



## Understanding the Fintech Wave: A Search for a Theoretical Explanation

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### ABSTRACT

The recent rise in the number of “Fintech” companies is set to transform the financial services industry on a global scale. Fintech companies create more competitive advantages in the financial market by providing faster services in the field of payment, financial consultancy, lending, and investment. Many countries have joined the bandwagon of adopters; however, little is known about the factors behind their success. Therefore, this paper attempts to investigate the key factors that underpin the success of Fintech across the various financial sectors and highlight the challenges they pose to traditional banks. Due to limited scholarly work on the subject the paper conducts a meta synthesis of ten published global survey reports conducted by consultants such as PwC (2016; 2017; 2019), Capgemini (2017), Ernst and Young (2017; 2019); KPMG (2019) etc. and relevant data from International Monetary Fund and World Bank report (2019). We identified the key enablers and disablers of Fintech and classified them into macro and micro factors. We concluded that the success of Fintech is context dependent on the political, cultural and environmental factors in the adopting nation.

**Keywords:** Fintech, Macro and Micro Enablers, Context Dependent, Disruptors

**JEL Classifications:** E44, G1, G2

## 1. INTRODUCTION

At present there is no universal accepted definition of the term “Fintech”, which is a diminutive of the both combined words “financial services” and “technology” (Puschmann, 2017, p.70; Zavolokina et al., 2016). Freedman has described financial technology as being concerned with building systems that model, value and process financial products such as bonds, stocks, contracts and money (Freedman, 2006).

The financial services industry has seen radical changes through the growth and resurgence of new technology and innovation. Fintech startups are young and inventive companies that focus on providing ease and transparency to end customers by collaborating or competing with established financial service providers. With the advent of technology, particularly smartphones, customers now demand far more from their banks. Fintechs have contributed

to creating a new face for the global financial sector and offer many new improvements to solve the problems and obstacles that customers often faced in their financial transactions. The new Fintech era is being shaped by changes in market conditions, new regulations, and shifts in consumer demands and behaviors.

### 1.1. Evolution of Fintech Industry

The financial services industry has gone through a dramatic evolution since its origins in 1860 through to the nineties and following the financial crisis of 2008. Fintech was initially associated with three services lending, capital raising, and payment solutions. Crowd funding platforms, peer-to-peer lending networks, and payment solutions such as PayPal build on the megatrends of the emerging internet economy. However, quite recent trends indicate the rise of a second wave sector that brings financial technology to international money transfers, wealth management, and insurance. Innovation in finance picked up

later than it did in media, retail or communication and the overall potential of Fintech for small businesses and the economy seems tremendous.

Fintech pioneers, such as PayPal, emerged in the 1990s to provide a payment platform for online purchases and has now adapted its business model to encompass a wider range of services such as providing instant lines of credit and mobile applications that locate nearby stores and restaurants that accept payment by PayPal. The US-based Stripe, one of the largest Fintech players, was founded in 2011 to offer an improved online payment system and has attracted more than \$300 million from venture-capital funds, including Founders Fund, Khosla Ventures, and Sequoia Capital. Stripe was one of the first Fintechs to dramatically accelerate and improve the process merchants followed to accept payments online. While legacy payments companies needed 5-7 days to set up a new merchant, Stripe gave merchants the chance to launch a website and start accepting payments within minutes (McKinsey and Company, 2016).

China's Alibaba, one of the best-known examples of this modern technology company, started as a major e-commerce site and has moved into financial products, with its Alipay subsidiary boasting more than 800 million registered users in 2016. Another emerging model would be an established financial company creating its own Fintech unit. For example, Ping an Insurance (Group) Company of China, China's largest insurer by assets, launched a peer-to-peer service, Lufax, in 2012, and by 2016 the unit was valued at almost \$19 billion.

Between 2010 and 2014, mainly three hubs - Silicon Valley, New York City, and London, drove the rise of Fintech investments. Facebook now has almost 50 regulatory licenses in the US alone that allow Facebook users to transfer money to each other using the messenger app. Alibaba's financial arm, Ant Financial – launched in 2013 a money market fund called Yu E Bao that has now become the biggest money market fund in the world with over US\$160 billion in assets under management, displacing incumbents who have been dominating for decades.

Over the past years, the advancement of technology combined with ongoing infrastructure improvements has increased mobile phone penetration. The flourishing effect of Fintech start-up has been catalyzed by an increasing demand for digital financial products, rampant rise of connected devices and growing support of venture capitalists. Various Fintechs using a variety of technologies are active in each of these areas. Some, for example, robo-advisory systems that provide automated recommendations with little human input, use tested technologies to meet customer needs, while others pursue more experimental technologies, such as block chain systems that track and store an expanding series of transactions to reduce infrastructure costs and improve efficiency. Through the implementation of various information and communications technologies (ICT), their business models and service offerings are optimized. Specifically, the use of big data analytics, the block chain, near field communication (NFC), digital platforms as well as authentication and security technologies differentiate them from traditional providers (Gomber et al., 2017). They are highly

represented in industrial countries including USA, UK, Canada, Germany, and India as emerging market with an increasing IT sector (Haddad and Lars, 2016). Fintech can be broken down into several different areas within the financial sector that we discuss briefly below:

#### *1.1.1. Asset management*

Asset Management is simply the management of a client's investments by a financial services company like an investment bank. The bank or company then invests on behalf of the client. Fintech is having a huge impact in this sector with the UK being regarded as the world's largest fund management center in the world accounting for over 6.2 trillion of assets under management (Shaul, UK Fintech Online, 2015). Another new product in the market is cryptocurrency.

#### *1.1.2. Cryptocurrency*

According to Maese (2016), Cryptocurrency is a form of electronic money that can be used to perform the financial transactions such as the payment or money transfer between the users through computers. The origins of cryptocurrency started back in 2008 with an invention of Bitcoin by Satoshi Nakamoto. Bitcoin is payment network using peer to peer technology which operates without any central banks. The downside to Bitcoin or cryptocurrency is that it is not issued by banks nor guaranteed by banks. (Wallace, 2011). Peer to peer financing has also been extended to crowdfunding.

#### *1.1.3. Crowdfunding*

The crowdfunding platform provides online peer-to-peer fundraising permitting users to mobilize funds from various individuals like family, friends, customers or investors through social media or social networking sites to lend money or buy stakes in projects or companies (Conrad, 2012). The benefits of using crowdfunding platform are that the users can easily set up the online fundraising, market their projects or products quickly and get useful feedback on their projects simultaneously (Augustine, 2015).

#### *1.1.4. Investment management*

Investment management is another key trend in Fintech, which involves the buying and selling of investments within a portfolio. Lead investment managers use Fintech to direct mutual funds towards stocks and bonds that make up the funds (Forbes Online, 2013). Consequently, there has been a reduction in administration fees as well as product fees as customers reap the benefits along with more open professional advice. Other new products that have been developed within investment management include crowd-sourced Exchange Traded Funds (ETF) (Exchange Traded Funds Guide, 2019).

#### *1.1.5. Marketplace lending or peer to peer lending*

New ways ushered in by Fintech include a marketplace lending model that connects borrowers to investors, which receive a higher rate of return than being offered by traditional banks. Furthermore, the P2P model, unlike a traditional bank, matches borrowers (by) who are seeking a loan with investors, who obtain revenue from a portion of the interest that borrowers pay on the loan. These platforms operate by assisting in the collection, scoring

and distribution the credit qualifications of potential borrowers, reporting real-time bids on projects and supplying on-line servicing and monitoring of the loan (Morse, 2015). CurrencyFair which is an online peer to peer foreign exchange marketplace company enabling customers to exchange foreign rates for international currencies at a more competitive rate. It simply helps its customers avoid bank charges and a better exchange rate when sending the money overseas.

In addition to the above potential areas, there is a great scope for Fintechs to exploit the features of Block Chain Technology (BCT) and its implementation in banking and financial applications. BCT is about distributed ledgers that could work in harsh environments with little, no, or negative trust.

Although the cutting edge Fintech companies have created a new path of innovations, they have also disrupted every facet of the traditional financial services business and emerged as a challenge to the banking system. After realizing the disruptive power of Fintech and its impact on the market, traditional financial institutions have been re-evaluating their existing business models and developing strategies to embrace Fintech innovation.

## 1.2. Research Questions

Saunders et al. (2012) has described the research question as a key question behind the research process. According to him, it is imperative that the research questions are clearly defined in accordance with the objectives of the research. For the purposes of this research the following questions have been formulated:

- What are the factors that contribute to the rampant rise in the use of Fintech in various financial sectors of economy?
- What are the key enabling factors and drivers of growth of Fintech ecosystem?
- What are the factors that are likely to inhibit the success of Fintech?
- How Fintech is disrupting financial services particularly traditional banking services, and how these respond to the challenges posed?
- What is the business model that seems to underpin the success of Fintech in the banking sector?

To accomplish an extensive exploration of the research objective, this paper is structured into five successive sections. After the introduction, the second section presents the literature review of the factors that contributed to the success of Fintech to ensure a basic understanding. Subsequently, in III<sup>rd</sup> section research methodology and research design are discussed. Based on the results of the literature review, section IV describes the key enabling factors that underpin the success of Fintech including those that are likely to inhibit its success. Finally, in the last section the conclusion and future implications are discussed.

## 2. LITERATURE REVIEW

Ernst and Young defined Fintech as an innovation in financial services with technology as the key enabler. Arner et al. (2015) defined Fintech as technology-enabled financial solutions. Lee and Kim (2015) indicated that Fintech is the technical process resulting

from developing and establishing new financial software which might affect the entire traditional system. Financial technology involves secure communication to others in a market with a quick delivery of information and news, which can be public or private and this is done through a communication network.

The traditional banks have always played the most important role in the financial world (Salmony, 2014). However, with the incredible growth of the technology as today, the world economy has been gradually switching to the digital channels (The Economist, 2015). New financing channels and fundraising sites offer more online services with greater benefits for the customers. The existence and continuous development of Fintech has caused huge pressure and challenges for the traditional banks. (Desai, 2015) Fintech companies create more competitive advantages in the financial market as they offer faster services in a loan application, approval and funding for the customers compared to the traditional banks. They mainly digitalize products and services provided by banks in the field of payment, financial consultancy, finance, and investment. This section focuses on the review of related literature on why Fintech has been successful.

### 2.1. Reasons Behind the Success of Fintech

Based on literature review, we identified 13 distinct factors that enables growth of Fintech in various sectors. These variables included internal as well as external factors which have contributed to the flourishing success of Fintech. Internal factors are the factors that are internal to the firms and can be controlled by making changes in internal procedures and system like transparency, brand name etc. while external factors include the variables external to the firm. These include customer's experience in using the Fintech products and services. For instance, User's experience, Timely and efficient experience, and Better value of money etc. The detail description of these factors are as follows:

#### 2.1.1 Security and fraud protection

These days, across the globe, customers and regulatory authorities both have concerns about data security. Fraud protection/ Fraud prevention solutions and Regulatory technology (RegTech) are Fintech verticals with tremendous growth potential. Arner et al. (2016) defined regulatory technology as: "RegTech – the use of technology, particularly information technology, in the context of regulatory monitoring, reporting and compliance." Since the global financial crisis of 2008 banks have faced a continued tightening of financial regulation and must answer to very strict know-your-customer and anti-money laundering rules. Accordingly, banks have been forced to invest heavily into regulatory technologies.

Fraud prevention technology revolves around authentication and signing solutions and fraud screening and detection platforms. Wei et al. (2013) stated in their research on effective detection of online banking fraud that fraud detection is a troublesome subject as there is very limited information on means to differentiate fraud from genuine customer behavior. The detection platforms rely heavily on data mining, machine learning and neural networks to catch fraudulent transactions. These transactions might be conducted with e.g payment cards, account transfers or fake invoices. The authentication and signing solutions refer to ways of verifying

customers, a popular alternative being biometric solutions that have surfaced in the recent years (FT Partners, 2015b).

### 2.1.2. *Quality of services*

Quality of services which is being provided these days by traditional financial institutions are also a major driving force in the Fintech ecosystem. Traditional financial Institutions have competitive advantages in economies of scale and financial resources over Fintech start-ups. Now, traditional financial institutions have improved their quality of services by offering bundled services, providing one-stop comprehensive financial products and services to consumers rather than their old approach of unbundled specialized Products and services. While traditional financial institutions initially treated these fast-growing Fintech companies as threats, they have shifted their focus to collaborating with Fintech start-ups with various funding provisions. In exchange for providing funding, they are able to draw on the insights of these start-up companies in order to stay on the forefront of the technology and enhancing their quality of services in line with these Fintech companies (Yang, 2015).

### 2.1.3. *Transparency*

In Fintech, all the transactions are public, and the network is open to everyone. By relying on a source code, parties are willing to improve contractual performance and think about the agreement's details before execution. By the virtue of Fintech, all the smart contracts ensure transparency which allows performance of self-executing transactions where both parties are able to communicate with each other without restrictions and the technical requirement to frequently check predefined contract details (Wright and De Filippi, 2015).

### 2.1.4. *Personal interaction*

Fintech services platforms allow consumers to interact with each other before they take any informed personal financial decision. The trading community, investment community, and stock community are the internet communities where members interact, discuss and share information on stocks and investments. Often, such discussions and information exchange happen in Internet fora. Few of them are, Yahoo Finance, Google Finance, raringbull.com, or aktienboard.com (Lu et al., 2010). Multiple review sites and comparison portals are available for products and services, like computer equipment, traveling shops, or medical services. On these personal interaction platforms, products and services are rated, scored, ranked, evaluated, and compared. Research has already shown that such ratings have an actual influence on the behavior of customers (Hu et al., 2008). Also in the financial sector, platforms providing such services exist and can be differentiated based on two characteristics: firstly, providers that primarily provide financial product reviews (e.g., seekingalpha.com), and, secondly, providers that focus on financial product comparisons (e.g., comparethemarket.com), e.g., based on figures and features. Some providers apply a mixture of both elements (e.g., creditkarma.com).

### 2.1.5. *Access to the relevant products*

Mills and McCarthy (2014 and 2016) explored whether there was a credit gap in small business lending and found a significant

gap especially for very small loans (<\$50,000). Some hoped that Fintech lenders will play an important role in closing this gap. Freedman and Jin (2011) used data from Prosper to demonstrate how peer-to-peer (P2P) lenders have evolved towards serving consumers who would traditionally obtain financing from banks because the platform excludes more and more subprime borrowers. Therefore, the first breakthrough for the lending market was the introduction of Peer to Peer Lending (P2P) Model. P2P was seen as a new generation of fundraising model, through which, many lenders can raise money to finance loans for many borrowers and the borrowers can easily apply for the loans by filling the online loan applications without providing other relevant documents as well as mortgaging their assets. Furthermore, in P2P lending model, a borrower can borrow money from many different lenders with the lower interest rate than the banks (Milne and Parbo-teeah 2016).

### 2.1.6. *Brand name*

Mobile payment services are the most popular growth factor and also the business model of Fintech industry that can be conveniently and securely used on mobile devices. Most of the consumers use the brand name to avail mobile payment services. The most widely known mobile payment brands are Google Wallet, Apple Pay, and Samsung Pay. Users are now able to reimburse each other with apps such as PayPal and Venmo for free.

Approaches to mobile payments include but are not limited to: charging to a phone bill, near field communication (NFC), barcode or QR code, a credit card on mobile websites, a mobile phone card reader, and direct mobile payment without using credit card companies (Li, 2016).

### 2.1.7. *Convenience*

Fintech companies have created a new breakthrough in the lending and payment transactions when it launched a series of applications and online financial services with many different forms of lending and payment in accordance with the objectives and the needs of consumers (Parker 2016). Instead of going to the banks to perform all payment transactions, today, with the development of Fintech products, customers can comfortably perform all their payments whenever and wherever they want in a simple and convenient way through many online financial services. The mobile wallet is an example which is a digital wallet which uses technology to store the digitized valuables such as the debit cards or credit cards that allow the customers to make in-store payments quickly, conveniently and securely (Parker, 2016).

### 2.1.8. *Users' experience*

All financial products and services which are introduced by Fintech banking industry offer a wide range of benefits to users' and enhances their experience as an end consumer. Most of the users' like these products and services because of a simple and transparent fee structure (Holland Fintech, 2015). These Fintech products and services have redefined the ways in which users' store, save, borrow, invest, move, spend and protect money.

### 2.1.9. Contextual experience

Financial customers and their contextual experiences are the sources of revenue generation for Fintech industry. While large Organizations are important sources of revenue, the predominant revenue source for Fintech companies are individual customers and small and medium-sized enterprises (SMEs). A survey found that the use of Fintech services is greatest among younger, wealthier customers (Holland Fintech, 2015) as they are the ones who first started using Fintech services and the level of contextual experience was highly satisfactory. Early Fintech adopters tend to be tech-savvy, younger, urban and higher-income individuals. Currently, millennials (people between the age of 18 and 34) constitute a significant portion of Fintech consumption in most countries. In the next few decades, the tech-savvy millennials and their satisfactory contextual experience will drive the growth of Fintech services.

### 2.1.10. Easy access from other financial institutions

Perhaps, the biggest change that Fintech brought to the global economy was the outstanding innovation in the field of lending (Conner, 2013). Traditionally, only banks were allowed to perform lending transactions with individuals or business organizations (Kuznetsov, 2016). Therefore, to be able to borrow money from the banks, individuals and businesses would have to implement all the requirements necessary for the loans including business papers, property to be mortgaged, proof of ability to pay the loans in the future, and other related documents. The banks made money by charging monthly interest rates from their customer loans in which the lending interest was usually lower than the interest rate on banking deposit (Kuznetsov, 2016). Moreover, the process of lending from the banks was relatively complex and difficult for most individuals and business organizations. To solve these problems, Fintech industry has launched many technological applications and financial support services with the purpose of creating a new lending market, which will address all difficulties, support and meet most of the consumers' needs.

### 2.1.11. Better value of money

One special change that helps Fintech industry create more competitive advantages in the financial market is that they offer a better value of money to their consumers by providing timely and faster services. For example, a Fintech company will take less time in a loan application approval and funding for the customers compared to the traditional banks. The customers and the business organizations can borrow short-term funds in a simple and faster way without many administrative procedures through many options such as OnDeck Capital, Kabbage, and PayPal Working Capital (Neuman, 2015).

### 2.1.12. Timely and efficient experience

According to Prakash (2016), OnDeck is considered as the best short-term loan provider for the small businesses because it allows the small and medium businesses to be able to borrow the loans with the maximum limit of 500,000 USD during the term of 3-36 months. The borrower can easily complete the loan application online which requires some basic information such as 3 months of credit card statements or bank statements, via OnDeck's official website or the Smartphones in at least 10

min. Moreover, no collateral is required when applying for the loans at OnDeck (Nicastro, 2016). The results can be noticed by the borrowers very quickly after a few minutes and, if the loan applications are approved, the borrowers will have the efficient experience in receiving the loans as fast as 24 h or typically in a few days (Nicastro, 2016).

### 2.1.13. Integration with the social world

Social trading evolved as a promising alternative to banks and investment advisers, specifically as the 2008 financial crisis challenged investors' confidence in traditional service providers. The search for investment information and strategies shifted partly to social media platforms, such as Facebook and Twitter. Building upon the idea of investment information exchange among individuals, entrepreneurs founded the first social trading network start-ups (Doering et al., 2015) that offer three main functions (eToro Ltd., 2016; Ayondo markets Ltd., 2016; Pan et al., 2012). The social trading constitutes a promising alternative to individual investment decisions because investors that follow experienced traders can reach impressive above-average returns (Gottschlich and Hinz, 2014). Integration with social world involves securities trading via internet platforms that combine social media networking with investment strategies. Besides offering products that are tradable on traditional exchanges, social trading platforms also focus on over-the-counter products, like foreign exchange or commodities (Doering et al., 2015; Pan et al., 2012). All the above services delivered through Fintech, have led to a disruption of the financial services industry.

## 2.2. Disruption of Banking Sector

According to the report "Beyond Fintech: A Pragmatic Assessment of Disruptive Potential in Financial Services" early innovators like Betterment and Wealthfront have shown significant growth, with assets under management of \$6.7 billion and \$4.4 billion, respectively, at the end of 2016. As per a report by Deloitte the Fintech and financial services industries are interrelated and mutually dependent. The connectivity between the two sectors needs to be significantly enhanced" (Hancock, Ciaran Irish Times, 2015).

In a paper "Why Fintech Collaboration with Financial Services Can Drive Job Creation in Ireland" Deloitte identifies three distinct participants within Fintech which can drive growth:

1. Disruptors technology companies that innovate and disrupt traditional FS business models, often disintermediation of the banks (e.g CurrencyFair).
2. Optimizers Technology companies that focus on product innovation, helping FS institutions to optimize their existing businesses, as standardization emerges across industry segments (e.g Barracuda FX, Realex); and
3. Financial institutions that are seeking to embrace technology innovation to support their business for example, Citi Innovation Lab and Aon Centre for Innovation and Analytics. (Deloitte).

As Fintech is still a recent phenomenon, there is no clear understanding of both enabling and disabling factors, yet its implications are huge. Additionally, there is no comprehensive

academic literature on the proliferation of Fintech on a global scale with the exception of consultant's reports, such as the Big 4 accounting firms, the World Bank and IMF, who have a global reach. Our paper also draws on these authentic sources cited above to conduct a meta-analysis of the subject with a view to deciphering the salient enablers and possible disablers of Fintech.

### 3. RESEARCH METHODOLOGY

This section of the study details the methodology behind the research including the research design, data collection and analysis methods, as well as the associated dilemmas that research of this nature can encounter. The intention of this study is to understand/identify macro and micro factors that enable Fintech and to make a theoretical contribution to the literature.

#### 3.1. Data

We conducted a survey aimed at finding the enabling and disabling factors for FinTech implementation. A questionnaire based on Likert's scale was sent to 250 respondents. Secondary data used for the analysis in this paper is collected from surveys conducted by PwC, Capgemini, E&Y and World Bank. The enabling factors were inferred from the 'World Fintech Report 2017' from the survey conducted by Capgemini and LinkedIn in collaboration with Efma. This survey compared the services provided by traditional banks and Fintech companies involving more than 8000 customers in 15 countries around the world.

#### 3.2. Data Collection

To find the answers of research questions, we conducted a survey with the help of questionnaire based on Likert's scale where the respondents were told to assign ranking to various factors. The survey was aimed at analyzing customer experiences across a number of data points. A questionnaire was developed to gain deep insight into customer expectations, their preferences, and reactions with respect to Moments-of-Truth transactions with their financial services providers which include traditional and FinTech firms. We got response from 186 out of 250 respondents who were contacted through email, telephonic interviews and social network sites.

Further to this, we conducted a meta-analysis/synthesis of at least 10 published Fintech reports. According to Der Simonian and Laird (1986), a meta-analysis is defined as the statistical analysis of results from individual studies for the purpose of integrating findings. For qualitative literatures the process is called a meta-synthesis.

We inferred the enabling factors, mainly from the comments/opinions of executives that were at the forefront of Fintech implementation. We corroborated their insights, through synthesizing comments and views from the other nine published Fintech survey reports between 2012 and 2019.

### 4. DATA ANALYSIS AND INTERPRETATION

Fintech start-ups are redesigning the financial services processes due to major improvements in technology, increased use of

mobile applications and changing landscape of customer's requirements.

#### 4.1. Rising Trends of FinTech Adoption

As per the report published by GSMA, it is expected that almost 77% of global population will be connected through smartphones by 2025. Most of the growth in the number of mobile internet users between 2017 and 2025 is expected come from China (around 350 million new users), India (330 million) and Sub-Saharan Africa (280 million). As per this report, smartphones will become the leading handset in all regions by 2020 and all individual countries by 2025 (Figure 1).

Another study from Juniper Research predicts that mobile and contactless payments will reach a global value of US\$95bn by 2018. The data collected through mobile payments enables lenders to assess the creditworthiness of borrowers and can be used to create tools to help businesses better manage their finances.

While most of the available numbers are focused on consumer adoption, the growing adoption of Fintech products like money transfer, remittances, and payment platforms reflect what will also occur between businesses. The 2017 EY Fintech Adoption Index found that 33% is the average adoption rate around the world, which is compared to 15% globally in 2015. Nearly 50% is the average Fintech in emerging markets like Mexico, South Africa, China, India, and Brazil (Figure 2).

This survey also revealed that customers are currently reporting low positive customer experience levels across all types of financial services. By country, customers turn the most to Fintech firms in China and India (both above 75%), followed by UAE, Hong Kong, and Spain. The lowest adoption rates were found in France (36.2%), Belgium (30.4%), and the Netherlands (29.8%).

#### 4.2. Enabling and Disabling Factors for Fintech Growth

According to Business Insider Intelligence, "a premium research service provided by Business Insider," "Fintech" could be bigger than ATMs, PayPal, and Bit coin combined. The fintech industry no longer stands clearly apart from financial services proper and is increasingly growing embedded in mainstream finance.

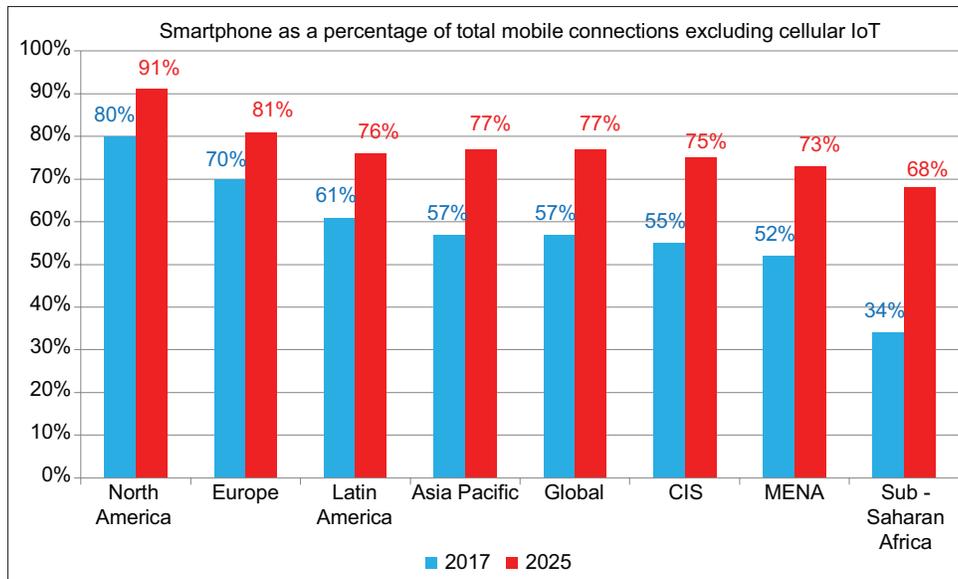
To analyse the enabling and disabling factors of Fintech we have identified 13 internal and external factors. Descriptive statistics and Factor analysis are used to answer the research questions.

##### 4.2.1. Descriptive analysis

Descriptive statistics are used for finding the answers to the research questions (Table 1). The following figure shows mean and standard deviation for all the factors have been shown:

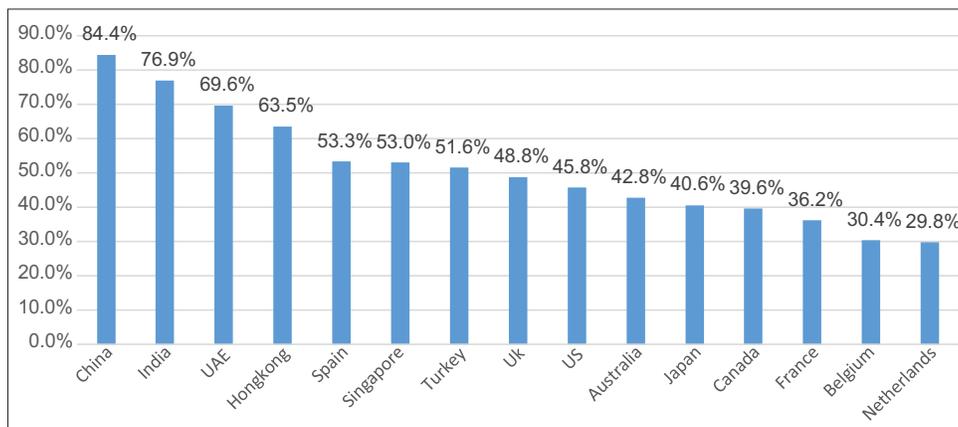
Descriptive statistics for thirteen factors, shown in the Table 1, are developed in assessing the success factors for Fintech, the mean value for these items showed that it's ranging from 3.0 to 4.84 with standard deviation from 0.050 to 0.969. This indicated that most of the respondents in this study were responding within the scale of 'agreed' and 'strongly agreed' on the range to most of the items measuring the enabling success factors for Fintech.

**Figure 1:** Global population and smartphone penetration



Source: GSMA Report on Mobile Economy Global, 2018

**Figure 2:** Global Fintech Adoption Index, 2017



Source: EY Fintech Adoption Index, 2017

**Table 1: Descriptive statistics**

Factors	Mean	Standard deviation
Security and fraud protection	4.38	0.967
Quality of Services	4.62	0.669
Transparency	3.00	0.050
Personal interaction	3.20	0.969
Access to relevant product	4.68	0.151
Brand name	3.24	0.205
Convenience	4.58	0.126
User’s experience	3.08	0.778
Contextual experience	4.54	0.199
Access from FIs	4.84	0.283
Better value of money	4.00	0.639
Efficient experience	3.16	0.842
Integration with social world	4.22	0.036

Source: Compiled by the authors from survey results

**4.2.2. Factor analysis**

A statistical tool i.e factor analysis has been applied to interpret data in this study. The principal components factor analysis (Nardo et al., 2005) with varimax rotation is applied to uncover the latent dimensions of a set of indicators in the survey (Annexure 1).

In Factor analysis, 13 factors are taken into account, however, in order to determine most effective variables, only those factors holding eigenvalues higher than 1.0 are kept in this methodology. The factors not having this criterion is not considered in this approach. It demonstrates the total variance attributed to that factor (Table 2).

From this Table 2, it is clearly visible that only 7 factors possess eigenvalue >1. Therefore, these 7 factors from 13 variables have been applied for analysis. Moreover, these first 7 factors together constitute 75.15% of the total variance. Factor 1 constitutes a variance of 13.12% of total variance while Factor 2 constitutes 12.19% of total variance and so on (Annexure 2).

As it is obvious from the Table 3, internal as well as external factors have contributed to the flourishing success of Fintech. Among internal factors, Transparency (0.763) is the highest contributing factor followed by Brand name (0.719), Security and fraud protection (0.458) and Quality of services (0.365). While among external factors, User’s experience (0.878) is the highest

**Table 2: Principal component analysis**

Initial eigenvalues				Extraction sums of squared loadings			Rotation sums of squared loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.029	15.605	15.605	2.029	15.605	15.605	1.705	13.115	13.115
2	1.733	13.333	28.937	1.733	13.333	28.937	1.586	12.197	25.312
3	1.508	11.6	40.537	1.508	11.6	40.537	1.504	11.565	36.877
4	1.211	9.318	49.855	1.211	9.318	49.855	1.382	10.631	47.508
5	1.193	9.177	59.032	1.193	9.177	59.032	1.319	10.144	57.653
6	1.069	8.224	67.256	1.069	8.224	67.256	1.184	9.108	66.761
7	1.027	7.897	75.152	1.027	7.897	75.152	1.091	8.392	75.152
8	0.821	6.316	81.468						
9	0.787	6.056	87.524						
10	0.553	4.252	91.777						
11	0.408	3.135	94.912						
12	0.391	3.008	97.92						
13	0.27	2.08	100						

Source: Compiled by the authors from Survey results

**Table 3: Factor analysis**

Factors	Variables	Loadings	Subrogate variables
Internal factors	Security and fraud protection	0.458	Transparency (0.763)
	Quality of services	0.365	
	Transparency	0.763	
	Brand name	0.719	
External factors	Access to relevant product	0.699	User's experience (0.878)
	Convenience	0.635	
	User's experience	0.878	
	Personal	0.689	
	Interaction		
	Contextual experience	0.493	
	Access from FIs	0.773	
	Better value of money	0.825	
Timely and efficient experience	0.846		
	Integration with the social world	0.734	

Source: Compiled by the authors from survey results

followed by Timely and efficient experience (0.846) and Better value of money (0.825) (Annexure 3).

Comparing the services provided by traditional banks and Fintech companies, it was observed that Fintech delivered higher value in areas such as ease of use (81.9%) and good service/experience (79.6%). While traditional firms have closed the gap in certain areas, such as quality of service, security and fraud protection and personal interaction etc.

### 4.3. Disruption of Traditional Banking Services

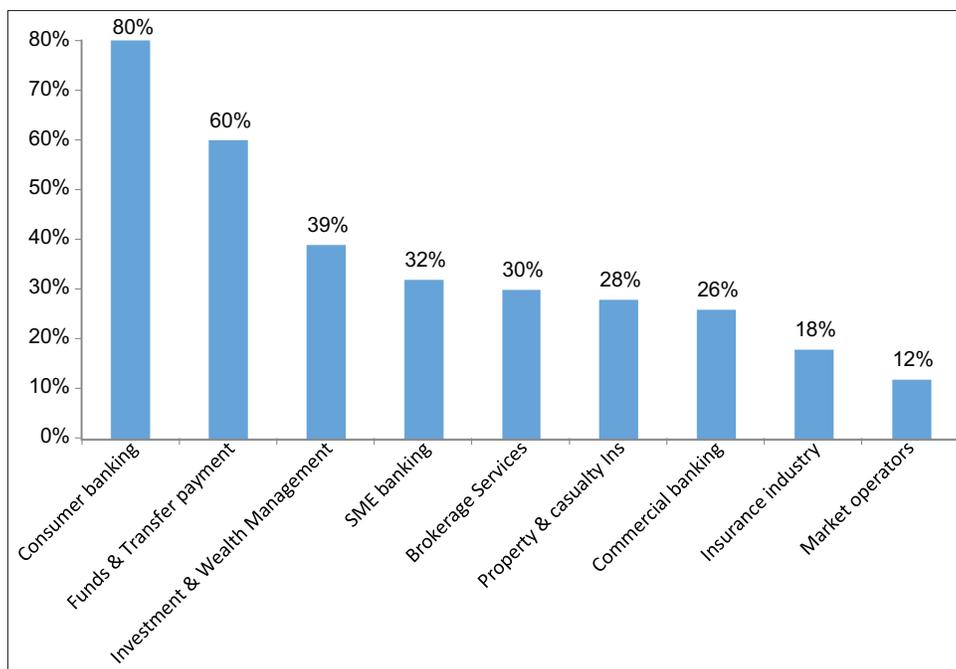
According to a PwC 2016, Global Fintech Survey report, up to 28% of the banking and payments business are at risk by 2020. Some of the earliest Fintech disruptors include PayPal, Amazon, and Stripe have laid the foundation that inspired many other startups to develop Fintech solutions. For example, PayPal was the first to offer a way for freelancers and small businesses to accept online payments without having to sign up for a separate payment processor to accept credit and debit cards. Amazon enabled an easy way to take online retail payments for those

that opened storefronts with them while Stripe introduced the idea of accepting payments via a smartphone reader so that more small business owners could accept credit card payments. Since then, many other incredible examples have emerged in Fintech, including ApplePay and Samsung Pay, which provides a secure way to take a payment with just a photo of a customer's payment card.

According to PWC Survey 2016, consumer banking and fund transfer and payments as the sectors most likely to be disrupted over the next 5 years. This survey also concluded that MSME banking is likely to be the fourth largest sector to be disrupted by Fintech in the next 5 years after consumer banking, payments, and investment/wealth management (Figure 3).

Another study done by Citi researchers predicted that the Fintech revolution will wipe out nearly a third of all the employees at traditional banks in the next 10 years. This prediction is essentially about the lack of growth and loss of business over time, though it may be difficult at this juncture to accurately gauge the possibility of any particular benefit or risk materializing in the Fintech universe (Global Fintech Survey Report, 2016).

With the swift growth of the FinTech industry across the globe, the traditional banking services providers are finding it increasingly hard to adopt or to compete with the FinTech startups in the transforming the financial services environment. They had faced a dilemma of either partnering with them or acquiring these startups entirely, to remain relevant. Partnerships between banks and Fintechs can offer a win-win solution for all - customers, banks and Fintech players through rapid and breakthrough innovations at scale. Banks have deep capabilities to contribute to such innovation in the form of significant experience and knowledge of customer needs and preferences, banking products, credit modeling, and operations across segments. The technical platforms of Fintech partner can be used for rapid prototyping and multiple pilot's schemes. More importantly, the partnership model should focus on a regular feedback loop so that business model and tech platform can be tweaked on an ongoing basis to keep pace with changes in customer needs and evolution of the ecosystem around.

**Figure 3: Disruption of Financial Services by Fintech**

Source: PwC Global Fintech Survey, 2016

Below, we present the main contribution of our paper based on the meta-syntheses of the results from a qualitative perspective which can assist in developing a theory. The results are organized under three headings: macro- enablers, micro enablers, challenges and inhibitors.

#### 4.4. Meta-syntheses of Factors Influencing the Success of Fintech

##### 4.4.1. Macro enabling factors

From the survey reports, one enabling factor behind the success of Fintech was that of economic freedom (Burns, 2018). Countries that practiced economic freedom, were more likely to embrace Fintech. Other factors were the extent of telecom provision, mobile phone penetration, fragmented financial services market, and weak regulatory approach.

As per the report published by GSMA, a number of people connected to mobile services surpassed 5 billion globally, with 3.7 billion in developing markets. By 2025, mobile internet penetration will reach 61% of the global population and 86% of unique subscribers. The increase in mobile phone penetration has led to widespread adoption of mobile wallets including ApplePay, Samsung Pay etc. which provides a quick and secure way to make payment.

The various, reports indicate that Fintech thrives where there are gaps in regulation, hence, more proliferation is noticed in Asia, China, and sub-Saharan Africa.

Another factor identified by (Neubert, 2019) is the depth of banking innovation. Technological infrastructure is also a critical factor in the success of Fintech.

##### 4.4.2. Micro enabling factors

Fintech lenders, using equity crowdfunding, invoice and supply chain financing and marketplace lending, are beginning to challenge traditional business models in a different way. The process of lending from the banks was relatively complex and difficult for most individuals and business organizations. Especially in the case of individuals or small firms with low credit ratings or no collateral, the chances that they could borrow money from banks were extremely low (Conner, 2013). This had caused a lot of obstacles and difficulties for organizations as well as individuals in raising capital for investment and for doing business. In order to solve these problems, Fintech industry has launched many technology applications and financial support services with the purpose of creating a new lending market, which will address all difficulties, support and meet most of the consumers' needs.

With the help of survey, we also capture the views of the various executives that are involved in the implementation of Fintech. Among these, top is leadership commitment, shifting cultural mind set of the organization; clear strategic vision and plan; willingness to take calculated risk; willingness to embrace legacy technology; talent management; open-mindedness; dissolving the hierarchical structure and listening to all employees; embracing digitalization and investing in data capture and analytics; including co-creation with various partners.

##### 4.4.3. Inhibitors/challenges

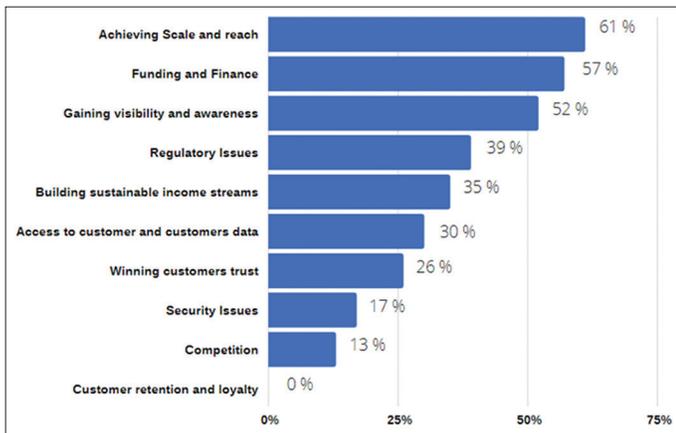
The main challenges cited by interviewees in the various reports include the technology governance gap as there is a lot of uncertainty in the development of the legal framework. Other inhibitors can be down to the resistance of staff; access to

data; creating awareness; legacy systems and lack of technical capabilities. Aligning innovation with strategic priorities; hiring and retaining people and cyber security compliance and data privacy risks remain unresolved.

In a “Fintech” Bridge Survey 2017 it was revealed there was a bit of a mis-match between incentives and pace between a start-up looking to innovate at light speed and a bank. Moreover, the cultural difference between banks and fintech firms was seen as a one of the major road-block to further progress in the sector. The following factors were identified as the inhibitors in success of Fintech (Figure 4).

It was revealed from the survey that for Fintech startups, the major challenges come from scaling their innovation sufficiently to give them access to markets while building brand awareness and consumer trust.

**Figure 4:** Major challenges in Fintech implementation



Source: Fintech Bridge Survey, 2017

**4.4.4. Business model underpinning the success of Fintech**

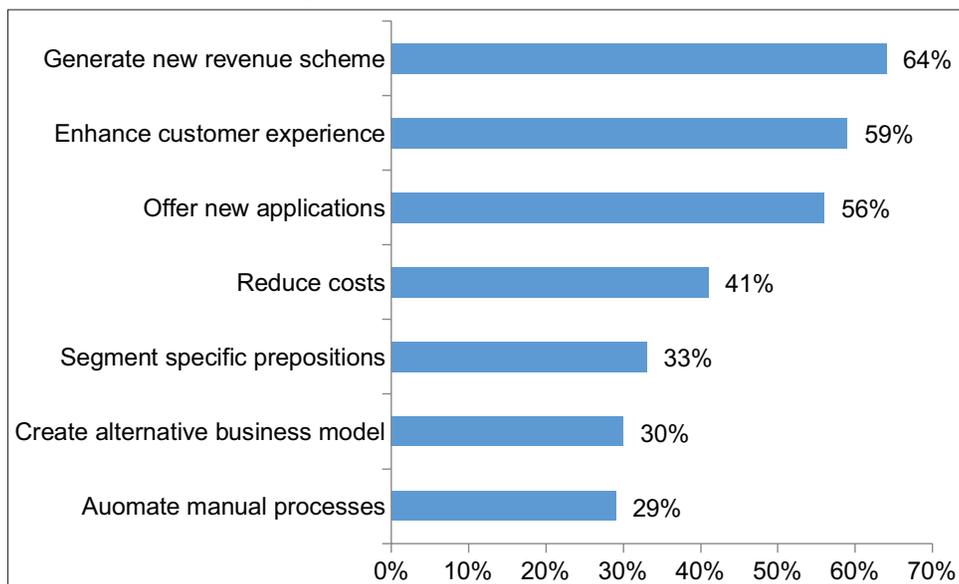
Mainstream Financial Institutions are rapidly embracing the disruptive nature of Fintech and forging partnerships in efforts to sharpen operational efficiency and respond to customer demands. Fintech innovations can help them in many aspects of their operations, from improved costs and better capital allocation to greater revenue generation. While the threat to their business models remains real, the core strategic challenge is to choose the right Fintech partners.

In general, the banks that are willing to adapt to new technologies can capture a range of new benefits from Fintech. While it has taken some time for incumbent financial services businesses to start finding ways to work with emerging Fintech companies, closer collaboration was a clear theme of 2016. In a survey by Fintech Disruptor 2017, the banks and Fintech companies were asked the about the most probable advantages of collaboration among them. The results are shown in the following Figure 5:

While Fintech firms want to partner with banks to provide access to existing customer relationships, build awareness with customers and obtain customer data; banks themselves cite enhancing the customer experience (59%) and the development of new customer applications (56%) as the main objectives behind their intended partnerships with Fintech firms.

The above results are from the meta-analysis of the statistical results from the previous reports. All the executives referred to a need for co-creation, managing partnerships as part of an organization wide strategic focus. The cooperation that is required between Fintech, telecom companies and financial services institutions is beyond competition but about collective synergies. The jury is still out as to whether Fintech will be treated as mainstream.

**Figure 5:** Advantages of partnership between Traditional Banks and Fintech



Source: Fintech Disruptor Report, 2017

## 5. CONCLUSION AND SUGGESTIONS

Artificial Intelligence is having a significant impact on the financial services industry. The startup organizations in the Fintech sector are using artificial intelligence to create and develop software solutions to structure data and create a machine learning system. With the development of Fintech products, customers can comfortably perform all their payments in a simple and convenient way. The objective of this study is to explore the various preconditions to enable success of Fintech startups. The review of literature and the extracts of survey pointed to a number of internal and external factors. Selected lists of these factors are taken from 'World Fintech Report 2017' from the survey conducted by Capgemini and LinkedIn in collaboration with Efma from more than 8,000 customers in 15 countries across the world.

The results of the factors analysis ascertained that seven internal as well as external factors including User's experience (0.878), Timely and efficient experience (0.846), Better value of money (0.825), Access from other financial institutions (0.773), Transparency (0.763), Integration with the social world (0.734), and Brand name (0.719) have contributed 75.15% in the success of Fintech. However, customers have shown less satisfaction from security and fraud protection (0.458) and Quality of services (0.365) of Fintech companies. Uncertain regulatory environment, dearth of metrics linking innovation to benefits; risk averse cultures, budget constraints are hindering the way of successful implementation of Fintech.

With the incredible growth of the technology, the new financing channels and fundraising sites offer greater benefits for the customers. The fast rise of Fintech represents a challenge or an opportunity for banks – depending on the startup's strategy and that of the bank. The imminent competition to banks' business comes from the new breed of Fintech companies having capacities to address specific pain-points of financial customers such as remittance, credit, savings, etc. Multiple elements in banking ecosystem such as limited competition given licensing requirements, philosophy of (over) compliance, large and complex organizations with multiple decision contributors (not makers) that slow down decision making etc. make it difficult to incentivize and breed innovation in the banking sector.

A large majority of banks prefer to engage through equity participation with Fintech companies. This enables both partners to work in an open environment of trust and brings out the best form of both partners. However, it is important for banks to be very careful in the selection of Fintech partners. According to IDC research (2016), approximately 25% of the big banks see Fintech firms as potential acquisitions, which is both surprising and uplifting news for the future of financial services worldwide.

To create a successful business model, it is important for banks to partner with Fintech having complementary capabilities and focus on constant innovation. "The partnership between banks and large tech company's risks not staying a reciprocal one," said Jesse McWaters, lead author of the study, and Project Lead, Disruptive Innovation in Financial Services at the World Economic Forum. "Financial institutions increasingly rely on technology

firms for their most strategically sensitive capabilities but can so far only offer their ongoing business in return." There are multiple partnership structures – Joint Ventures, Equity stake, Acquisition, Start-up Incubation arms, Fintech focused VC funds, transactional partnerships - that can be potentially used for this purpose.

In a nutshell, banks and Fintech firms have different comparative advantages and a strategic collaborative partnership between the two would liberate them to focus on their respective core competencies and contribute to the innovation process. The banks that do not quickly convert into a new-age digital bank run the risk of becoming history. They would need to tap the requisite talent and create an environment where such talent can innovate and be agile. The banks must view the success of Fintech ecosystem as an opportunity and not as a threat.

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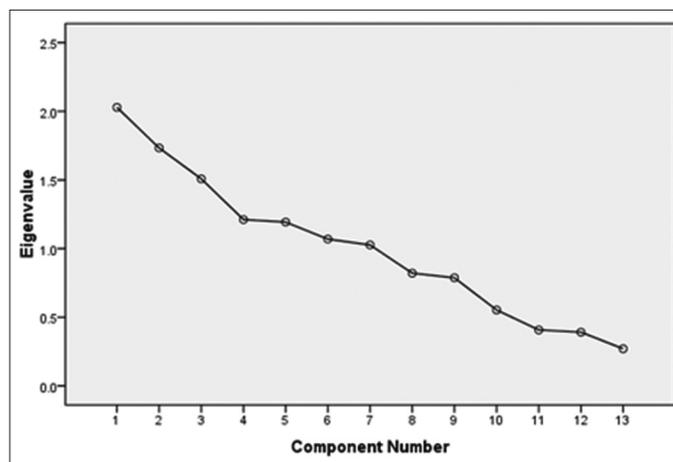
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## ANNEXURE

**Annexure 1: Rotated component matrix**

Rotated component matrix							
Component	1	2	3	4	5	6	7
Security and fraud protection	0.208	0.458	0.167	0.23	0.17	-0.102	-0.105
Quality of services	-0.206	0.69	-0.001	-0.389	0.117	0.365	-0.155
Transparency	0.117	0.349	0.763	-0.326	-0.221	-0.274	0.215
Personal interaction	0.002	0.102	-0.007	-0.008	0.689	0.008	0.067
Access to relevant product	0.054	-0.561	0.055	0.078	0.699	0.204	-0.373
Brand name	0.214	0.043	0.719	-0.055	0.115	0.25	-0.053
Convenience	-0.418	-0.037	0.635	0.432	0	-0.049	-0.041
User's experience	0.03	-0.045	0.093	0.047	-0.032	0.878	0.149
Contextual experience	0.493	-0.242	0.262	-0.128	0.493	-0.158	-0.165
Access from other FIs	0.773	-0.024	0.048	-0.013	0.246	-0.092	0.264
Better value of money	-0.024	0.016	-0.025	0.825	-0.028	0.053	-0.001
Time and efficient experience	0.032	-0.037	0.001	0.006	0.06	0.152	0.846
Integration with social world	0.734	0.148	0.022	0.014	-0.283	0.171	-0.161

**Annexure 2: Extraction of seven factors (scree plot)**



**Annexure 3: Customer value perceptions for traditional versus nontraditional firms, 2016**

