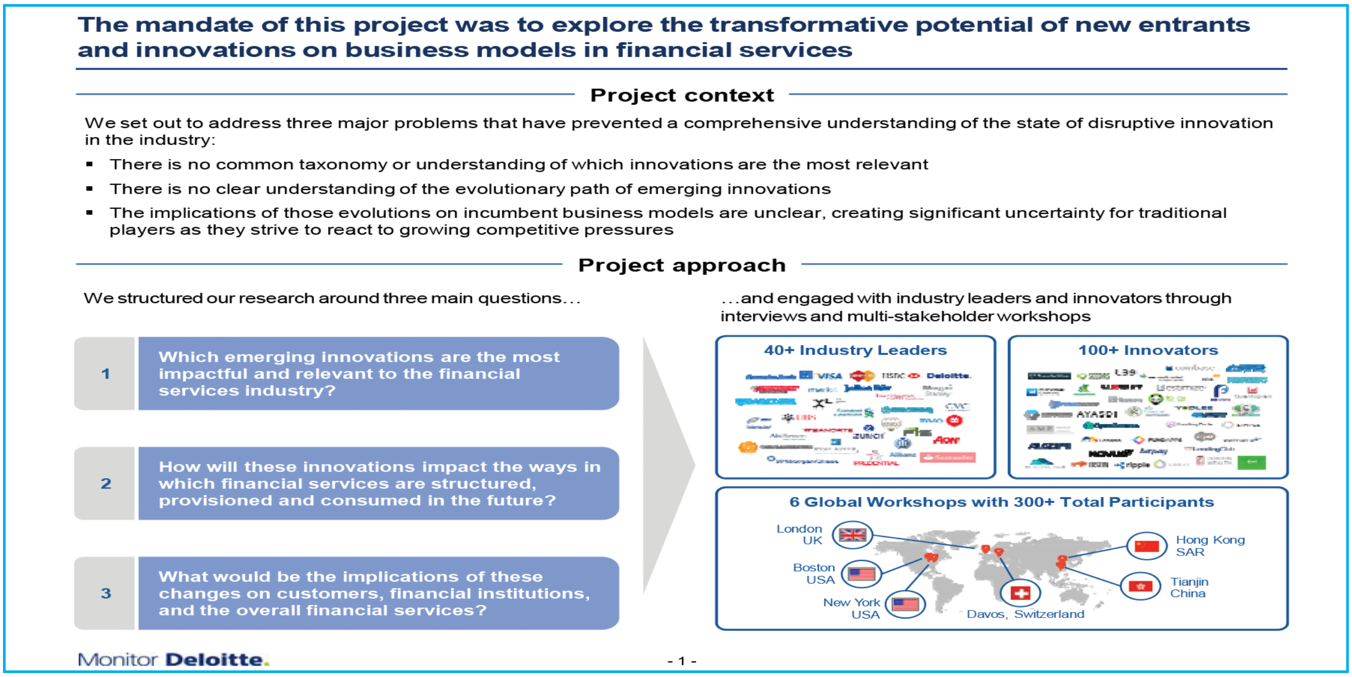
"The Future of Financial Services: How Disruptive Innovations are Reshaping the way Financial Services are Structured, Provisioned and Consumed"

Mr. Chris Harvey*

It is a great honour and privilege for me to be here and to give you a short and interesting talk. Mostly, it will stimulate some discussions and at the end of the talk, we will have a Question and Answer session. The Q&A will stimulate some debate. There are no right or wrong answers to the idea but I will deal on what is happening to our industry and where actually it is going.

Everybody knows about the 2002 dot-com bubbles, when people were expecting to be billionaires but suddenly, they did not earn anything. What was actually happening in 2002 is that people in the dot-com world were trying to create new business models, new business infrastructure and new consumer behavior, simultaneously. Whereas what we have today is vastly increased computing power and improved user access.

We were talking about mobile payment in the last session. Some studies show that by 2020, there will be six billion smart phones in the world. Six billion means one smart phone for every person in the world. This is not true today for India at present, not true for Africa, but if we see the incredible advance of the smart phone, it means the user access is pretty much ubiquitous. Finally, we are seeing exponential adoption speed for new technologies or innovations. Think, how long it took for radio or television, for that matter even for a mobile phone, to be adopted or how long it took for Amazon to get a billion customers, for Facebook to have a billion users, for an app to reach a billion people and it is now



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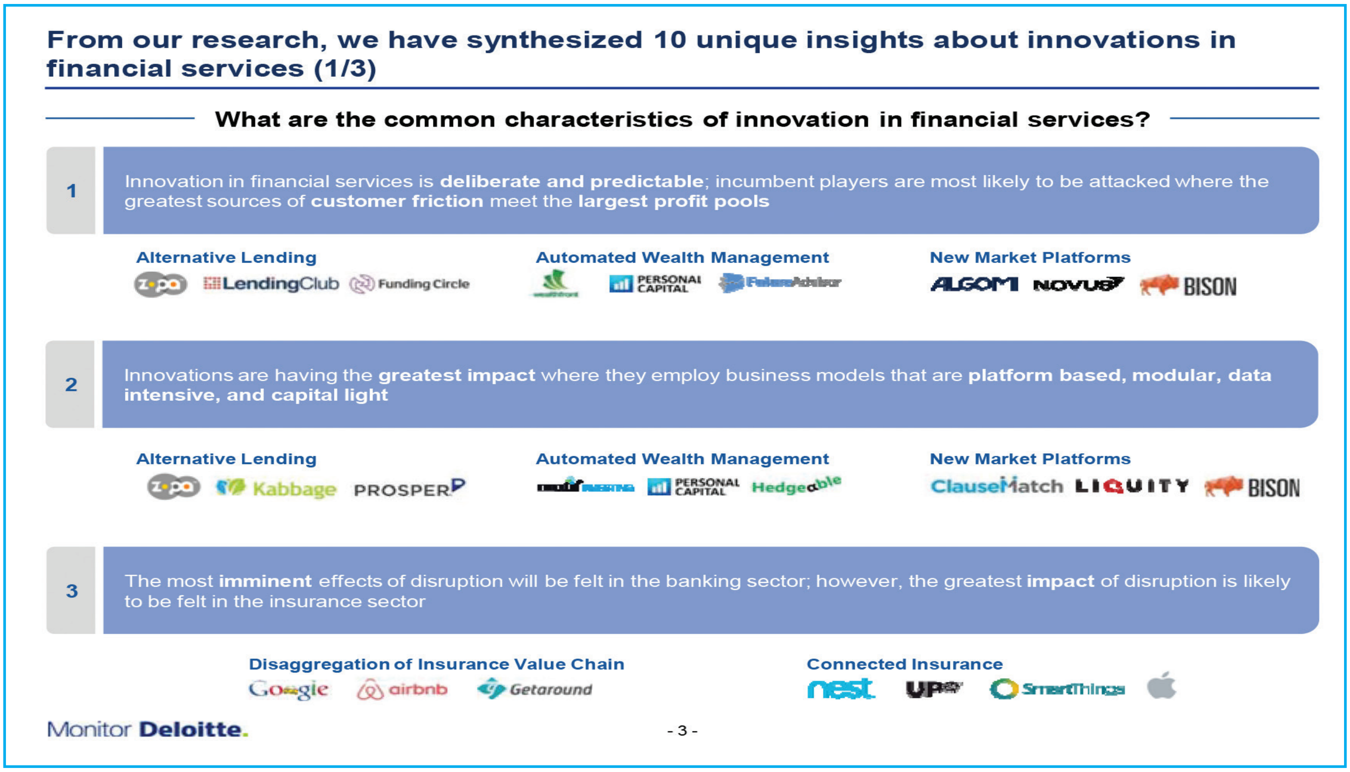
down to days or even hours in some cases, the speed of adoption is something which we have never seen before. So, what the financial services are trying to do is that, they are trying to create new business models, and thereby change or improve the customer experience. But they are not trying to introduce to the customers something which has not been done before. Rather, they are trying to introduce new business models with the background of this incredible change in technology that is driving their growth.

I will now be sharing with you a part of the report of the World Economic Forum where I had a role to play. Beginning of 2014, we were asked to look at how disruptive innovations are shaping the way the financial services are structured, provisioned and consumed. This basically boiled down to three questions. Which one of these innovations is actually the most impactful and relevant to financial services? How these innovations will impact the way financial services will be delivered or consumed or structured? What is the impact of all these going to be and what will be the implications of this change on customers, the institutions themselves and on the overall financial services market?

What we did was that we worked with a large number of stakeholders in the financial services, industry leaders, innovators and we held a number of working sessions with participants of the world. I just want to share one observation which I was reminded of in the last session by a participant who was talking about Wells Fargo and I know Mr. John Stumpf, CEO, Wells Fargo reasonably well. I invited Mr. John to speak at a conference we held in 2012, in Istanbul, and I asked him to speak on the subject of mobile banking and the impact that it was going to have on general retail banking. Mr. John, at that time, was of the opinion that mobile banking will not have much of an impact. He thought that people still wanted to go into branches or as he called them stores and that this may not change very much in the next 10,15,20 years. Three years later, I invited Mr. John back to speak on the subject of mobile banking. His views had changed completely. He mentioned that he had closed 500 branches of Wells Fargo in the US- and that he is completely revolutionising what those other two thousand branches would be doing in the future. What was interesting in this project was in the first workshop that was held in Davos, there was a healthy degree of skepticism from the industry participants as to whether disruptive innovations are really going to make an impact. During the 2nd workshop which was one year later in Davos, the mood had completely changed. One of the first things that we tried to do in the programme was to get some way of defining what disruptive innovation really means in financial services. We attempted to sort six key areas within financial services such as payments, insurance, deposits and lending, capital raising, investment management and market provisioning and then we tried to map the innovations to these six segments. We then identified 11 clusters to which we could map the innovations. We then examined how the innovations impacted the core functions of financial services. We came up with some of the clusters like “payment rails cassius world” in the payment space, “crowd funding” in terms of capital-raising, “alternative lending mechanisms” in terms of deposits etc. We went in to each of those clusters and looked at the implications of those scenarios on customers, on incumbent institutions and on the overall financial services ecosystem. Innovation in our industry is happening in a very deliberate and very predictable way and the way in which you can predict that in your organization or in your ecosystem is to look at where are the greatest sources of customer friction and where that meets the largest profit pools. And let me just take one example-payments. Why has there been so much innovation in payments? - because payments as a process, historically, have caused enormous customer friction. It was expensive, it was difficult, but it wasn't very timely and actually, it also created for the banks pretty massive profit pools. 33 percent of the profit of most financial institutions is actually linked to the payment mechanism within those institutions. This means that if there's a threat, it is a large threat to the profitability of most banks around the world. Secondly we found that innovations have the greatest impact when business model platforms based on modular data intensive were employed.

Although, everyone talks about the impact on the banking sector, in the long run, the greatest impact may be felt in the insurance sector. The reasons for this are


From our research, we have synthesized 10 unique insights about innovations in financial services (1/3)
What are the common characteristics of innovation in financial services?
1
Innovation in financial services is deliberate and predictable; incumbent players are most likely to be attacked where the greatest sources of customer friction meet the largest profit pools
Alternative Lending
LendingClub
Funding Circle
Automated Wealth Management
PERSONAL CAPITAL
New Market Platforms
NOVUS
BISON
2
Innovations are having the greatest impact where they employ business models that are platform based, modular, data intensive, and capital light
Alternative Lending
Kabbage
PROSPER
Automated Wealth Management
PERSONAL CAPITAL
Hedgeable
New Market Platforms
ClauseMatch
LIQUITY
BISON
3
The most imminent effects of disruption will be felt in the banking sector; however, the greatest impact of disruption is likely to be felt in the insurance sector
Disaggregation of Insurance Value Chain
Google
airbnb
Getaround
Connected Insurance
nest
SmartThings
Monitor Deloitte.
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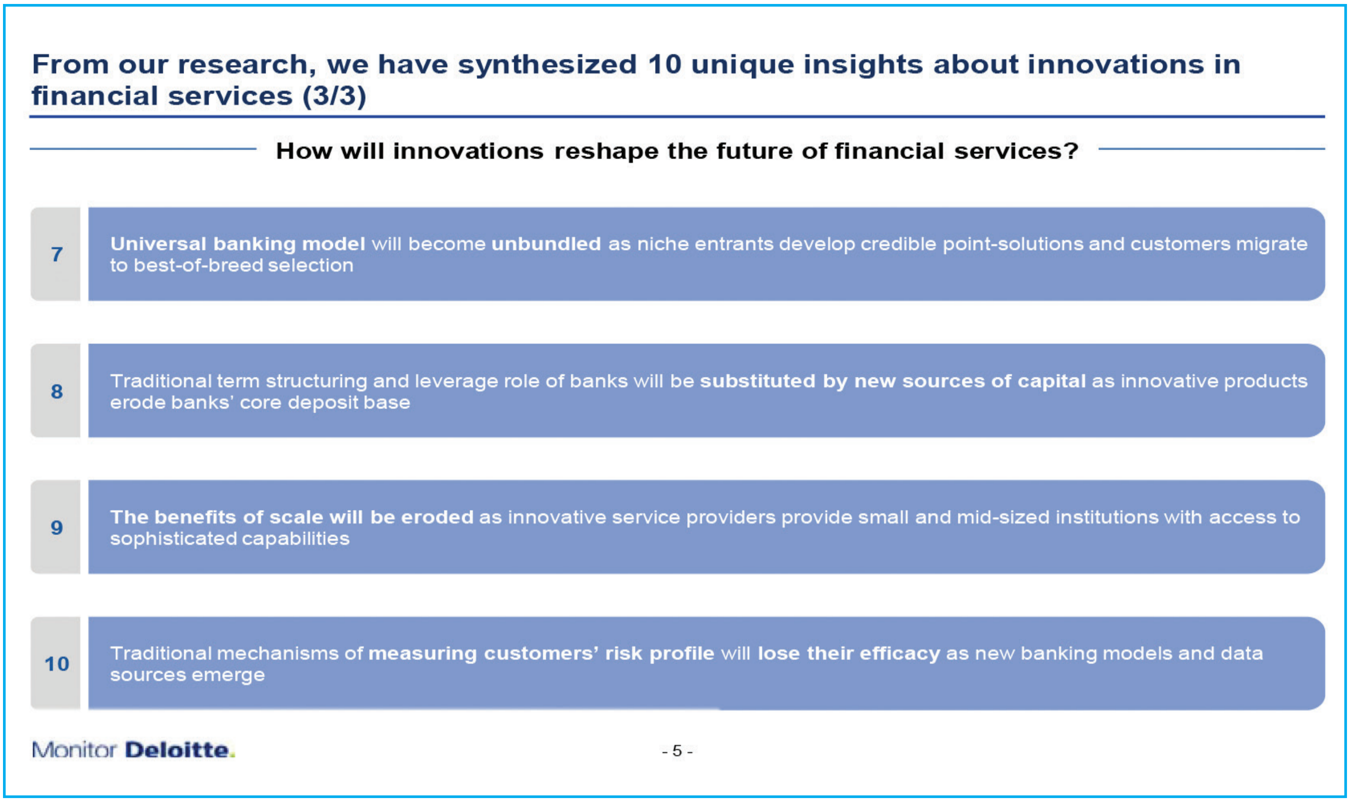
From our research, we have synthesized 10 unique insights about innovations in financial services (2/3)
What are the common characteristics of innovation in financial services?
4
Incumbent institutions will employ parallel strategies; aggressively competing with new entrants while also leveraging legacy assets to provide those same new entrants with infrastructure and access to services
Alternative Lending
LendingClub
OnDeck
Automated Wealth Management
covestor
5
Collaboration between regulators, incumbents and new entrants will be required to understand how new innovations alter the risk profile of the industry – positively and negatively
Alternative Lending
LendingClub
Funding Circle
Decentralized Systems
bitcoin
ripple
bitpay
Smarter, Faster Machines
AYASDI
PORTWARE
SNTMNT
6
Disruption will not be a one-time event, rather a continuous pressure to innovate that will shape customer behaviors, business models, and the long-term structure of the financial services industry
Shifting Customer Preferences
fidor BANK
SIMPLE
Process Externalization
FUNDAPPS
OpenGamma
New Market Platforms
NOVUS
BISON
Monitor Deloitte.
- 4 -



as follows. Firstly there's a graduation of the insurance value chain through new players/new entrants coming into that value chain and taking out some of the value inherent in that and then, this whole concept of connected insurance. I also think one area which we are now beginning to explore in greater detail is how the innovations such as the block chain will affect the way in which people gather and use information for insurance underwriting. The really interesting question is what is the future of the actuarial profession when machines will come up with much more tailored predictions? It is tailored to individuals rather than to groups of middle aged gentlemen. So I think, there is a really interesting impact on insurance. We believe that incumbent institutions will not only employ parallel strategies in terms of aggressively competing with new entrants by leveraging their own assets to give those entrants some infrastructure and access to the market but will also subsume some of those new entrants into themselves. And I think the latter is already happening.

In order to include regulators and governments within the ecosystem to manage the risk profile of the industry, we are now talking, along with the World Economic Forum and ourselves, with regulators into this discussion. One example where it works is WeBank. It is a new bank which has been launched in China. It is actually the banking arm of Tencent. Tencent is a mobile phone operator. Tencent also has a very large online shopping business. We always hear about the Amazons of this world. Tencent-online shopping business has something like 450 to 500 million customers. It also owns WeChat which is the Chinese equivalent of Facebook. What did they do? They took the best from other places, bought them together and created something new. Whether you call it innovation or not, but it is innovative. All three elements are owned by Tencent. People at Tencent said “Well, we're going to apply for a banking licence and go through with the banking licence application and do the business model”. In this case, the regulators actually became part of the project team not necessarily on a day-to-day basis but from a gated basis. The approval process from the regulators was incredibly short and actually, the regulator was involved in the creation of this new bank-WeBank. Why that was so important? - because Tencent were doing something radically new with this bank. Tencent realized that they had extraordinary degree of information about eight hundred and fifty million Chinese customers from their mobile phone records, from their social media records, from their online shopping records they knew so much more about their customers. So what they wanted to do was to use that information to pre-approve customers for current accounts, loans, credit cards etc. When they launched, they had a hundred and forty-seven million customers pre-approved for current accounts, credit cards and revolving credit of other forms and that was all approved by the regulator. My point in the story is by involving the regulator in this innovation; actually we can come up with really new and interesting things. If you manage from a regulatory point of view, the risks will significantly reduce. There will be a continuous pressure to innovate. This pressure will be from customers, regulators and the market in general. This will affect both the business model and the long term structure within the industry. Innovation has to become part of the life blood of any organization. Most of the institutions are saddled with legacy. Legacy comes at a cost. Replacing legacy comes at an even higher cost. In fact I read only yesterday of a new bank that's launched in the UK which has no back office and no front office. It's interesting that they basically outsource everything to other players. You focus on specific products, specific markets or specific segments where you really believe you can build sustainable competitive advantage. How do you protect your customer relationships without providing those universal services, if that's the way you decide to go, what are these products and markets and segments that you want to be or will be in the future and how do you maintain profitability when you're being pushed into lower margin products and services. I've been working in financial services. The common belief in many places is that the fact that our deposit takers insulate us from the worst effects of change because in pretty much every jurisdiction, you have to be a regulated entity to become a deposit taker. Yes, but think about what Alibaba and Alipay are doing in China. Is it not deposit-taking? They were not regulated and they made a ton of money and more importantly, they siphoned deposit out of the banking system. This is an example of a potential danger. The questions for the future are: will you and can you still continue to fund your investments through retail sources of capital or do we have to rely more on wholesale funding and capital markets? How will you evolve your core propositions to avoid potential erosion in the core deposit base of your institutions? How will you protect the margins particularly against those institutions which will be specializing in financial engineering? One of the other great beliefs that have been held as a universal truth as someone once said is that "scale matters". I'm big and therefore it's really unlikely that I'm gonna be attacked or taken out. Well we are seeing, as I mentioned, the bank that has no back office and no front office; new entrants into the market where scale doesn't matter, sizes not important in certain aspects of their businesses. So you know there are processes now. They're going to be freely available as a service in the cloud, which will give organizations access to sophisticated capabilities. That hitherto had only been possible within the large-scale monolithic systems that sit within financial institutions. Traditional mechanisms of measuring customers risk profile will lose their official efficacy as new models and new data sources emerge. In the last session of the conference, someone also mentioned potential use of social profiling, social media center in the banking system. This is happening today and in fact we're involved in a pilot project in Peru. In this project, two banks have started using a psychometric profiling system to look at the creditworthiness of potential customers. These customers much like many customers in India were people without any credit record/history, were new to credit, new to the market. There was nothing really to go by in terms of credit records. They used psychometric profiling which was designed by a professor at Harvard. It looks at what we know about one's character and the sort of person one is. What we found in the pilot was, this particular approach was something like forty or fifty percent more likely to predict non-performing loans than traditional credit scoring methods. So I think scoring mechanisms will become less relevant. I think we need to start thinking about how we can use some of this new technology to drive much more individualized ratings and assessments of our customers and their propensity to buy to sell or to order or to repay in the case of a loan. I would like to come to the starting point of my speech. My own view actually is that most financial institutions will not die and wither on the vine. I think most of you understand this and will start to take on the challenge. To take up the challenge, you will have to break some eggs along the way because you will be running up against some very entrenched views and behaviour within your organizations. It is a not just a technology issue. But it is a massive change management issue including the change the way in which your people think, the way in

Universal banking model will become unbundled as niche entrants develop credible point-solutions and customers migrate to best-of-breed selection

Lean and nimble niche new entrants will create **margin pressure** on banks' individual products

Niche entrants will gain customers' trust and condition customers to **shop best-of-breed products**

Non-traditional technology players will create **digital marketplaces** that disaggregate customer relationship and enable comparison shopping

Universal banks will become unbundled

- Price competition will intensify in each product and customer segment
- Banks' universal ownership of customer relationships will be challenged
- Banks' ability to cross-sell products will be reduced
- Cross-subsidized product and margin structure will act as a competitive burden

Key questions for financial institutions

- Will you remain as a universal bank or focus on specific products, markets or segments?
- How will you protect the universality of customer relationships without providing universal banking services?
- What are the products, markets and segments you will participate in the future?
- How will you maintain profitability on distribution of low margin products in areas where you choose not to participate in?

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Traditional term structuring and leverage role of FIs will be substituted by new sources of capital as innovative products erode banks' core deposit base

Customers will become empowered to directly invest capital to **new asset classes** that were previously restrictive

Retail banks' **core deposits will become eroded**, limiting banks' lending capacity ability to match treasury

Platform-based new entrants will open doors for **institutional capital to participate in retail market**, increasing the total supply of capital

New sources of capital will substitute banks' role

- Total amount of capital available to banks will be reduced
- Banks' capital will generate lower return on average
- Competitiveness of traditional term structure and leverage will be reduced
- Banks' flexibility to react to changes in market environment will be limited

Key questions for financial institutions

- Will you continue to fund your investments through retail sources of capital or increase reliance on wholesale funding?
- How will you evolve your value propositions to prevent the erosion of core deposits?
- How will you protect the margins on your products against institutions that specialize in financial engineering?

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The benefits of scale will be eroded as innovative service providers provide small and mid-sized institutions with access to sophisticated capabilities

The new generation of process externalization will provide an **economical access to sophisticated capabilities**, no longer dependent on banks' ability to make heavy infrastructure investments

New market platforms improve the **flow of information** so that more transactions will be conducted based on **fact-based merit**, rather than relationships or reputation

New digital distribution channels will improve financial institutions' **scalability at an exponential rate** by reducing the importance of physical presence to reach customers

The benefits of scale will be eroded

- Changes to the market composition and competitive dynamics will be accelerated
- The benefits of mass market approaches will be reduced
- Niche institutions specialized in products, customer segments and markets will be empowered to emerge

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Traditional mechanisms of measuring customers' risk profile will lose their efficacy as new banking models and data sources emerge

Cashless payments will displace the credit card usage with bank account-funded transactions, **depleting accumulation of payment history**

Unbundling of universal banking model will disperse customers' financial portfolio across multiple best-of-breed providers, limiting a single institution's ability to **fully understand customers' financial health**

New entrants will gather and use **new data sources** to improve the accuracy of risk assessment, leading to **adverse selection** and reducing profitability of institutions employing traditional credit scoring models

Traditional average-based scoring systems will become less relevant

- Centralized credit scoring system will be replaced with decentralized models of individualized risk assessment
- Financial institutions will have a greater impetus to understand customers' lifestyles
- Financial institutions and new entrants will be incented to participate in collaborative data sharing

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which your managers manage and the way in which your organization works in the future. It is a big change and challenge. But I actually believe that most financial institutions are up for that. If the regulators come to work alongside with financial institutions and governments can support, then I think we have the basis for a good way forward. Some of the findings from the next stages I think are going to be quite interesting because we've been asked now to look at some further issues. The first one is what are the regulators going to do and how can we better partner with regulators and financial institutions and entrepreneurs in that ecosystem to make this work in the future? The second thing that we're going to do is looking at digital identity. Is there a way in future that we can have a single repository of digital identity all around the world, eight million people or whatever, it will be by then so that we can really know our customers?

We will come up with some protocols around which we can then have a common set of characteristics of what a digital identity might look like and then we can take it forward.

SEBI Framework for fund raising by start-ups

The Institutional Trading Platform (ITP) is accessible to companies which are intensive in their use of information technology, intellectual property, data analytics, bio-technology, nano-technology to provide products, services or business platforms with substantial value addition and with at least 25 per cent of the pre-issue capital being held by Qualified Institutional Buyers (QIBs), or any other company in which at least 50 per cent of the pre-issue capital is held by QIBs.

Further, no person (individually or collectively with persons acting in concert) in such a company shall hold 25 per cent or more of the post-issue share capital.

Only two categories of investors, i.e. (i) Institutional Investors (QIBs along with family trusts, systematically important NBFCs registered with RBI and intermediaries registered with SEBI, all with net-worth of more than ₹5 billion) and (ii) Non-Institutional Investors (NIIs) other than retail individual investors can access ITP.

The disclosure by the companies may contain only broad objectives of the issue and there shall be no cap on amount raised for 'General Corporate Purposes'. As the standard valuation parameters such as P/E, EPS etc., may not be relevant in case of many such companies, the basis of such issue price may include other disclosures, except projections, as deemed fit by the issuers. In case of public offer, allotment to institutional investors may be on a discretionary basis whereas to NIIs it shall be on proportionate basis. Allocation between these two categories shall be in the ratio of 75 per cent and 25 per cent respectively. In case of discretionary allotment to institutional investors, no institutional investor shall be allotted more than 10 per cent of the issue size. All shares allotted on discretionary basis shall be locked-in, in line with requirements for lock-in by anchor investors i.e. 30 days at present. The minimum application size in case of such issues and the minimum trading lot is ₹1 million. The number of allottees in case of a public offer must be more than 200. The company is given the option to migrate to main board after 3 years subject to compliance with eligibility requirements of the stock exchanges.

Source : Financial Stability Report, Issue No. 12, Reserve Bank India, December 2015