Abstract

Universally, a new business model is taking over the decisions in the banking industry incorporating mobile applications on smartphones. It is slated to organically change the business value proposition. Mobile devices, it is reported, are poised even to subtly replace the traditional banking operations and processes. Gartner’s Hype Cycle for mobile applications already in 2008 predicted mass institutionalization for Mobile Banking as late in 2015-16 (Gartner, 2008). A few thinkers estimated tech-savvy consumers and wireless technology to create markets ripe for Mobile Banking (Laukkanen and Lauronen, 2005). However, Mobile Banking’s wide adoption still remains low even within the established markets. This is contrary to the lusty dust that was raised within research and practice for long. Regarding the US market primarily, only 9 percent of the consumers in 2012 used mobile financial services (TNS Infratest Global and Kantar, 2012).

Keywords: Mobile Technology; Banking Transactions; Electronic Banking; Banking Services
INTRODUCTION

The emerging models of m-banking can be placed in four categories, based on the different roles played by the parties involved: the bank, the mobile company and in some cases, a third party product provider. The models vary from one in which a bank adds on a mobile channel to its existing product range, through hybrid models where a mobile service provider may bring different branding, product set and/or distribution system to a bank-based product, to a mobile telecom company dominated model in which the telephone company itself collects deposits and is responsible.

Going by definition of Rogers’ Adoption theory, it speaks for the early adopter phase rather than broad adoption [1]. Looking back at this melange, one could expect Mobile Banking to be just a fashionable blink instead of being an institutionalized practice. Should banks now broadly invest in Mobile Banking despite the risk of spending in a technology which might even fail to garner wide customer support over the coming years? Is research on the right path by putting strenuous efforts in understanding and developing of Mobile Banking though a heap of publications nudging to factors for adoption or is it just blindfolded treading what is currently popular in practice [2]?

IT Discourse

To approach these questions, this paper takes a tour of eclectic IT fashion research and discourse analysis and then go onto Technology Acceptance Model as the basis for study. In the process, it tries to uncover whether mobile banking adoption postures in the last decade has up surged or has shown a falling trend. What are the supposed drivers and how useful are these in understanding mobile banking applications? Management discourses and IT fashion theory foretell that the discourse lifecycle around an emerging technology often precedes the actual adoption lifecycle [3]. Quite interestingly, knowledge of past and actual discourse helps better estimate future developments.

Such knowledge generation enables managers of banks to better estimate the role of Mobile banking. How should it be integrated in a multi-channel strategy for adequate coverage? It is of huge interest whether external developments (technology) support or block the “hype” around Mobile banking strategies being pursued by banks. For that, we apply a theoretical version of Technology Acceptance Model duly structured to answer our first research question:

RQ1. Is Mobile Banking likely to influence transaction intention?

This question when answered will establish switching by banks to m-banking by providing information regarding allocation of resources and capabilities. This will entail favourable outcomes for customers and will meet banks’ objectives to add value to customer relationships. It should also add to customers’ evaluation of ease, safety, and privacy of m-banking services. Then it can be incorporated for better adoption in future in emerging economies like India. So far very little research has gone into how
customers interact and use such technology as a tool for banking services.

Traditional assumption is that consumers wish to have a beneficial and sophisticated experience using new technology. Recent research has gone into peripheral issue of information content and form - how it affects attitudes and transactions. But this paper questions all these basic assumptions and tries to address this gap by bringing in a ‘learning’ component or ‘knowledge’ component. That is investigating hedonic as well as utilitarian motives of using m-banking services. So Technology Acceptance Model gets a new life through extended conceptualization. This leads us to

RQ2. What are the Antecedents of Using Mobile Banking Services Offered by Banks in a Digital Environment?

Literature review and conceptual groundwork

Management literature analyses the discourse lifecycle through adoption lifecycle [4]. Though both lifecycles can run parallel or coevolve over time, the discourse first sparks off a certain innovation and so precedes the adoption lifecycle [3]. Early phase of the adoption lifecycle in which the discourse reaches its peak is attributed by Rogers [1] as ‘Innovators’ for the first 3.5 percent of adopters. The market chooses the most promising innovation as the one to promote [4]. By working up the new technology reasonably well and in a client-friendly manner, it tries to sense managers’ incipient preferences for new techniques.

In the next step, it articulates the utility of certain management technique to narrow the performance gap. Fichman and Wang [3] claim that IT driven innovations like m-banking, in contrast to management fashions, require a specific fashion theory. The tenet of their argument is that IT innovations cannot be used in the same manner in separate scenarios and can easily be abolished or superseded due to high switching costs, tangible artifacts like software and hardware (Mobile Apps interfacing the bank’s core systems, security issues) or company individual implementation details [3]. As a result, IT innovations and also the discourse around them after a fashionable phase do not disappear completely as management fashions do.

Hence, a pure symmetric bell-shaped curve with equal levels at the beginning and the end of the lifecycle does not fit in with mobile applications’ adoption lifecycle. Numerous authors like Wang [3] suggest the “Hype Cycle” originally conceived by Gartner to be an apt concept to illustrate the spread wave of IT innovations. The Hype Cycle then assumes an emerging IT innovation to run in tandem with its actual development [5]. This starts with a technology trigger that foments publicity. It leads to over-enthusiasm before the hype generally dries up in a peak of exorbitant expectations. Sooner or later the hype fades away as the results fall short of expectations, resulting in a trough of disillusionment. There are three landmarks in which an IT innovation takes on fashionable aspects and shapes an unclear destiny. This often gallops to a slope of enlightenment, followed by a plateau of productivity, and ultimately a decline may be precipitously.
Electronic Banking

Mobile banking is a form of electronic banking (as well as its sub categories mobile payment or mobile wallet) is a kind of e-commerce that depicts all financial service transactions through mobile communication technology [6]. It complements existing electronic banking channels like ATMs, telephone banking or online banking that experienced tremendous success in the last decades. In contrast to online banking which covers all banking processes like account balance, transaction history enquiries, transfer of funds or portfolio management just digitalized via the internet, mobile banking requires a transaction carried out through a mobile device [7-9].

This is usually done with the help of a mobile network (e.g. Universal Mobile Telecommunications System (UMTS)) or a wireless technology like Bluetooth or Near Field Communication [10]. So it is another banking channel that allows customers to interface with their bank through non-voice applications like mobile devices via browser or applications.

In contrast to traditional banking channels, Mobile Banking for customers promises a more flexible, omnipresent, and convenient environment [8]. For banks, it is an enabler service. With the help of mobile sets they can fine-tune their services germinating in more personalized and cost-efficient services. Mobile banking therefore is seen as the precursor of the digital 365 Mobile Banking – a fashionable concept these days.

Channel Growth

This in the last few years has spurred optimistic projections about Mobile Banking’s potential for the financial industry. Stewart even predicted m-Banking to register a phenomenal growth in terms of channels like online banking, telephone banking or ATMs. However, more and more researchers and practitioners have pointed out the difficulties that creep in with this concept and question a quick institutionalization. Some American banks which jumped early on the bandwagon even were forced to terminate their Mobile Banking engagement for a shortage of users [11]. Even in markets with high mobile affinity and penetration with mobile devices (e.g. Malaysia), usage levels have been reported to be low (Gartner.com).

Having no respite, sufficed, researchers in disparate geographic, social or technological contexts extend the technology acceptance model for m-banking transactions. They test factors that facilitate (e.g. information, advice given by the bank, ease of use) or impede (e.g. risks, costs, security issues, trust, privacy concerns) broad adoption of this new service application [12,13].

RECENT RESEARCH

Most recent research has concentrated on separating factors that push or impede on Mobile Banking’s adoption without analyzing the whys thereof [8,14]. Considering high level of investments in the IT infrastructure made by banks due to changes in business
processes, branch design and multi-channel management [13], a scenario where mobile banking has not taken a broad leap, can any time degenerate into a losing technology proposition. It can turn into a big threat instead of a potential business opportunity model. As banks already in the early years of mobile banking swiped losses, they seem to be rather hesitant in re-entering the market and injecting high investments in churning out new mobile banking services. Before commencing new mobile banking services, the industry needs to see and examine possible future trajectories. Banks need to revisit mobile banking’s role in an integrated multi-channel management system. A continuing impediment to adoption of either mobile banking or mobile payments systems seems to be consumers’ limited demand for those services. Many were comfortable with non-mobile options, and they did not see a clear benefit from using either service. In addition, around one in ten (11 percent) of those with mobile phones and bank accounts indicated they do not know if their bank offered mobile banking. That may be due to a dearth of interest in these services among the customers.

**Table 1:** Bank Branches.

<table>
<thead>
<tr>
<th>Bank Name</th>
<th>Number of ATMs</th>
<th>Number of Branches</th>
<th>No. of Employees</th>
<th>Total Income (Rs Mn)</th>
<th>Net Profit (Rs Mn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICICI Bank Limited</td>
<td>2209</td>
<td>557</td>
<td>25479</td>
<td>187676</td>
<td>25401</td>
</tr>
<tr>
<td>Kotak Mahindra Bank Limited</td>
<td>1891</td>
<td>78</td>
<td>3597</td>
<td>9370</td>
<td>1182</td>
</tr>
<tr>
<td>UTI Bank Limited</td>
<td>1891</td>
<td>349</td>
<td>6553</td>
<td>36184</td>
<td>4851</td>
</tr>
<tr>
<td>HDFC Bank Limited</td>
<td>1323</td>
<td>515</td>
<td>14878</td>
<td>55993</td>
<td>8708</td>
</tr>
<tr>
<td>Corporation Bank</td>
<td>901</td>
<td>794</td>
<td>10754</td>
<td>31979</td>
<td>4445</td>
</tr>
<tr>
<td>Canara Bank</td>
<td>815</td>
<td>2532</td>
<td>46893</td>
<td>100890</td>
<td>13432</td>
</tr>
<tr>
<td>Punjab National Bank</td>
<td>700</td>
<td>4066</td>
<td>58047</td>
<td>108153</td>
<td>14393</td>
</tr>
<tr>
<td>Bank of Baroda</td>
<td>634</td>
<td>2687</td>
<td>38737</td>
<td>82917</td>
<td>8270</td>
</tr>
<tr>
<td>Oriental Bank of Commerce</td>
<td>524</td>
<td>1161</td>
<td>14962</td>
<td>46717</td>
<td>5572</td>
</tr>
<tr>
<td>Union Bank of India</td>
<td>473</td>
<td>2095</td>
<td>25421</td>
<td>64888</td>
<td>6752</td>
</tr>
<tr>
<td>State Bank of Hyderabad</td>
<td>400</td>
<td>930</td>
<td>13108</td>
<td>33388</td>
<td>4270</td>
</tr>
<tr>
<td>Centurion Bank of Punjab Limited</td>
<td>394</td>
<td>237</td>
<td>4471</td>
<td>11146</td>
<td>878</td>
</tr>
<tr>
<td>Andhra Bank</td>
<td>391</td>
<td>1213</td>
<td>13169</td>
<td>31324</td>
<td>4855</td>
</tr>
<tr>
<td>Citibank N.A.</td>
<td>388</td>
<td>39</td>
<td>3250</td>
<td>41075</td>
<td>7055</td>
</tr>
</tbody>
</table>

Source: [www.dnb.co.in/topbanks/company_listing.asp?q=ATMs](http://www.dnb.co.in/topbanks/company_listing.asp?q=ATMs); visited on 21st August, 2016.

In an opposite stand, Gill and Bhattacherjee [2] drive the point that research should not blindly follow what is popular in practice. No research has analyzed the discourse lifecycle on m-banking impacting services. To meet and deliver customer expectations, financial services companies are engaging alternative channels to maximize customer convenience, cut down costs and maintain profitability. Phone banking and automated teller machines (ATM) already widely used by financial institutions in many countries are becoming everyday more sophisticated. In India, most banks have more ATMs, while others have a number significantly lower than the bank branches. Table 1 below depicts these facts.
Case of Brazil

In Brazil, internet banking has diverted the attention of most Brazilian financial institutions, since there are more than 33 million bank clients using internet banking. Coming out of strategies to increase customers’ banking convenience, financial services companies in both the countries are adding banking services through their mobile network. Mobile banking promises to be immense potential, since it follows on the success of internet banking. Logically then, mobile banking is a better digital alternative to other traditional bank channels such as ATMs, internet banking and physical branches. Estimates of the number of mobile banking users further confirm this diagnosis: there are approximately six million people performing financial transactions through mobile banking in Western Europe and something like 601,000 mobile banking users in Latin America, a number which should have reached 7 million in 2016. In addition, mobile phones are increasing at an annual rate of 15 percent, and now add up to a total 3.9 billion around the world.

Roger’s Model

According to Roger’s model [15], the adoption rate of a new technology depends on five characteristics of the innovation, namely relative advantage, compatibility, complexity, observability, and trialability. Complexity has a negative relationship with the adoption rate, whereas the other constructs positively influence adoption intention. In the wake of developing an instrument to measure initial adoption and diffusion of information technology innovations within financial organizations, Moore and Benbasat [16] added two other constructs to Rogers’s [15] model: image and voluntariness of use. Furthermore, Moore and Benbasat [16] divided construct observability into two components: demonstrability and visibility. These two denote perceptions of innovation. Rogers’ [15] model essentially rests on the characteristics of innovation. Other innovation adoption models are based on two oft-quoted social psychology theories: the Theory of Reasoned Action (TRA) and its extension, the Theory of Planned Behavior (TPB) [17,18].

TAM Model

Davis [19] came up with TAM to predict use of new information technology within organizations and is based on TRA. In TAM, behavioral intention is a function of both attitude towards the system and its perceived usefulness. Attitude on the other side is influenced by both perceived usefulness of the system and the perceived ease of use. Later, Venkatesh and Davis [19] included the construct subjective norm in the original model and called it TAM2. Voluntariness is also a factor according to them. In the context of information technology adoption, Taylor and Todd [20] advanced the DTPB model. They departed a little and decomposed subjective norm, perceived behavioral control and attitude constructs into new sub-constructs.

Explicitly, subjective norm is composed of peer influence and superior influence. Perceived behavioral control has sub sets of self-efficacy, resources facilitating
conditions, and technology facilitating conditions. Attitude construct was further driven into three dimensions: perceived usefulness, ease of use, and compatibility originating from Roger’s [15] innovation diffusion theory.

Rogers [15] saw image as a dimension of the relative advantage construct. Luarn and Lin [13] on the other hand, argued that image affected attitudes and needed to be considered as a separate variable from relative advantage.

The proposed framework considers trialability as the perception of individuals about how much banks offer chances for them to try mobile banking services and, the clearer this perception, the better their attitudes towards mobile banking. Visibility and results demonstrability have their origin in Roger’s [15] observability construct. Visibility refers to the extent that an innovation can be observed before it is adopted [16], while results demonstrability refers to the degree to which the benefits of using an innovation are clear to potential adopters. Therefore, we advance the statement that the more visible mobile banking is and the more individuals are able to perceive its benefits, the better the attitudes towards mobile banking.

Rogers [15] defined compatibility as the degree to which an innovation is perceived as being consistent with the individual’s values, past experiences, and needs. Therefore, we can safely predict that the more mobile banking is perceived as being compatible with such values, experiences and needs, the better will be the attitudes towards it. Hypothetically, the greater the perception that mobile banking is easy to use, the better the attitudes towards it.

By subjective norm Ajzen [17] referred to the perceived social pressure about whether to adopt a specific behavior or not. Social pressure can be generated by family, friends or individuals that belong to the same social groups as the potential adopter. Mobile banking adoption so boils down to a personal decision rather than an organization-dependent decision. Self-efficacy can be divided into resource facilitating conditions and technology facilitating conditions. Self-efficacy is based on the potential adopter’s perception of using mobile banking services and possessing the required knowledge and resources to use such service.

Transaction data reveals that, in India, there has been a huge upsurge in m Banking transactions since 2013. This sends a real challenge to generalize the findings of previous studies in the emerging markets situation, especially in the case of India. Despite its importance as a financial transactional medium, little research has been undertaken to scrutinize the process underlying m-banking to ignite user’s transaction intention. This knowledge is important because, unlike other conventional information systems, such as website or ATM, m-banking involves using a very small terminal screen limiting the amount of content that can be displayed. Therefore, the way in which information is organized and presented to users is of extreme importance in M banking. Moreover, studies also support the fact that the interface design and quality of M banking information has a pivotal role to play in influencing customers’ behavior related outcomes.
Admittedly, being a highly personalized and context based technological platform, m-banking is prone to higher perception of risk twinged with streaks of privacy. The validation of the proposed conceptual framework with data will facilitate banks with the task of allocating resources and capabilities. Further, application of M banking as a specific mode of transaction in emerging economies, like India, appear pertinent.

Then, following prior research on Technology Acceptance Model, we can hypothesize that higher levels of perceived usefulness will trigger more usage intention. Technology also should be easier to use and enhance the overall m Banking experience. To be definite, it is posited that

H1: The greater the perceived usefulness, greater is the usage intention.
H2: The higher is the perceived ease of use, greater is the usage intention.
H3: The greater is the perceived ease of use, greater is the perceived usefulness.

We extend the framework by looking at users’ hedonic and utilitarian attitudes. So we examine cognitive and affective reactions towards m-banking emanating from the customers. This will facilitate a richer filter of predicting customers’ attitudes. Yang and Yoo [21] went into extended TAM incorporating affective and cognitive attitudes. But within the context of an organization, they did not find system use being validated by affective attitudes. But here we take both utilitarian and hedonic attitudes as influencing perceived usefulness. Perceived usefulness is positively related to utilitarian and hedonic attitudes. Deductively, therefore, hedonic and utilitarian attitudes mediate the relationship between perceived usefulness and usage (transaction) intentions. Perceived usefulness and perceived ease of use are directly associated with usage intentions. The following hypotheses seem to be in order:

H4: The greater the perceived usefulness, the greater will be utilitarian attitude and hedonic attitude.
H5: The greater the utility attitude, the greater will be usage intention.
H6: The greater the hedonic attitude, the greater will be usage intention.

Other writers like Venkatesh and Davis [19] extended TAM with affective variables like risk. Risk seems to be relevant in this customer-centric context, albeit present in organization context too. In organizations, where it has already introduced a technology, risk is not as relevant for them as it is for customers leaping onto transactions in money terms. This is intuitive to an extent. Consumers who expressed concerns about the security of mobile banking were asked to specify what aspect was of greatest concern. Some reported fears of data interception (22 percent), phone hacking (17 percent), and lost or stolen phones (9 percent). While additional specific concerns were noted by small numbers of respondents, the most common response was that they were concerned about security risks occurring (46 percent). Though risk is tolerated depending on the willingness of an individual customer to take a modicum of risk. However, risk perceptions any time can go up if transactions do not go smoothly showing up on the mobile screen. So extended model of TAM with risk as a factor brings in another hypothesis:
H7: The greater is the risk tolerance, the greater is the perceived ease of use.

Method

A total of 233 represented the sample. Questionnaire was sent to 300 bank customers of three banks falling in age group 25-45. 47 were incorrectly responded. 20 were unanswered and so ignored. Gender was relatively evenly represented with a median age of 27 years. Out of the respondents 100% were using ATMs, 68.2% were using internet banking services, 32.9% were using tele banking services and 27.1% were using mobile banking services (Table 2). They were asked as to why they used m-banking services. Respondents answered questions on intention to use, perceived usefulness (PU), and perceived ease of use (PEOU), risk tolerance (RT). Measures of the construct from conventional TAM were done with existing units from the literature, typically in the Likert scale anchored from 1 to 7 (Figure 1). (1 was strongly disagreeing and 7 were strongly agreed.) Hedonic and Utilitarian attitudes (HEDO) and UTIL were measured with Voss et al. [22] scale. It took five semantic differentials for utilitarian attitude and four differentials for hedonic attitude.

Table 2: Below Illustrates These Factors.

<table>
<thead>
<tr>
<th>Scale, No of items of latent constructs</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived usefulness, four items, AVE=0.96</td>
<td>4.89</td>
</tr>
<tr>
<td>Perceived ease of use, four items, AVE=0.88</td>
<td>4.81</td>
</tr>
<tr>
<td>Risk tolerance, seven items, AVE=0.75</td>
<td>5.02</td>
</tr>
<tr>
<td>Utilitarian attitudes, five items, AVE=0.97</td>
<td>4.86</td>
</tr>
<tr>
<td>Hedonic attitude, four items, AVE=0.94</td>
<td>4.71</td>
</tr>
</tbody>
</table>

Figure 1: Structural Results of the analysis.
In cross-section research, common method bias has been seen as an important source of systemic error. Podsakoff [23] have us some clues to solve this bias. Measures were obtained using different response formats as suggested by Podsakoff [23]. There was no right or wrong answer and nothing came due to identification of respondents. So a principal components analysis with varimax rotation was used for all measurement items. Six different factors were identified from unrotated factor solution (with Eigen values greater than 1) and all 6 factors accounted for 79% variance. So there was no significant evidence of CMB.

Analysis

Table 2 before depicts measurement properties of the major scales of this study. Alpha reliabilities averaged 0.96 and were in the range of 0.94 to 0.98, above Nunnally and Bernstein’s recommended level of 0.7. It suggested sound internal consistency [24]. Average variance extracted for all measures were above 0.50. Composite reliability measures proved that each latent construct was well represented by observed measures. Communality measures were all above the acceptable level of 0.50 for each latent variable.

Data were run through partial least squares (PLS). That took into account validating measurements and testing support for the hypotheses. PLS is a component-based structural equation modeling technique that has particular advantages over covariance modeling. Figure 1 shows the model. It is formulated for using both reflective and formative modes together with categorical variables. PLS is having no limitation of identification issues, even in complex models. PLS uses standardized data to calculate latent variable scores and output. Path coefficients were standardized.

Maximization of variance explained in the dependent variable is the primary objective of PLS [25]. TAM has been suggested particularly useful with PLS.PLS also gives accurate descriptions of complex models with both normal and non-normal data.

PEOU strongly predicted PU of m-banking applications ($\beta = 0.74$, $p < 0.01$). PU in turn predicted strongly usage intentions ($\beta = 0.58$, $p < 0.01$). PEOU was also found related to using intention ($\beta = 0.24$, $p < 0.05$). UTIL ($\beta = 0.36$, $p < 0.01$) rather than HEDO ($\beta = 0.07$) predicted intention to use m-banking in the future. PU strongly predicted UTIL ($\beta = 0.71$, $p < 0.01$). PEOU also predicts UTIL ($\beta = 0.32$, $p < 0.01$), but not as much as PU. Hedonic attitude is predicted by PU ($\beta = 0.46$, $p < 0.01$), but not by PEOU ($\beta = 0.07$, $p < 0.05$). HEDO also predicts UTIL ($\beta = 0.56$, $p < 0.01$) consistent with Voss et al. [22] regarding conceptualizing constructs and validity thereof. RT is also related to PEOU ($\beta = 0.39$, $p < 0.01$).

The model predicts well usage intention ($R^2 = 0.94$). Antecedents provide a good explanatory power for UTIL ($R^2 = 0.91$) and HEDO ($R^2 = 0.86$), PU ($R^2 = 0.81$) and PEOU ($R^2 = 0.69$). All are predicted by the model, but not as much as PEOU [26,27]. From the PLS results, the extended TAM model predicts well m-banking usage intentions. Risk factor is also validated overall in the model.
DISCUSSION AND IMPLICATIONS FOR MANAGERS

Findings from this model pinpoint the drivers of acceptance of TAM in a learning environment for m-banking applications. This model may be applied to other learning technologies. Perceived usefulness and perceived ease of use are good predictors. So marketing managers can go into the different aspects of this model and try to enhance adoption. The TAM model is a key individual difference variable such as risk tolerance. First managers can try adoption of new m-banking application and then veer towards diffusion of this new technology use.

Specifically, what emerges out of all this discussion is that utilitarian attitudes are the most proximal antecedent of usage intentions. The link between hedonic attitudes and usage intention comes out weak here. It appears customers are more concerned with ‘what’s there in this new technology for me’ rather than ‘oh, that is cool enough’. So customers will use m-banking for their own purposes and will engage in it when they perceive advantages for doing like that duly taken care of risk. So managers are well advised to promote tangible learning benefits of the new application to users, so that they perceive the practical benefits. Hedonic benefits (fun, excitement, enjoyment) do not come to play at all. The benefits must also be properly conveyed so that customers learn facets i.e. ins and outs of this new technology use and never land in frustration.

It should not be assumed that customers will continue to use the new technology tool to conduct their business. That may switch to traditional channel any time depending on their perceptions of risk and perceived usefulness. The environmental impact also leaves its score towards adoption of m-banking.

LIMITATIONS AND SUGGESTIONS

Sample size is also relatively limited; it could expand and cover number of banks and their customers. To be more candid, more young customers falling in age 25-30 could be considered and hemmed in the methodology. That can yield perhaps better results. Socially, it has implications. Given the prevalence of mobile phones—particularly smartphones—among minorities, low-income individuals, and younger persons, mobile technology has the potential to empower consumers and expand access to financial services for underserved populations or those lying at the bottom-of-the-pyramid. However, consumers will need to grasp and weigh the perceived benefits and potential risks to their security and privacy presented by the use of this evolving technology. The use of mobile banking has increased substantially in the past few years. It appears likely to continue to increase as more consumers use smartphones or recognize the convenience of this service as more financial institutions offer mobile banking. In any new market, enablement requires a blend of legal and regulatory openness, which creates the opportunity to startup and experiment, with sufficient legal and regulatory certainty that there will not be arbitrary or negative changes to the regulatory framework. This is to ensure that providers have the confidence to invest the resources necessary. Countries with low levels of effective regulation may be very open but highly uncertain,
because regulatory discretion may lead to arbitrary action. Conversely, countries with greater certainty may be less open, in that the types of entity and approach allowed to function are restricted. Especially in a new market sector like mobile banking, where business models are yet to stabilize, enabling in the policy and regulatory sector means a move towards greater certainty and greater transparency. A comprehensive vision for market development among policy makers, regulators and industry players can help to define and redefine impediments and calibrate proportionate responses to risk at appropriate times and places. customers will use m-banking for their own purposes and will engage in it when they perceive advantages for doing like that duly taken care of risk. So managers are well advised to promote tangible learning benefits of the new application to users, so that they perceive the practical benefits. Hedonic benefits (fun, excitement, enjoyment) do not come to play at all. The benefits must also be properly conveyed so that customers learn facets i.e. ins and outs of this new technology use and never encounter frustration.

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