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Design for Digital

REIMAGINING BANKING

By **Banesh Prabhu**

PREAMBLE

In the face of unprecedented digital disruption, banks seek to make transformation an absolute imperative. The quest to remain relevant demands total commitment to reimagination and reinvention.

Digital has disrupted and reshaped every conceivable industry. And while banking too has been disrupted, banks still struggle to find firm footing in this fluid technological age. Unlike travel or shopping or transportation, they have yet to slip into a low-friction groove of progress. This has less to do with adopting new technology than it does with how that tech is leveraged. The battlefield, therefore, is not technology itself, but one of better customer experience.

To remain relevant and desirable in the face of conflicting priorities that this generates, banks will need more than piecemeal, reactive technological application. It calls for an exercise in reimagination. This whitepaper examines the forces that buffet and define priorities in this industry, and attempts to leapfrog this phase of struggle and reimagine banking along eight vital aspects – to not just leverage the digital era, but to prime itself for a post-digital era as well, to make banking truly ***contextual.***

Consider the disruption that these four examples represent. The common theme here is not digital, or even technology. Before we embark on a dissection of digital technology and its implications on banking and FinTech, it is important to establish that disruption is not defined by technology. If Ikea disassembled the conventional dimensions of furniture, Tesla moved the conversation away from fuel efficiency to energy. The iPhone did not so much as fill an existing need as tap into unstated desires. And Uber did away with the concept of ownership from the flowchart of providing services. At the heart of disruption, therefore, is imagination.

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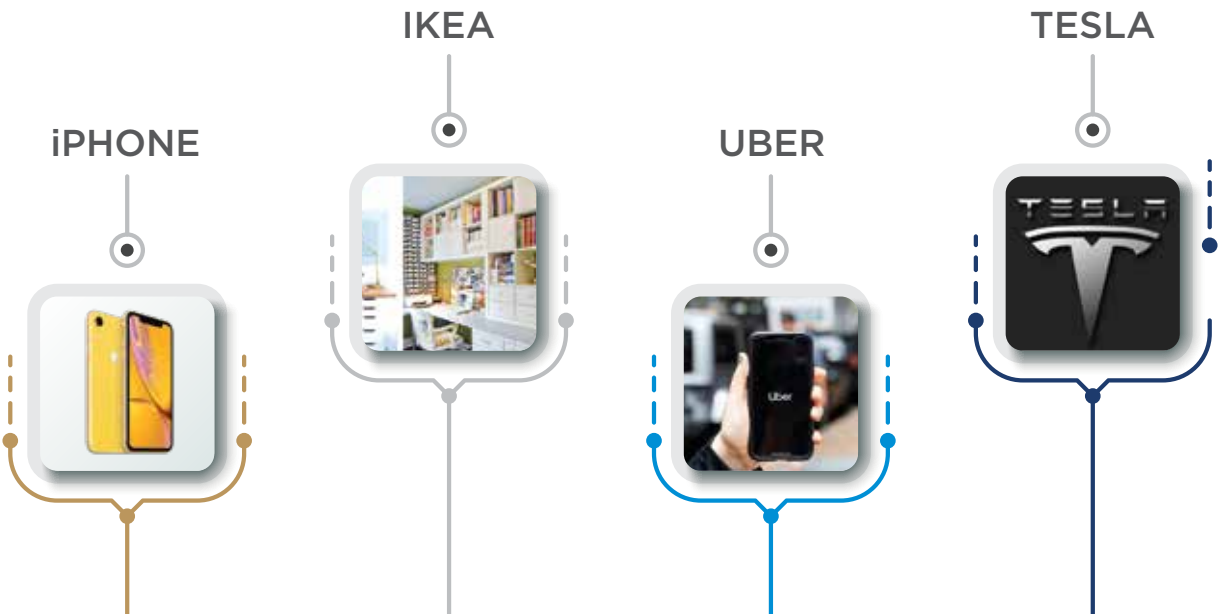
Remember 'travel agent'? Hotels before AirBnB? Shopping before Amazon or cabbing before Uber? It is not just the tech-led way in which these innovations occurred, but the speed and comprehensive nature of the change which make them true disruptions. The bridge between innovation and large-scale adoption was seamless, almost instant. The arrival of the smartphone marked the beginning of an explosion of digital disruption. People fit in and manage more aspects of their lives into a six-inch screen than was ever thought possible. The iPhone emerged as the poster child for this era of digital fulfilment. But there's more, isn't there? One can argue that the bigger 'i'nnovation is the app store, not the phone itself. Similarly, for Uber or AirBnB and other digital aggregators, the true innovation is in being able to tap into other ecosystems, say location services or payment gateways.

At the Heart of Disruption



In the world of banking, there is today an inordinate amount of focus on technology, without the bulwark of a viable architecture that will help them leverage the data and tech at their disposal to the fullest, and inure them from disruption. Let us examine this theory.

Bankers the world over have witnessed the journey of transformation using technology. The arrival of ATMs replacing tellers, the trill of call centres and the ubiquity of the internet displacing branches, and more recently, IVRs replacing agents. And while the mix of all of this change is bringing about enormously interesting opportunity, a host of challenges constantly nip at the heel.

> **Imagination is the source of disruption. Technology makes it feasible, and an ecosystem of connectivity makes it viable as a business.**

This tacit threat is down, of course, to the rise of the nimble FinTechs over the past decade, from the ashes of the financial crash.

In fact, this threat, though far from having materialised, captures the attention of

> **We need banking, but we don't need banks anymore.**
>
> **– Bill Gates**

bankers, almost to the exclusion of everything else. It also misdiagnoses the key challenge that banks face today.

If we riffled through the history of computing even with half an eye, it becomes clear that banks have traditionally been frontrunners in adopting new technology. And at that inflection point when money went electronic, conventional and new financial instruments found their way into the market, each more complex than the last. Technology began to dictate the way business was conducted in financial institutions.

Despite all this, the emergence of FinTechs triggered a game of technological catch up. A game that was rigged against large legacy institutions from the word go. FinTechs themselves did not arrive out of the blue. They are not a cause, but a symptom of a powerful phenomenon characterised by Amazon, Netflix, Google and their ilk – ***a tectonic shift in customer experience.***

> This is a whole new battlefield of which technology is only a part. This is the Experience Battlefield.

What the FinTechs did right was in utilising the technology better than the incumbents ever could. They conversed with their customers, cut through the red tape for them, they were available in full across every device, and they made the customer's life easier and in some cases, even fun.

And on this battlefield, there are new frontiers emerging every day. While each of these fronts can potentially alter a bank's course by itself, it is important to understand them as part of a compendium.

New Frontiers

Open Banking

Has shifted the perspective on who owns customer data. Hint: the customer does. The idea is that with his consent, the bank will now have to share customer data with whoever the customer dictates. This opens up a world of non-proprietary services for the customer. Open Banking is how BigTech firms dip their toe in retail banking, or disrupt a profitable segment of the value chain. In a few markets, like the U.K. for instance, Open Banking is already a regulatory mandate. More will follow suit.

Data and Regulations

While Regulation has always been the rudder of the financial system, the evolving conversation around data has transformed this landscape. To bundle data with regulation is deliberate. Banks wrestle with regulation in this context because they are the largest repositories of customer data, and of a more valuable commodity – customer trust. The challenge now is to use the available data efficiently, particularly vis-à-vis industries like ecommerce, payment systems, telecom, which have raised the bar.

Cloud

The ability to host an Open, API-first architecture on the cloud helps provide services at the right place and at the right time for the customer, and endless possibilities for the bank. Crucially, a cloud-based model lends a level of infrastructural agility which is the real edge when looking to respond to a new business opportunity or service a new segment.

Marketplace

So far, the bank bore the burden of having to be the source of all innovation. Not anymore. Marketplace thinking opens up a two-way street for innovation and makes banking boundary-less. From within, make all verticalised solutions accessible and integrated on a single platform. And from without, take a service from a fintech, connect it to your core platforms and deliver new business models for the customers.

Experiential Banking

It is, if you recall, the experience battlefield. The culmination of the disruptions we have thus far discussed is to make the shift from transaction to experience. To move from providing a mortgage product, to helping the customer get his dream home. The ability to leverage data and identify customer needs, and to get into the marketplace with partners, with new business models, enables integration into the fabric of the customer's lifestyle.

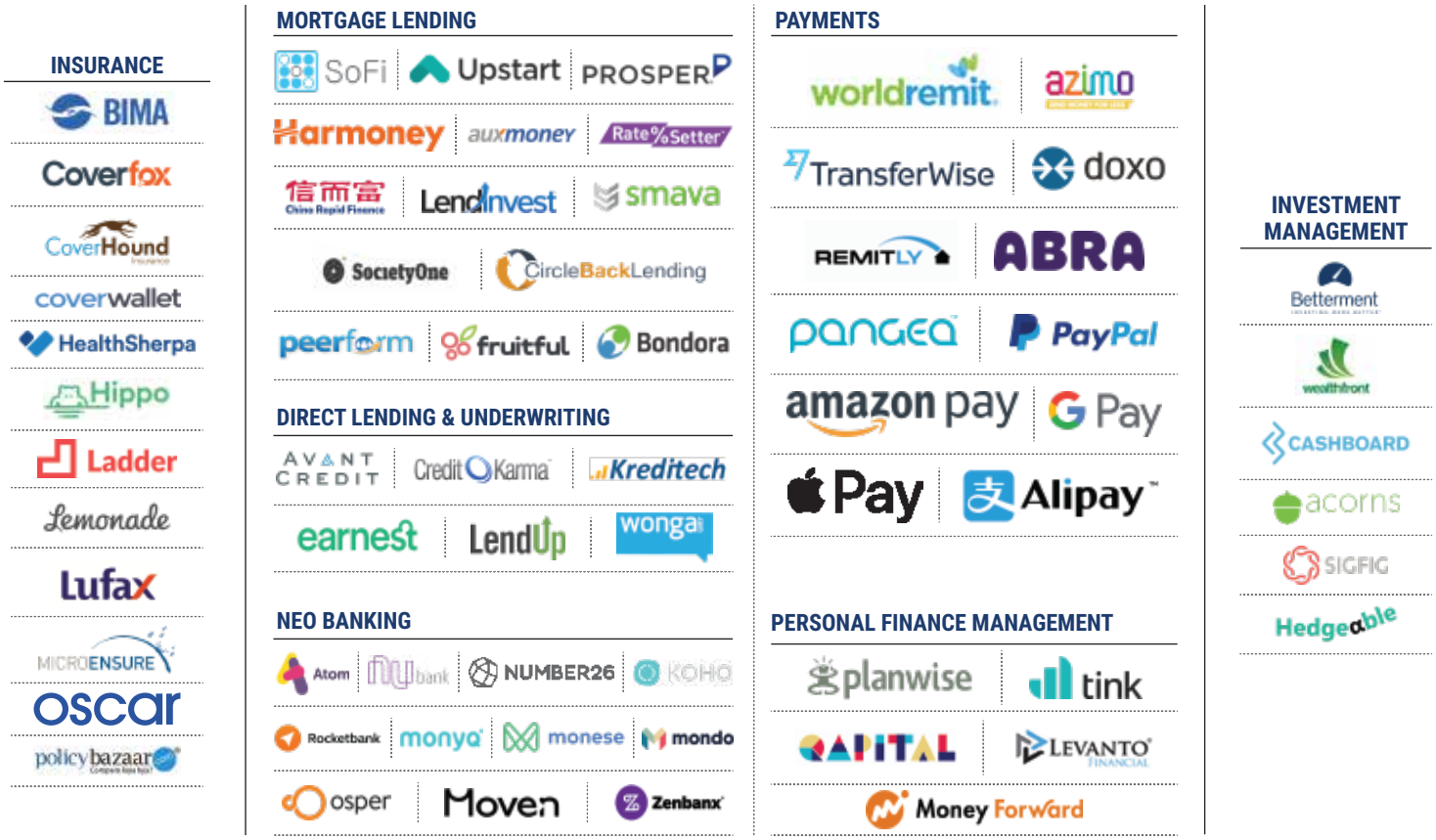
Banking Unbundled

It isn't news at this point that these disruptions are already being leveraged by FinTechs in every aspect of banking and financial services.

One way of looking at this – an arguably pessimistic view – is that banking is under attack. The other perspective, subtly but significantly different, is the now popular view that banking is being unbundled by FinTechs. Here's an illustration of that landscape –

technology to tap into new segments and markets. FinTechs are neither the authors of this technology, nor are they its exclusive owners. They are markers of opportunity, spotlighting avenues that banks, if they so choose, can capture.

We have thus far traced the dynamics of disruption, identified the patterns of change in the industry, and observed the lay of the



While this unbundling is linked almost exclusively to the aftermath of 2007-08 when banks pulled back from several markets, the impact that the emergence of digital technology had on this phenomenon cannot be brushed aside. If we look beyond the panic of disintermediation, what the unbundling exposes is the basket of necessary

experience battlefield. We have established that a purely tech-oriented approach will make for a stunted strategy.

In the following pages, we will explore how banking can be reimagined along eight key aspects.

REIMAGINING BANKING

The banking paradigm accelerates towards an evolution that will see game-changing developments in customer experience, contextual intelligence, efficacy and transparency.

Banking 4.0

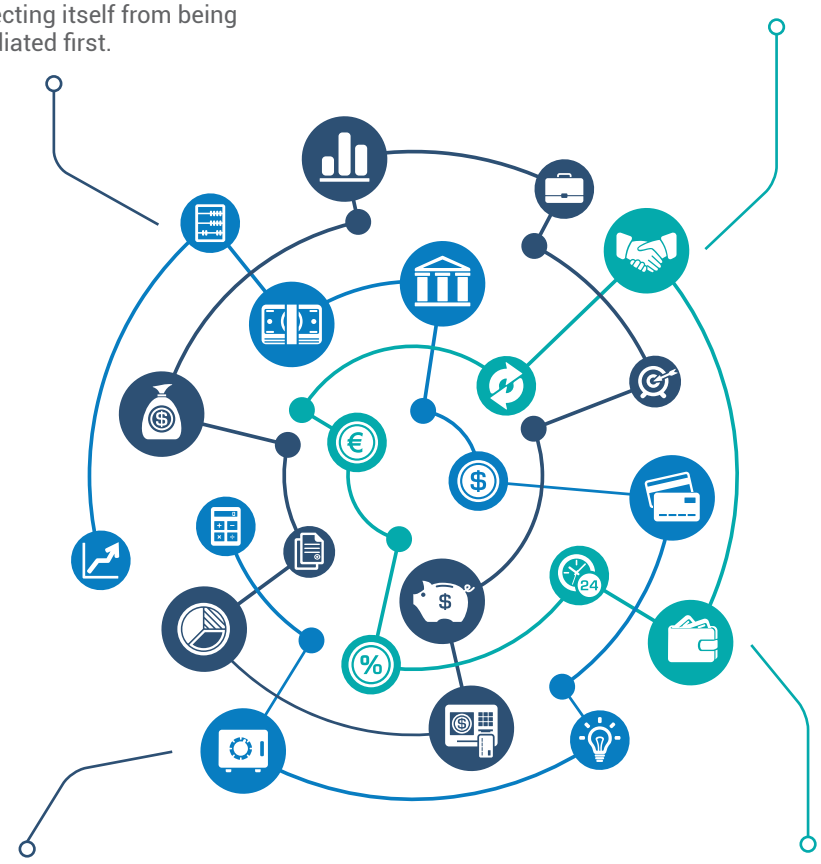
The endgame for banking is clear enough. Reimagining banking will usher in Banking 4.0. characterised by four key capabilities.

Disruption Vs Iteration

Clearly, getting into a technological race, though intuitive, is counter-productive. Iterative technological improvements are a drain on time (implementation cycles), the purse (cost of transformation) and will take a toll in missed opportunities. A recalibration that allows for the bank to effect disruption is key to protecting itself from being disintermediated first.

Addictive Customer Experience

No longer cosmetic, crafting an addictive experience involves an infusion of intelligence into every stage of every customer journey, the ability to integrate with a much larger marketplace of services, and the ability to service new segments rapidly and contextually.



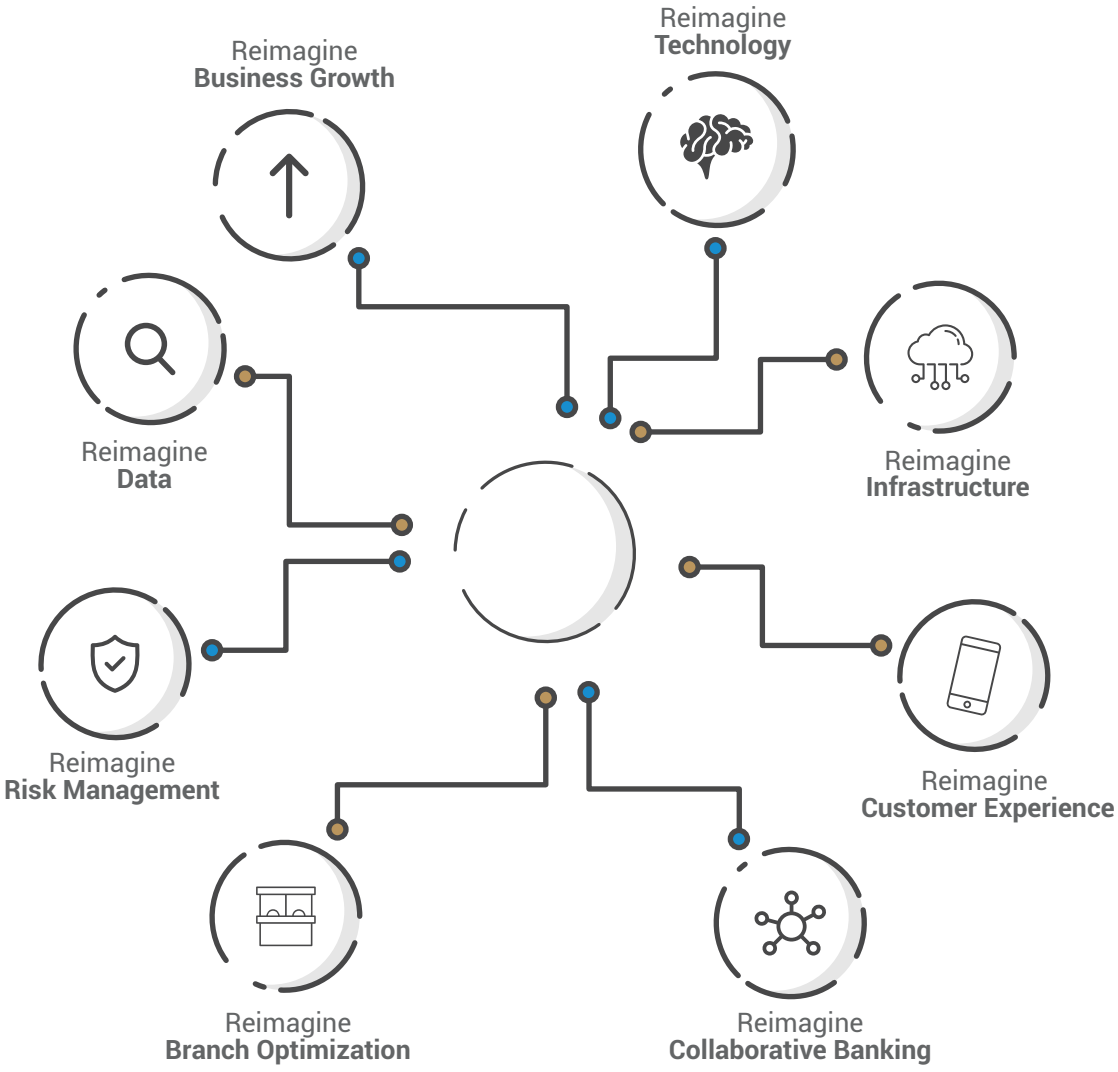
Access to the innovation Marketplace

Banking on proprietary innovation alone is no longer enough. Banks must be able to consume innovation irrespective of where it originates, and must be able to open up their own innovation engine to capture a larger demographic.

Exponential Cost Reduction

With the proximity of tech obsolescence getting closer with every iteration, a firm eye on costs is a must. If new tech contributes to rising costs, new tech must be applied at the infrastructure level to bring it down as well.

The Eight Spheres of Reimagination



A Parenthesis on Complexity

As we begin the exercise of reimagination, it is essential to acknowledge the existing complexity of the banking system. No single solution can be a panacea to all of a bank's ills. It must be assimilated gently, without disregarding the existing legacy system.

Though Banking 4.0 is exciting, it must still run its initial laps on current systems, and must service current customers.

The system is enmeshed in a matrix of multiple generations of platforms, many of which run in parallel.

Customer data, though precious, has still not begun to yield the sort of insight that could potentially transform a business model. It is still not as structured as banks would like it.

Any new technology must be able to talk to the existing Core banking systems, most of which are built on 90s tech with band aid digital.

Technology Must power change

Reimagining technology is an exercise in building for unknown unknowns. This is at once a challenge and an advantage. The challenge is obvious, but the advantage is that it forces thinking in a direction that is agnostic of existing trends. This means that the reimagining must occur not at the level of applied technology, but at the fundamental architectural level. An effective process to arrive at a future-proof architecture is Design Thinking.

The result of the process must make technology agile, scalable and tensile – it must remain robust during the scaling process. This will necessitate the following features. –

1. **Micro-services based, API-First architecture:** A given, if the goal is to do away with monolithic silos and create modular features that can be turned on or off, shuffled, and combined.

2. **In-built Intelligent BOTS, ML:** Any talk of intelligence can be a mouthful, but if applied contextually, it is known to reduce manual processing by up to 64%, for instance in user journeys like cheque processing and Document Verification.

The brand of Design Thinking incubated at 30,000 sqft lab in Intellect Design Arena is exclusive to financial technology.

3. **AI Powered and NLP based Credit Risk Engine:** Again, artificial intelligence not for the sake of it, but applied contextually for a very specific need.

4. **Scalable technology:** Scalability at the architectural level alone can enable progressive modernization in measured steps.

Infrastructure Must be future-proof

Technology that drives digital transformation without interrupting existing services is desirable, but a largely non-existent concept. What is very real, is the risk of slow and disruptive implementation. This risk can be mitigated on two fronts. The first is in designing and putting in place a scalable, tensile tech architecture. And the backbone of such an architecture is of course an equally flexible infrastructure. Conventional infrastructure systems have reached the limits of their capability. We have begun to look skyward, at cloud computing.

However, in the last half a decade since cloud has really been on the up, wiser voices have prevailed and caution against a cloud-exclusive infrastructure. Fortunately, a plethora of hybrid models are available. Whatever the model, it must be able to fulfil all of these criteria.

1. **Elastic Scalability:** That tensile strength we so value in architecture, must be supported by your cloud infrastructure of choice. It provides banks with an alternative growth strategy, and a potentially larger geographical spread.

2. **Superior cost of ownership:** With a 'pay as you use' proposition, you get a 'scale as you grow' model. Economy is an undeniable advantage of cloud infrastructure.

A cloud-based infrastructure has many obvious advantages, but they can be bundled under 'per your need'. Flexibility in configuration, scale, optimisation for price and much more.

3. **Speed and agility:** Cloud architecture drives increased speed and agility and decrease spends on large scale Data Centres. At near-instant response time, the bank must be able to scale up and down its services to optimise, as well as leverage opportunity.

4. **Configure to regional standards:** The high configurability of cloud infrastructure means a bank can meet regional and regulator specific standards across Private, Public or Hybrid Cloud installs.

Customer Experience Must be more than a pretty face

It is an interesting contradiction that despite it being at the centre of what banks want, customer experience is largely confined to the channels alone, to the User Interface. User experience is a deeper science.

This calls for a 360 degree approach to digital, where user the experience is powered by and reflects the operational efficiency of the system. It is by infusing intelligence at every step of every user journey that a bank can demonstrate an understanding, or even an anticipation of, what the customer needs. Here's what this shift would look like –

1. **Frictionless onboarding:** The notoriously high-abandonment journey of onboarding can be made intuitive and smooth by pulling data and features like biometric verification of National ID. Once on board, the ease of experience must carry over into payments and transactions, segment-based pre-approved offers, and so on.

2. **An Intelligent Data Hive:** That processes structured and unstructured data to drive experiential and personalised journeys for a customer. Instead of a monolithic data engine that doles out ticker-tape intelligence, it must power real-time experiences.

A presence across multiple devices is omni-digital. The route to true omni-channel needs a level of wiring that goes to the core (forgive the pun) of banking technology.

3. **Comprehensive User Journeys:** The first shift from a transactional approach is to address the entire user journey, instead of building stand-alone functionality. This is the path to frictionless and Omni Channel experiences. Think digital-only propositions, save-and-resume journeys.

4. **Transactions to conversations:** With Voice and chat assistants, among the most interesting use cases for AI, banks can transition from transactions to conversations in a user journey. Crafting conversations with customers, pre-empting their needs mid-flow, bring fascinating insights for the bank, and a fulfilling journey for the customers.

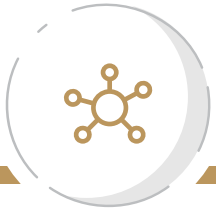
Collaborative Banking Must Keep you Connected, and Ahead

The business viability of a re-imagined architecture and a robust infrastructure are realised when collaboration becomes part of the strategy. The draw of course, is unlimited innovation. Thus far, banks have had to bear the burden of coming up with innovations all by themselves. Not anymore. The unbundling of banking has opened up interesting opportunities for banks to 'consume' innovation. And the onus on openness and connectivity across the board makes this easier than ever before.

And the service – whether personal finance management or micro-lending, payments, underwriting and everything in between, need not be built from scratch or maintained at great cost by the bank. For large institutions, the path of direct acquisition opens up as well, when FinTechs hit a regulatory wall without the wherewithal to surmount it, or hit a plateau in their growth curve. Whatever the case, banks must be able to –

1. **Seamlessly Integrate:** With an ever-growing number of FinTechs, BigTechs which have jumped in to service profitable links in the chain, and third party service providers who lubricate the flow of money and services.

2. **Leverage a digital marketplace:** Connect with Payment , Social Media and ecommerce players on a single platform. This platform model, which BigTechs like Tencent and Alibaba have personified, is not out of banks' reach. The key again is the ability to integrate with entire ecosystems.



With APIs, banks can consume FinTech services and open them up to their large customer base, accrued over decades.

3. **Open Banking and PSD2 Compliance:** At the heart of Open Banking is the data conversation. As we discussed in the introduction, Open Banking has already become a regulatory requirement in markets like the U.K. It will open up entirely new markets to bank, and usher in boundary-less banking.

4. **API Enabled Core Processors:** Easier said than done, if we consider the inherent complexity involved in anything to do with an incumbent core system. Fortunately, the answer need not be a rip-and-replace. Banks might consider a progressive approach with powerful middleware or even a well-endowed, API-led channel solution for starters, to interface with third party aggregators and the digital market place.

Branch Optimisation Must take you where the customer is

The 'Are branches dead?' debate is too old and too expensive to carry on. For one, neither side of the debate is a global solution. And second, taking any one side is tantamount to missing the immense opportunity in the other. The logical next step for brick and mortar is optimisation.

Banks have multiple aspirations, not all of which move in the same direction. For instance, digital banking aspirations might not supplement inclusive banking priorities in the Philippines. A challenger bank proposition might take on an entirely different shape in Tanzania. By optimising them, branches can bolster a 'phygital' presence for the bank.

1. **Delivering the Phygital Experience:** Imagine a new customer in a secluded Filipino village. He is able to onboard himself in minutes thanks to the bank's APIs with the national ID registry, and a skype call integration for face to face verification. He then walks into a branch at his convenience to fund his account, or for a dedicated consultation.

2. **Banking the Unbanked:** With remote branches, kiosks, micro branches and fully equipped tablet banking, the bank could redefine mobile banking for the unbanked into an intimate, effective exercise.

When reimagining branches, it is essential to look at them as part of a user journey, rather than as an exclusive channel for a smattering of services.

3. **Driving Financial Inclusion:** A phygital presence, coupled with a robust tablet banking approach can help banking percolate into the remotest regions. Such simplified banking modules at minimal cost make inclusion not only feasible, but profitable for the banks.

4. **Transactional to Sales and Advisory:** An alternative route to optimising branches is to convert them into exclusive arenas for banking products. Despite the convenience, online channels are pitted with distractions, with little room for personal guidance. Branches could cut through the clutter and potentially offer clarity and personalised service to customers. These services would then be consumed by the customer across all available channels.

Risk Management Must be end to end

No digital environment is truly watertight. The focus on modularised API-based structures also open up multiple attack vectors. Here too, piecemeal solutions that protect specific portions of the architecture will be rendered redundant, because risk itself is a factor of more than technology or data. Customer behaviour, vagaries in business, the flow of data all contribute to and define risk.

Risk management must straddle both decisioning and protection. It must be able to glean patterns and anti-patterns in the system, call out anomalies, and be able to action pre-defined fail-safes across a spectrum of risk – from spotting an unhappy customer journey to pre-empting a black swan. At the very least, such a system should be able to accommodate –

1. **ML powered Credit Risk Analyst:** Quick decisioning on credit risk is at the heart of personalised offers and services. Low spirits caused by a dip in the account balance before a scheduled payment can be offset by an instant, pre-approved loan with an attractive interest rate. Possible, only if the credit risk analysis is ML-powered, instant, and self-learning.

2. **Customer Retention:** The most elusive data stream for the bank is the customer's intent. The use of more advanced statistical models like Adjusted R-Squared can provide accurate insights within a particular segment. This enables more contextual information and offers that will, hopefully, help retain that customer.

The only way in which risk can be managed and mitigated is by setting end-to-end controls on the system.

3. **Reduced Fraud Risk:** By identifying anomalies earlier, we make a shift from a post-facto analysis to active fraud detection instead. These are mechanisms that enable you to score a transaction, and provide security at the customer level. You still allow the transaction to continue, but you allow it with a fraud control mechanism baked in Intelligence.

Data
Must enable quality insights

The endgame of Data is intelligence. The ability to use the raft of available data to gain actionable insights, and to infuse intelligence into a customer journey. To embed intelligence in every aspect of the process, logic would dictate that a bank create a repository of algorithms for each process. Not necessarily. And this is at the heart of reimagining data. Instead of approaching intelligence as a repository of algorithms, banks can infuse intelligence by applying the right set of algorithms in the right ***use cases.***

The idea is to get to a stage where any information a bank displays to a customer – static or dynamic – is qualified with something contextual. A stage where a customer is prompted not post-facto, but right at the outset of a transaction, based on data which the bank already has.

Think Intelligence as a Service. It looks something like this –

1. **Access and Utilization of Data:** The trouble with data is that it does not have a single source or a single destination. It is a stream that changes course and import with every turn. The bank's data engine must be able to process structured data, and also assimilate unstructured data, from social media profiles for instance.

2. **Driving Hyper Personalization:** Powered by AI & ML, there is a lot data can do for customer experience. For instance, a bank can attempt to do more than just facilitate a basic transaction. It can find the purpose of the transaction – either by providing links to a series of possible transactions, or by default take him to the most obvious next step. At the next level, once the journey has begun, the bank can, based on the profile and behavioural history of the customer, pre-empt and suggest. For instance, a list of 'favourite payees' when he chooses fund transfer.

3. **Real Time Insights:** Once the intelligence engine is in place, faster decisioning becomes par for course. We have extrapolated some of the benefits in credit risk assessment and anomaly detection. By enabling customized analytics, insights can power contextual offers and potentially affect a massive reduction in efforts.

In effect, not only does this tie processes tighter together, a smaller set of algorithms are put to work in multiple scenarios, making for a smarter, more agile data system.

Business Must help you leapfrog competition

With a sound architecture, a robust infrastructure, a futuristic data strategy and a firm eye on end-to-end customer experience, profitability and business agility must be a happy by-product. If, that is, there is a concerted reimagining of business goals.

As we established earlier, the path of iteration must give way to nimble disruption. Technology will enable this transition, but reimagining business brings it together and drives it towards greater profitability.

Reimagining business means –

1. **Real-Time Profitability:** At the customer and branch level. Smart digital implementations have led to radical spikes in customer acquisition and engagement. Branch optimisation rationalises cost, while creating new business streams for the bank.

2. **Empowering Role Holders:** An AI-driven intelligence engine, and a fabric of connectivity within the bank's hitherto siloed departments empowers individual role holders within the bank. This triggers greater cross-sell and up-sell opportunities, and can enable role-holders to offer segment based services and relationship pricing.

3. **Business Agility:** One of the most powerful effects of an API-led, modular architecture is business agility. Imagine a comprehensive, fully integrated front-end system that can handle 70% of core load at the channel level. Couple this with product configurators and a pricing engine. The bank is now set to create digital-only product propositions, on the fly.

When you leapfrog competition in the current coordinates, the bank is no longer vying for customer attention with the next hot FinTech, or running a new race for functionality.

4. **Create New Business Models:** With the ability to connect to external ecosystems and third-party service providers, comes the possibility of new business models. The rapidity of creating and deploying these business models is key to capturing new customer demands and pushing the profit curve upward.

5. Get More: A business model wired with technology and backed by efficient operations gets more customers per product, exposes more products per customer, and affects more transactions per customer. More revenue all around.

REALISING DIGITAL ASPIRATIONS

Digital is driving the heart of transformation. Understand the bank's digital aspiration is imperative to kickstart and customise the journey for maximum impact.

The purpose of Reimagining Banking is, of course, to realise the bank's digital aspirations. The exercise on reimagination is not, and cannot, be prescriptive. Unlike static technology that promises a specific outcome for a specific input, Digital can be effective only when it is tailored, not mass produced.

It does help to understand and define aspirations at the outset of the exercise. Aspirations can be defined by a target segment, or even based on the persona of the bank itself.

To define your digital aspirations, to navigate the complexities of your digital transformation and realise a contextual, anti-fragile outcome, join us for a workshop at the 8012 FT Design Center. Get in touch with our experts, to know more.

Whether you want to provide proprietary products like Blackrock, BNY Mellon or AXA do; whether you aspire to be product distributors like RobinHood, Merrill Edge or Fidelity Go; whether you harbour universal bank dreams like Capital One or Citigroup; whether you want to go beyond both and become a platform provider like Baidu, Alibaba and Tencent and integrate into every aspect of the customer's lifestyle; banks at any stage of maturity or evolution could do well to take a breath and sketch their aspirations. However, no matter what the aspiration, putting together a scalable, tensile digital strategy inures a bank from having to choose a very specific path.

About the Author

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The Chief Strategy Advisor at Intellect Design Arena, Banesh Prabhu is a Fintech services veteran and pioneer in Technology & Operations Solutions Management. He has developed and implemented global strategies for executing digital capabilities and servicing of clients. He has managed senior global responsibilities in Operations, Distribution and Technology for over 30 years, of which 23 years were in Citibank, where he was responsible for servicing clients in 55+ international markets. During these years, he pioneered the creation of several global Centres of Excellence for Operations & Technology that included implementing Digital Services.

In his last role, Banesh was a member of the Executive Committee and Head of the Technology & Operations Group for one of Thailand's leading Universal banking groups, Siam Commercial Bank. He has been and is presently an investor in Fintech start-ups, a Board Director, and a Senior Advisor with Boston Consulting Group (BCG).


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