer journey runs a higher risk of the customer abandoning the bank. It is important to integrate disparate systems for a cohesive experience. The attention span of the digital user is shorter and if lost even for just about a few seconds because of an impediment in their journey, chances are that they will exit that journey. Leveraging big data and analytics to understand the customer journey behavior and preferences will enhance customer engagement and in effect build stronger relationships.
- » **Instant Gratification:** Banks can capture and add value at each customer interaction allowing them to focus on individuals and not as customer segments. Relevant products and services that are personalized can be offered to customers quickly in convenient ways. 24/7 anytime, anywhere, branch-free banking services and self administration through an intuitive and easy to use graphical user interface must be available to customers. Transactions need to complete with just about one or two clicks and instant updates can be shared about interest rates or confirmations about deposit or withdrawal transactions through email and mobile phones. For example, instant gratification is when customers are able to open an online account in just about 5 minutes.
- » **Access to the younger demographic:** Banks can align closely and build loyalty with the younger generation by engaging actively on social and mobile mediums. The percentage of a tech savvy young workforce who take the



time to visit a branch is low and especially during business hours when they prefer transacting over the mobile. Jibun Bank has observed that mobile transaction volumes peak before morning office hours, at noon, after work in the evening, and at mid night – outside the traditional banking hours. As Millennials have been at the forefront in embracing digital, their decision on choosing a banking partner is also based on how digital savvy the bank is in its customer interactions. Banking activities of Millennials are not restricted to just making digital transactions, and they expect the bank to understand them and engage with them both contextually and personally along their digital journeys. Merely addressing a customer by name may not be enough and does not necessarily result in a relevant engagement. Banks must be fully aware of all interactions a customer has with the bank together with a picture of customer activities outside the bank where possible – for example on social media, to understand their preferences, behavior and interests.

Jibun Bank<sup>[10]</sup> of Japan, for example, was one of the pioneers in building a digital bank for a hugely digital savvy Japanese consumer base. Jibun built a virtual bank offering customers the ability to execute customer services digitally including account opening, account transfers, ordinary and timed saving deposits, and foreign exchange (forex). The bank was able to establish:

- » Instantaneous communication to 100% of the customers – whether on interest rate updates or transaction details
- » Customer convenience – for example, customers can set alerts on a target rate of exchange for timing the opening of a foreign exchange account
- » Customer insights and superior marketing – enable better targeting with relevant offers – for example, women preferred fixed interest rates on savings while men preferred floating rates. Campaigns could be designed for women with higher fixed rates.
- » Superior customer experience – allow customers set target for savings and then track progress. An attractive GUI even allows an interesting icon to be display the purpose of the savings account.
- » Enhanced security – where customers can pre-define the withdrawal limits and additional authentication requirements for more than pre-set limits
- » Simplified account opening process – a customer can simply share a picture of the driving license to initiate the process
- » Secure, scalable and flexible core – that allows a high level of automation and anytime / anywhere functionality

### Operational Excellence

A design based on service oriented architecture allows banks to adapt to changing requirements, get the most out of legacy investments, and allows for a phased transformation. In parallel to the digitizing process that improves operational efficiencies, deploying cloud based services and storage can drastically boost the agility quotient of a bank while reducing costs. Overall, building a digitally enhanced platform, processes and systems will reduce administrative costs, improve performance, create transparency, lower risks and improve security. Benefits derived from digitization can generate a business impact that will include:

- » **Cost to income ratio:** This is a critical metric that has a direct impact on profitability, and digital helps in keeping a tab on cost-to-income ratio while growing the business. A few pure play digital banks have been able to maintain a cost-to-income ratio estimated to be around 30 percent or lower<sup>[11]</sup>, and traditional banks have an estimated cost-to-income ratio around 50 percent or more<sup>[11]</sup>. As per a BCG study<sup>[12]</sup>, banks that accelerated their digital strategy were able to achieve a cost per customer level that is 29 percent lower than the benchmark median. Cost-to-income ratio is directly linked to two other metrics which is cost-per-customer and income-per-customer.
- » **Income per customer:** Maximizing 'per customer revenue' is a critical factor for banks and digital helps in developing a customer centric approach. Greater customer centricity is achieved through an enhanced ability to listen, understand, engage and target the customer. Banks can tailor make products as per fast changing customer needs in real time improving sales conversion and customer acquisition rates. Building a single view of all customer interactions helps the bank create a foundation for valuable customer insights. Stronger customer



relationships result in increased cross-sell and up-sell opportunities for relevant products and services. This increased customer focus will drive growth and profitability. As per the same BCG study<sup>[12]</sup>, income per customer was 17 percent above the median resulting from digital.

- » **Cost per customer:** Digitally enabled banks can lower administration costs, scale banking operations and accommodate growth in customer numbers and accounts without impacting customer service quality or the range of products offered. As per JPMorgan Chase<sup>[13]</sup>, average cost of depositing through tellers is \$0.65, through ATMs \$0.08 and through mobile is \$0.03. Improved data management and analytics provide banks with increased business intelligence for decision support that reduces cost per customer. For example, it can reduce on-boarding time, forewarn about bad debts, improve collection efficiency and even increase CASA balances. Banks with significant global footprint benefit from streamlined operations and standardized processes.
- » **Income per employee:** Managing huge volumes is drastically simplified through digitization. Replacing manual, paper based transactions with straight-through processing means faster processing of fees, commissions, collections and other operations. Per-employee capacity to manage customers and processes increase resulting in rationalization of branches, lower manpower requirement, lower operational costs and capex reduction.
- » **Productivity:** Collaboration through digital improves workforce planning, sales force effectiveness and performance management. It eliminates inefficiencies by removing slow paper based process increasing productivity. Information on existing customers can be reused automatically requiring minimal efforts from the client reps thus reducing the time of client on-boarding for a new product. As a result, sellers can concentrate on selling rather than on administrative tasks like handling applications, data entry, and corrections. It streamlines back-office reconciliations, reduces branch workloads like handling of cash/cheques as a result of automated customer transactions and reduces processing times. Banks can focus business resources on innovation while operating at peak efficiency, with systems that are readily available, secure and up-to-date.

Saxo Payments established, Saxo Payments Banking Marketplace <sup>[14]</sup> that allows its members who are primarily FinTech businesses to make cross border payments. They were successfully able to:

- » Deliver superior service and enable low cost transfers – members can make international transfers swiftly and at very low costs
- » Create flexibility and scalability required to support FinTechs
- » Foster innovation – by the ability to dedicate more business resources on what matters than focusing on running the infrastructure
- » Operate at peak efficiency and reduce operational risks while responding to the changing regulatory requirements

## The Road Ahead

### Shifting from Information Technology to Business Technology

Business Technology is an approach where bankers take more of a customer-in view which drives their strategy on technology, systems and business processes. The primary objective of business technology is about winning and retaining customers, whereas traditional Information Technology was essentially an approach that focused internally on operations. This difference in perspective and approach where technology is more closely tied to customer needs and business growth can help banks better adapt and adjust at greater speeds to uncertainties, complexities and pressures arising out of the changing ways of the digital customer. This shift to business technology will create a more balanced approach to driving higher growth and lowering operational costs as compared to information technology. A business technology approach further drives innovation and intra business collaboration necessary for an enhanced customer experience.

### Building a Stable, Agile and Responsive Back-End

Building a responsive back-end is essential to meet the demands arising from the digital customer. This is indeed the biggest element that can determine the success of a digital transformation. It involves significant digitization of the back-end eliminating physical and manual interventions – either fully automated enabling straight through processing or partially automated. The effort spent by the workforce on back office duties can be realigned on



customer focused activities. Banks can leverage the potential of cloud and its capabilities to improve agility and scalability, by shifting non critical functions, non sensitive information to cloud based services or take advantage of private clouds in case of sensitive core business functions. A number of deployment options are available for banks to take advantage of and benefit to create a business impact.

### Embracing the Emerging Digital Ways

- » **APIs:** ‘Application Programming Interfaces’ (APIs) allow developers to build supporting applications without a need for them to know more than what has been exposed as services. By building and running a structured API program, the bank can build a community of developers from within the bank, partners and third parties focused on the bank’s platform across the business areas in which they serve. Broadly, APIs enable the bank to develop, build and thrive in a strong ecosystem that will bring in new customers and businesses. By embracing APIs, banks can expect to gain market share, reduce costs, foster innovation and create an impact on profitability. For example, a bank can use an API to integrate with Facebook enabling customers to transact within the Facebook environment.
- » **Mobile Banking Apps:** Mobile apps allow a customer to carry out most activities without requiring a visit to the branch that includes depositing cheques, transferring funds, making wire transfers, checking account balances, viewing statements, accessing savings & spending reports, reaching out to customer support and paying bills. Mobile alerts allow customers to better manage their funds, avoid unnecessary charges and take more control of their finances. Banks will have to make it as customer friendly as possible with the ability to make transactions in just about one or two clicks. Mobility is at the heart of digital banking and a strong influence in the customer behavior. The number of users who are transacting on mobile apps is growing at a phenomenal rate, surpassing the number who are transacting at branches in many countries.
- » **Digital Payments:**
  - » Customers are increasingly shopping online or through mobile apps, and the digital wallet usage is growing rapidly. It offers great convenience to the customer as it can store preferences, account details and the ability to transact easily from anywhere and at anytime. Accompanied with tools to manage savings and expenditure, it provides greater value as compared to using cash. Partnering with merchants increases the digital wallet value proposition, as they are able to offer better deals customized based on what the customer may be interested. Saxo Payments, Apple, PayPal, Google offer wallet solutions.
  - » Mobile payment providers are offering card processing capability for merchants, small businesses and individuals to accept card payments for a charge. They work through mobile apps connected to card readers via Bluetooth.
  - » Peer-to-Peer lending is allowing people to borrow or lend digitally. They are connected to credit risk agencies, who classify the borrower against a risk rating. What has been a bank’s forte traditionally is now moving out of its purview.
  - » Peer-to-Peer insurance follows a similar pattern where the policy holder is part of a larger peer-to-peer group who are digitally connected. Claims and premiums are handled digitally which is outside of the construct of a traditional financial institution.
  - » Digital disruption in retail banking is greater when compared with corporate banking. However, access to trade finance and peer-to-peer lending has shown that SMEs are catching up. The concept of peer-to-peer lending is also practiced by small and medium businesses.
- » **Analytics:** Building a deep insight for a real-time contextual customer engagement requires dealing with a large amount of external unstructured data in addition to structured data from within the bank. With the costs associated with processing data reducing, drawing insights using analytics for decision making is an increasing trend. There are many areas where analytics can be leveraged that spreads across the functioning of a bank – from using customer data for better targeting, engagement, and improving operational efficiency.

## Conclusion

In conclusion, “Doing Nothing” or “Rip & Replace” are not real options a fundamentally different approach is required, going forward. The new ‘digitized core ‘ can enable business capability with top-line revenue growth through differentiation in distribution and customer “service”; new product capabilities and new market opportunities. Banks can improve business agility by becoming a “leaner, more efficient” business across front, middle & back offices and build scale of operations and world class manufacturing capabilities. Reducing cost & operating risk, technology can be repositioned as an efficient enabler of business strategy.

Using digital as an effective tool in creating a successful bank is an essential strategy today for both traditional and new age banks. FinTechs have raised the bar and banks must innovate to remain relevant. As customers increasingly embrace digital, bankers need to devise a strategy on how to leverage digital in achieving the bigger goals – which is moving close to the customer, driving sales, cutting costs and streamlining operations. There can be more than one approach in embracing digital but an evaluation of individual banking models and processes is necessary to understand the kind of business impact that can be derived, before embarking on a digital transformation. Competition will force banks to embrace digital at a pace that banking industry has not witnessed anytime in the past. Digital will remain a strategic imperative for bankers, to prepare for a future that is changing very fast.

### Sources:

1. <http://www.statista.com/statistics/284202/mobile-phone-internet-user-penetration-worldwide/>
2. [http://www.millennialdisruptionindex.com/wp-content/uploads/2014/02/MDI\\_Final.pdf](http://www.millennialdisruptionindex.com/wp-content/uploads/2014/02/MDI_Final.pdf)
3. <http://info.kickfurther.com/millennials-are-abandoning-traditional-banks>
4. <http://thefinancialbrand.com/55952/2016-top-banking-trends-predictions-forecast-digital-fintech/all/>
5. <http://pitchbook.com/news/articles/2015-in-review-what-we-saw-this-year-in-ma-pe-and-vc>
6. <http://www.forbes.com/sites/falgunidesai/2016/01/04/fintech-startups-face-difficult-market-ahead/#1b44e5753145>
7. <http://www.ey.com/GL/en/Industries/Financial-Services/ey-fintech-adoption-index>
8. <http://www.ft.com/intl/cms/s/0/9df0f2a0-8fa3-11e5-a549-b89a1dfede9b.html#axzz3ywUS9geq>
9. <http://www.mckinseypanorama.com/media/18162/The-fight-for-the-customer-McKinsey-Global-Banking-Annual-Review-2015.pdf>
10. <http://www.oracle.com/us/corporate/profit/features/091609-wireless-143736.html>
11. <http://banknxt.com/47938/online-only-banking/>
12. <https://www.bcgperspectives.com/content/articles/financial-institutions-operational-excellence-retail-banking-2015-digital-banks-human-touch/?chapter=3#chapter3>
13. [http://files.shareholder.com/downloads/ONE/4023029464x0x811337/158F5E24-BBEC-4275-898B-071D4EB12C53/CCB\\_Investor\\_Day\\_2015\\_FINAL.pdf](http://files.shareholder.com/downloads/ONE/4023029464x0x811337/158F5E24-BBEC-4275-898B-071D4EB12C53/CCB_Investor_Day_2015_FINAL.pdf)
14. <https://www.oracle.com/corporate/pressrelease/saxo-payments-flexcube-100115.html>



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