Banking: Stepping into the next decade – Reinvention

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A tidal wave of change is sweeping across the banking industry, transforming it and shaking its core foundations. That wave is called Fin Tech and it is reshaping the world of financial services in general, and banking in particular. The soaring expectations of customers spurred by GAFA (Google, Amazon, Facebook and Apple) and other Big Tech firms seems to have been further whetted by Fin Tech firms, who have quickly stepped into the gap left by traditional firms, and whose drive towards customer centricity and seamless and delightful customer experiences seems to have forced incumbent players to re-assess what products they must offer and how those products must be delivered to each and every customer in a personalized manner.

Fin Tech is a portmanteau of Financial Technology and refers to the innovative use of technology in the design and delivery of financial services and products. Fin Tech mostly refers to the startup firms that spring up every other day and challenge the might of traditional firms like Banks and other legacy financial institutions by offering low-cost, innovative, seamless and personalized products to customers. But, that is not the right way to describe Fin Tech. Fintech is an ecosystem consisting of all the players that are a part of it and are referred to as A's and B's and C's and D's of Fin Tech. The A's are the incumbent players in the financial services industry, like JP Morgan and Citi Bank, while the B's are the Big Tech firms like Google, Apple, Facebook, Amazon and Twitter. The C's are the companies that provide the infrastructure or technology that provides financial services like Visa, MasterCard, Fiserv, First Data and exchanges like NASDAQ etc. The D's are the Disruptors, the startups and the innovative technology firms like Paydiant and Stripe (mobile payments), Lending Club and Prosper (Peer-to-Peer lending), Moven (Retail Banking), Atom Bank (Business Loans), Mint and Personal Capital (Smart Budgeting and Personal Finance) and Lemonade and Celo (Insurance).

What are the technologies and trends that power Fintech?

Open Banking is a financial services concept that refers to the use of APIs (Application Programming Interfaces) that enables third-party service providers to build applications and services around the incumbent financial institutions. APIs are simply third party applications that enable customers to talk to their banks. Open Banking got a new impetus because of pressure from EU regulators with the enactment of the Revised Payment Services Directive (PSD2) which allows Fintech firms to access the database of the incumbent banks and financial services firms. This is akin to a financial earthquake, because customer data was a closely guarded fortress, and that was the ultimate competitive advantage upon which traditional Banks held sway over predators. With Banks forced to provide access to third-party processors (TPPs), the walls are crumbling and the monopoly of banks over customer data will end and the control will shift to the rightful owners- the customers. The open banking initiative has many advantages. It will not only lead to secure data exchange with TPPs but, will also enable them to use another very important

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technology, Artificial Intelligence, to provide services in a more personalized way.

Artificial Intelligence (AI) combines three very important technologies-machine learning, natural language processing and cognitive computing. The purpose of artificial intelligence is to transfer the complex thinking of humans into machines using the algorithms of machine learning and natural language processing, to overcome the barriers of scalability that humans face. Artificial intelligence enables machines to perform computations much faster than humans can ever contemplate. How is AI relevant to banking? There many important applications that can transform banking. First, chatbots are AI based software applications that mimics written or spoken human speech that simulates a conversation with a real human. They are used to solve customer problems before human beings get involved. AI can improve the Bank's customer service exponentially. AI can aggregate all the information about the customer and can tailor the interactions accordingly. Voice recognition and facial recognition could be used instead of passwords or PIN to identify customers. A few banks are using voice powered devices like Amazon Echo, Google Home and Apple's Siri to drive their customer service. Second, AI has the potential to make banks smarter. It can study the mass of data and reveal better customer insights and intelligence and thus, offer better customer experience, which is key to differentiating banks. Suggestions offered to customers can be unique for every customer and timely. The recommendations pop up just when the customer is about to take a decision. Third, AI can be used detect patterns that ferrets out terrorist financing and money laundering activities, including financial fraud. Fourth, invisible robots can carry out investment trades based on algorithms. AI will undoubtedly transform banking in many ways but, the easiest to predict is that AI can cut costs substantially by eliminating almost 50 to 70 percent of the current jobs in banking. AI works best with unstructured customer data-emails, recorded phone conversations, social media interactions, and legal documents. AI manages this data and then applies analytics to glean hidden insights.

The third revolutionary technology that can radically change the face of banking is the Distributed Ledger Technology or DLT as it is known. What is DLT? A distributed ledger is a digital database that is held and updated by each participant in a consensual group. Each participant in the group is called a node (a computer terminal). The heart of the DLT and this seems to be a sore point for banks is that each record is constructed independently and held by each node without the intervention of a central registry or trusted third party. There is no central validating agent. Every single node is responsible for processing every transaction and validating the same. Once there is a consensus, after everyone has validated the transaction, the distributed ledger is updated and each node has a copy. The distributed ledgers are dynamic and engender new kinds of relationships in the digital world. The key technological gain is that the ledger is shared amongst parties that may not trust one another. The crux of DLT is how it sidesteps the trusted intermediary (the banks) and completely avoids the cost of trust. DLT is a more robust and consensual trusted system. A distributed ledger, thus, increases the speed of transactions and reduces their complexity because no third party is required to validate the transactions. It enhances data accuracy and transparency because, all changes are consensual and no single node can alter the data. DLT is highly resilient because there is no central database and hence, no single point of attack. Privacy and safe storage can be handled with technologies such as asymmetric encryption, asymmetric authentication and hashing. Block chain is one version of distributed ledgers and used mainly in distributing cryptocurrencies.

DLT dealt a body blow to banks because, it completely negates the role of banks as trusted third parties. It is to their credit that not only have banks

accepted this radical change but, have moved away from the custodianship of databases to leveraging the enormous benefits of extracting value from databases. So, how can Banks leverage DLT? Banks have preferred to use private, permissioned, DLT, through which reading rights and writing permission are given to those who have been pre-approved. This can be used by banks to give writing permissions to fellow banks and viewing rights to select customers. The banking industry can use DLT for efficient and cheaper KYC (Know-your-customer process), faster cross-border payments and improved detection of money-laundering and financial frauds. Ripple net, is a block chain network that enables seamless cross-border payments and has signed up about 100 clients, some of which are big names like Standard Chartered Bank, Santander, Unicredit and UBS. Ripple net is a competitor to SWIFT. Bank Chain, an Indian Block chain consortium has launched a new KYC system, Clear chain that facilitates sharing of KYC data of customers amongst network participants. Other areas that can use DLT, are, clearing and settlement of securities transaction on the bourses; the Australian Securities Exchange has decided to shift its securities clearing and settlement to a block chain system. Trade Finance is another area which is tailor-made for restructuring through DLT. The same set of information, bill of lading, letters of credit, commercial invoices and insurance policies need to be accessed by different parties and block chain is the obvious solution. The difficulty in block chaining trade finance is that in order to be reap its benefits, the entire ecosystem has to be on boarded- the shipping companies, the freight forwarders, other transporters, insurance companies, inspection agents, ports and customs. Block chain trade first, if you want to block chain trade finance. That would be a remarkable effort, truly a game changer, if it succeeds.

However, DLT is yet to become mainstream because of some unresolved issues. Since, Distributed ledgers are cross-border, how will they be regulated? Do they need to be audited? What happens if there is dispute? These questions are unresolved but they are not insurmountable.

A fourth technology, the Internet of Things (IOT) has the capacity to revolutionize banking in myriad ways. Gartner predicts that by 2020, there will be 25 billion connected devices and this shows how machine connectivity can be a powerful force that alters societal behavior. Machine-to-machine connectivity can help banks to gather data about customers and offer an enriched, contextual and personalized experience. It will be possible for Banks to identify a customer through IOT and Artificial Intelligence, the moment a customer enters the branch and anticipate his requirements. IOT can also help banks to track assets financed by the bank. However, IOT can pose major security risks, including privacy issues for banks and this has to be managed.

Will banking and banks survive the onslaught of Fin Tech?

First, let us understand the unique position of the Bank in the financial markets. Banks have existed for so many years, uncontested but, we need to understand why that moat might be breached. The primary model of banking is based on three very important principles- Intermediation, Fractional Banking and Credit Creation. Banks primarily issue liabilities in the form of checking accounts and fixed deposits and then originate non-marketable assets in the form of loans. Since, the liabilities are highly liquid and may be withdrawn by depositors, it is possible that the Bank might face a liquidity crisis. Banks have been able to manage this liquidity risk because they have the unique advantage of information asymmetry or insider information about borrowers. They are able to predict future outlays of funds and likelihood of satisfying those outflows because of insider information from borrowers.

Can the capabilities of deposit taking and lending be duplicated? Many Fin Techs and others like Mutual

Funds already offer deposit and transactional facilities and there is no bar on lending by non-banks. Also with requirement of greater disclosures by corporates, insider information is no longer a competitive advantage for Banks. What if non-banks offer deposit-taking and loaning services simultaneously? Can they replicate banks? The answer is not yet!!

One of the biggest competitive advantage Banks have is the facility of credit creation or creation of money. Credit creation is possible because banks are "not" subject to "client money rules". According to client money rules, non-banks are required by statute to segregate customer deposits from their own monies and deposit customers monies with a bank or an approved institution in segregated accounts. Banks are not subject to client money rules. This is what enables them to create money and tide over liquidity mismatches by using one depositor's funds to pay another departing depositor. Non-banks are not able to do that. Can this unique advantage be lost?

Central Banks are already experimenting with the issue of digital money by using block chain technology. It should be possible for Central Banks to, then, take over responsibility for all transaction accounts and allow transactions using Distributed Ledger Technology. All Current and Savings Accounts (CASA), may then migrate from commercial banks to Central Bank. Banks will then have to abide by client money rules and bid for deposits like other non-banks. Hence, perhaps in the next decade, Banks will lose the ability to create money and that will end Banking as we know it. Banks will then become just another financial services firm.

Banking and Banks as we know them, will never be the same again. There may be no bank branches, no tellers, no cheques, no ATMs and perhaps no current and savings accounts and no credit cards. But, surely people will still need to save money, take loans and perhaps make payments? How will it all change? Banks today, are in the same position as stage coach companies of the 1860s. It was possible to correctly predict then, that the market for transportation and travel would rise by leaps and bounds; but it would have been grossly erroneous to predict such a growth in stage coaches. Banking and Financial services will grow exponentially but will banks survive? That will depend upon how banks reinvent themselves?

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