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Mobile Banking Adoption: A Study of Customers in India

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The present paper has made an attempt to analyze the adoption pattern of mobile banking services among the banking customers in India. In order to serve the purpose of the study, primary research focusing on banking customers in India has been conducted. The results have depicted that the mobile banking services are being underutilized by the users. Further, it has been found that the mobile banking services are used for the purpose, namely, balance inquiry, shopping, etc. While exploring factors affecting the usage pattern of mobile banking, personal disposition towards technology adoption, perceived usefulness, perceived ease of use and effectiveness of mobile banking services are found to play a significant role. On the basis of the findings of the study, various suggestions have been made to the banks for enhancing the usage of mobile banking services.

Keywords: mobile banking, technology adoption, perceived usefulness, perceived ease of use, effectiveness

Introduction

Technology has restructured the operations of the banking sector by bringing exemplary changes in its operations. Gone are the days when customers required personal visits to the banks for carrying out their banking transactions. Presently, all the banking activities can be carried out at the doorsteps of the customers and as per their convenience level thanks to the use of the latest banking technological developments (Robinson, 2000). Ranging from withdrawals and deposits of money to instant loan applications, each and every banking activity requires the use of technology (IDRBT, 2013). Among such technologies, the most recent and new entrant is the mobile banking technology. It has been defined as the provision of availing banking services with the help of mobile devices. Through the use of mobile banking, various banking activities can be made by the customers from any place and at any time with the use of their smart phones. The activities include balance inquiries, fund transfers, bill payments, etc. Indeed, the use of mobile banking also provides customers with messages regarding their transactions through SMS when the transaction is being conducted as an internet banking service. Thus, the banking customers are increasingly adopting mobile banking services for serving their banking needs. Consequently, with a view to analyze the usage pattern of mobile banking services

among the banking customers in India, the present composition has been framed.

Status of Mobile Banking in India

The extensive penetration of mobile phones in India over and above internet has laid the foundation of mobile banking. In India, the mobile subscriber base is 811 million, while only 200 million people have bank accounts (Tare, 2014). It signifies that 68 per cent of the total population of 1.2 billion people has mobile phones, which provides an attractive opportunity for the banks to utilize mobile banking platforms for reaching the 'unbanked' population and providing them with banking solutions at anytime and anywhere (Jamaluddin, 2013). Launched in 2009 in India, the transactions carried out with the use of mobile mode of banking has witnessed a 13-times increase in volume and value terms (Jamaluddin, 2013). According to the reports published by RBI (2014), 3 per cent of the total transactions out of 800 million transactions are being made through mobile banking mode of banking. This depicts that the usage of mobile banking services is still low (IDRBT, 2013), though the key players, such as banks, mobile network operators and mobile payment service providers are attempting to promote mobile modew of banking as an alternative form to the banking customers (Karnouskos, 2004; Taga & Karlsson, 2004; Sharma, 2011, Anckar & D'Incau, 2002). Although the secondary statistics pertaining to the usage of mobile banking depict an enhanced usage of mobile banking services by the banking customers in India, yet the reported figures are found to be lower than the expected usage level, thereby substantiating lower acceptance of mobile banking services as a medium of conducting banking transactions by the banking customers in India (Sreelatha & Sekhar, 2012). Accordingly, the present study attempted to explore the usage pattern of mobile banking services among banking customers in India and to explore the reasons for the low reported usage among customers.

Research Methodology

Sample DesignIn the present study, the population are the banking customers in India. For selecting the representative sample of banking customers in India, all the twenty-nine states of the Indian Union have been categorized into four categories on the basis of per capita net State Domestic Product at factor cost (current prices) for the year 2012–3 retrieved from Government of India. From each of the four categories, one state has been chosen randomly, out of which the city with highest gross domestic product has been selected for collecting the sample in the present composition. The selected cities include Mumbai, Hyderabad, Delhi and Gurgaon and a total of 120 customers from each of the selected cities have been

contacted by visiting branches of different commercial banks operating in India.

While selecting banks, efforts are made to ensure that the customers of almost all the commercial banks should be contacted. Further, the selection of branches and the customers from each branch is based on the convenience of the sampling approach. Accordingly, a total of 480 responses of the customers have been collected during the period of November 2014 to May 2015. Primarily, the entire data of 480 respondents have been scrutinized against outliers, missing responses and incomplete responses. Accordingly, 167 responses have been removed owing to the reasons such as non-response, incomplete responses, etc., thereby, reducing size of the usable data to 413 responses.

Accordingly, an insight into the socio-economic characteristics of respondents indicated that 78% of the respondents were males with age group between 34–58 years (44%) and with family income equals to Rs. 1, 20,000 or below (51%). Further, 77% of the respondents were employed in different private/government/public sector organizations and were either graduates or undergraduates (54%).

Measures

For collecting responses from the representative sample of the banking customers in India, a well structured, pre-tested comprehensive questionnaire has been developed. The questionnaire has explicitly asked whether the respondent himself or herself is holding bank account and, if yes, for how long the bank account is being operated by the respondent. The responses of the customers having their own account in commercial bank for more than six months have been taken for the present study, as this is the time by when customers may, usually, get acquainted with almost all the different facilities/technologies offered by the banks. Further, for analyzing the usage pattern of mobile banking services, the questionnaire includes questions, such as the number of bank accounts operated by the customers, the reasons for operating more than one single account, the frequency of using mobile banking service, the purpose of using mobile banking services, etc.

Also an attempt has been made to explore the difference in the usage pattern of mobile banking services among the banking customers on account of other factors, such as the effectiveness of mobile banking services and the various technology adoption facets, which has been found to exhibit a significant role in altering the technology adoption decision of the customers, such as perceived usefulness, personal disposition towards technology adoption, facilitating conditions, etc.

Accordingly, effectiveness of the mobile banking services has been analyzed through five dimensions, namely, accessibility, economical, time flex-

ibility, safety & security, and customization dimensions, and on a 10-point scale ranging from 1 to 10, wherein 1 represents 'Least Effective' and 10 represents 'Highly Effective.' The decision to take the above-mentioned dimensions was based on the research work done by Gikandi and Bloor (2010), Dhingra (2011), Taleghani (2013), Mashhour and Zaatreh (2008), and Khrais (2013).

Further for analyzing the factors that affect the usage pattern of mobile banking services, technology adoption facets (namely, perceived usefulness, perceived ease of use, personal disposition of customers towards technology adoption, facilitating conditions, behavioral intentions, and attitude towards technology adoption) have been taken on the basis of research attempts by Parasuraman (2000), Ratchford and Barnhart (2011), Agarwal and Prasad (1998), Compeau and Higgins (1995), Davis, Bagozzi, and Warshaw (1989), Venkatesh, Morris, Davis, and Davis (2003), Venkatesh (2000), Limayem and Hirt (2003), Bagozzi and Dholakia (1999), Kim, Malhotra, and Narasimhan (2005), Smith et al. (2008); Bartone, Ursano, Wright, and Ingraham (1989), Windle, Markland, and Woods (2008), Fishbein and Ajzen (1975), Ajzen (1991), Wu and Chen (2005), Malhotra and Galletta (1999). Accordingly, perceived usefulness, perceived ease of use, personal disposition towards technology adoption, facilitating conditions, behavioral intentions and attitude towards technology adoption have been assessed with scales having 5, 5, 15, 6, 6, 4 measures, respectively. The responses for the construct, namely, PU and PEOU were taken on a 7-point scale ranging from 1 to 7, as recommended by Davis et al. (1989), where 1 represents 'Strongly Disagree' and 5 represent 'Strongly Agree.' The responses pertaining to personal disposition, facilitating conditions and behavioral intentions were taken on five-point-Likert type scale ranging from 1 to 5, wherein 1 represents 'Never' and 5 represents 'Always.'

Furthermore, the attitude has been assessed through a seven-point bipolar inventory. All the inventories assessing the aforesaid six constructs have been scrutinized against normality, reliability, dimensionality and structural validity assumptions and the data has been found to fulfill all the prescribed norms. Accordingly, normality of the constructs has been established through the values of skewness and kurtosis (which are found to fall in acceptable range suggested by Hair, Black, Babin, Anderson, & Tatham 2012, i.e., between +2 to –2 in both cases). Further, the values of Cronbach's alpha are reported to fall in the range between 0.860 to 0.972 for the aforementioned constructs, which is above the prescribed limit of 0.70 suggested by Hair et al. (2012), Tavakol and Dennick (2011) and Donio et al. (2006). The dimensionality of all the aforesaid constructs has been established through an Exploratory Factor Analysis approach. The values of KMO statistics (ranging from 0.627 to 0.959) and Bartlett's test of spheric-

Table 1 Model Fit Indices of Constructs

Constructs	χ^2/df	RMSEA	GFI	AGFI	CFI
PD	4.946	0.057	0.864	0.827	0.943
PU	3.847	0.049	0.995	0.982	0.999
PEOU	4.970	0.058	0.993	0.975	0.998
FC	2.449	0.035	0.999	0.990	0.990
Att	4.897	0.057	0.997	0.984	0.995
BI	3.913	0.049	0.988	0.973	0.995
Referential values	< 5.000	< 0.060	≥ 0.850	≥ 0.800	≥ 0.900

Notes *df* – degrees of freedom, χ^2 – chi-square, RMSEA – Root Mean Square Residual, GFI – Goodness of Fit Index, AGFI – Adjusted Goodness of Fit Index, CFI – Comparative Fit Index.

ity (all values are statistically significant at 1 per cent level of significance) are found to meet the norms prescribed by Hair et al. (2012), Williams, Brown, & Onsman, (2012), and Beaumont (2012), thereby substantiating the statistical fitness of the data for employing EFA approach. Also, the values of communalities and factor loadings are found to be above the threshold limit of 0.50, as suggested by Hair et al. (2012) in the case of all the measures assessing the respective construct. Adding more to the dimensionality of the constructs, the application of principal component analysis and varimax rotation has yielded a single factor solution in the case of all the aforesaid constructs, and the percentage of variance is found to fall in the range between 64.502 per cent to 86.845 per cent in the case of all the constructs.

Besides, the structural validity of the constructs, namely, personal disposition, perceived usefulness, perceived ease of use, facilitating conditions, attitude towards technology and behavioral intentions towards technology adoption has also been examined. Accordingly, the results of construct validity and reliability are found to fall in the range between 0.56 to 0.80, which is above the threshold limit prescribed by Hair et al. (2012). The model fitness values, namely, χ^2/df, RMSEA, GFI, AGFI and CFI are found to meet the referential criterion values (i.e., < 5, < 0.06, ≥ 0.850, ≥ 0.800, ≥ 0.90, respectively), suggested by Hair et al. (2012) and as depicted in Table 1. Since all the aforesaid constructs have shown adequate normality, reliability, dimensionality and structural validity, the aggregate of all the aforesaid measures has been taken in the present composition for analyzing the difference in the usage pattern of mobile banking services.

Analysis and Discussion

Number of Bank Accounts Operated by Mobile Banking Users

As represented in Figure 1, the majority of the mobile banking users (89 per cent) are found to hold multiple bank accounts. It is being followed by

Table 2 Reasons for Holding Multiple Bank Accounts by Mobile Banking Users

Reasons	*f*	%
The single bank account does not provide latest technology for carrying out all my banking transactions	320	77.44
The banking transactions and updates provided by the single bank cannot be easily accessed globally	353	85.47
The cost involved in carrying out the banking transactions with the use of the latest banking technologies is high in the case of one single bank	96	23.20

Notes As the question is 'tick as many as applicable type,' the total percentage may exceed 100.

Figure 1 Number of Bank Accounts Operated by Mobile Banking Users

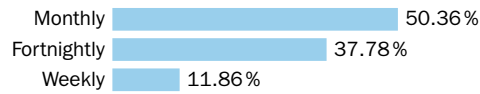

Figure 2 Usage Frequency of Mobile Banking

11 per cent of the mobile banking users who are found to hold an account in two banks. Further, none of the mobile banking users hold an account in single bank account.

Reasons for Holding Multiple Bank Accounts by Mobile Banking Users

The results (Table 2) highlight that 85.47 per cent of the mobile banking users hold multiple bank accounts due to lack of global presence of one single bank. Further, 77.44 per cent of them said that they hold multiple bank accounts as the single bank account does not provide them with all the latest banking technological developments for serving their banking needs. Also, 23.20 per cent of the mobile banking users responded that the cost involved in availing all the services of a single bank account is higher, due to which they have opened accounts in other banks also.

Usage Frequency of Mobile Banking

The review of usage frequency of mobile banking services reveals that half of the aforesaid users (50.36 per cent) are utilizing mobile banking services on a monthly basis for carrying out their banking activities (refer to Figure 2). Whereas, 37.78 per cent have been found to utilize mobile banking mode of banking fortnightly. Besides, a low proportion of the mobile banking users, i.e., 11.86 per cent are found to utilize the mobile banking services on a weekly basis.

Table 3 Purpose of Using Mobile Banking Services

Reasons	*f*	%
Bill payments	106	25.66
Shopping	157	38.01
Balance inquiries	364	88.13
Money transfers	10	2.40

Notes As the question is 'tick as many as applicable type,' the total percentage may exceed 100.

Table 4 Effectiveness of Mobile Banking

(A)	Effectiveness Rating										(B)
	1	2	3	4	5	6	7	8	9	10	
Acces-	0	0	0	0	6	72	158	141	34	2	2.59
sibility	0	0	0	0	1.5	17.4	38.3	34.1	8.2	0.5	
Econom-	0	0	0	2	15	193	113	63	27	0	2.36
ical	0	0	0	0.5	3.6	46.7	27.4	15.3	6.5	0	
Time	0	0	0	1	73	174	99	45	17	4	2.26
flexibility	0	0	0	0.2	17.7	42.1	24	10.9	4.1	1	
Safety &	0	0	0	10	130	147	94	22	10	0	2.11
security	0	0	0	2.4	31.5	35.6	22.8	5.3	2.4	0	
Custom-	0	0	0	20	145	181	59	8	0	0	2.01
ization	0	0	0	4.8	35.1	43.8	14.3	2	0	0	

Notes Column headings are as follows: (A) attributes, (B) overall mean value. 1 – highly ineffective; 2 – most ineffective; 3 – more ineffective; 4 – much ineffective; 5 – fairly ineffective; 6 – fairly effective; 7 – much effective; 8 – more effective; 9 – most effective; 10 – highly effective.

Purpose of Using Mobile Banking Services

As evident from the results presented in the Table 3, only 38.01 per cent are found to utilize mobile banking services for shopping purposes. Whereas, 25.66 per cent of the total mobile banking users are found to utilize the said services for bill payments, and only 2.40 per cent are found to avail the service of money transfers through mobile modes of banking. Besides, 88.13 per cent of the mobile banking users are found to utilize the mentioned services for the purpose of balance inquiries.

Effectiveness of Mobile Banking

Further, the effectiveness of mobile banking services has been examined on the basis of five dimensions, namely, accessibility, economical, time flexible, safety & security and customization dimensions.

Accordingly, the results depict that the majority of the mobile banking users (38.3 per cent) rate the said services as more effective services on the attribute of accessibility than the rest of the attributes, namely, economical (46.7 per cent); time flexibility (42.1 per cent); safety and security (35.6

per cent) and customization (43.8 per cent). This indicates that the mobile banking services are not being considered much effective by its users and this might be the reason for the low adoption of mobile banking services by the users, as depicted by the earlier results of the present composition.

Uncovering the Difference in Mobile Banking Usage Frequency

The difference in the usage pattern of mobile banking services has also been examined. In order to ascertain this, mobile banking users have been classified into two categories on the basis of their mobile banking usage pattern. The two categories are named as regular users (N = 205) and irregular users (N = 208). Regular users included customers who have been found to utilize mobile banking services weekly and fortnightly, whereas, irregular users included those utilizing the said services monthly. A mobile banking service is the recent entrant in the catalog of banking technologies owing to which the services might not have much penetration among the banking customers. Taking this into consideration, the weekly and fortnightly usage of mobile banking services has been considered as a regular usage of the mobile banking services and the users are named as regular users, whereas the monthly usage has been considered as irregular usage and the users are categorized as irregular users. The difference in the usage pattern of mobile banking services is discussed in the forthcoming paragraphs.

Mobile Banking Usage Pattern and Purpose of Usage

In order to analyze the difference in the usage pattern of mobile banking services on account of the purpose for which the said services are being used, χ^2 statistics has been employed. The null hypothesis set for the same is

H0.1 *There is no significant difference in the mobile banking usage pattern on account of the purpose of using the mentioned service.*

Accordingly, the results (see Table 5) highlight statistically significant differences in the usage pattern of mobile banking on account of three kinds of purposes (i.e., bill payments, shopping and balance inquiries). On the other hand, the difference in the usage pattern of mobile banking services for the purpose of money transfer is found to be statistically insignificant, thereby leading towards a partial rejection of the hypothesis H0.1.

The results of χ^2 statistics have highlighted that 59.25 per cent and 54.77 per cent of the mobile banking users utilizing the said services for the purpose of bill payments and shopping, respectively, are the regular users of these services, while the remaining 40.75 per cent and 45.23 per cent are the irregular users of mobile banking services. Further, 51.10 per

Table 5 Mobile Banking Usage Pattern and Purpose of Usage

Purpose	(1)		(2)		(3)	4
	f	%	*f*	%		
Bill payments	64	59.25	44	40.75	5.720*	108
Shopping	86	54.77	71	45.23	1.974***	157
Balance inquiries	178	48.90	186	51.10	2.624***	364
Money transfers	6	60.00	4	40.00	0.381	10

Notes Column headings are as follows: (1) regular users of mobile banking, (2) irregular users of mobile banking, (3) chi-square, (4) total number of users. * Statistically significant at 1 per cent level. *** Statistically significant at 10 per cent level.

cent of the mobile banking users who are found to utilize mobile banking services for the purpose of balance inquiries are regular users of mobile banking services, while the remaining 48.90 per cent out of the total of 364 users are irregular ones.

Mobile Banking Usage Pattern and Technology Adoption Facets

The difference in the usage pattern of mobile banking services on account of various technology adoption facets, namely, personal disposition, perceived usefulness, perceived ease of use, facilitating conditions, behavioral intentions, attitude and effectiveness (dimension-wise) have also been examined. For analyzing this, the hypothesis set is:

H0.2 *There is no significant difference in the mobile banking usage patterns on account of various technology adoption facets, namely, personal disposition, perceived usefulness, perceived ease of use, facilitating conditions, behavioral intentions, attitude and effectiveness dimensions, namely, accessibility, economical time flexibility; safety & security and customization.*

Accordingly, the results of independent sample *t*-test (see Table 6) depicts a statistically significant association between mobile banking usage pattern and technology adoption facets, namely, personal disposition, perceived usefulness, perceived ease of use and effectiveness (all the five dimensions). Whereas the relationship between mobile banking usage patterns and technology adoption facets, namely, facilitating conditions, attitude, and behavioral intentions, has been found to be statistically insignificant. Thus, the hypothesis H0.2 has been partially rejected.

The higher mean values (3.38) of the responses of regular users of mobile banking on the facet, namely, personal disposition, indicates that the mobile banking users having more favorable personal disposition towards the adoption of the latest banking technologies are utilizing the above-mentioned services more regularly than those with less favorable personal

disposition towards technology adoption. Further, it has been found that the mobile banking users perceiving the latest banking technological developments as useful and free of mental and physical efforts are utilizing mobile banking services more regularly for serving their banking needs. The same is also being reflected through the relatively higher mean values in the case of regular users of mobile banking on the facets, namely, PU (7.77) and PEOU (7.81).

The results of Table 6 depicts a statistically significant difference ($p < 0.01$) in the usage pattern of mobile banking services on the account of the effectiveness of the said services. The relatively higher mean values of the responses of regular mobile banking users pertaining to all of the five dimensions of effectiveness highlights that the use of mobile banking services is regular when users consider the said services more effective on the dimensions of accessibility, economical, time-flexible, safety & security and customization. Besides, the results of Table 6 depict a statistically insignificant association of the usage pattern of mobile banking services with facilitating conditions, behavioral intentions and attitude.

Synthesizing the usage pattern of mobile banking services, results have stated that the users of mobile banking are holding multiple bank accounts primarily for the reason that the technologies and the services provided by the banks cannot be accessed anywhere easily. Furthermore, the majority of the mobile banking users utilize these services on a monthly basis, thereby revealing that the mobile banking services are not been regularly utilized by all the users. Being a recent entrant into the banking system, it might be possible that mobile banking services are not being fully explored by the customers and, as a result, customers are not utilizing these services regularly for serving their different banking needs. In addition, mobile banking services are found to be utilized mainly of the purpose of balance inquiries and shopping, thereby depicting an under-utilization of mobile banking services by the customers. The same can be attributed to the fact that mobile banking services are prone to problems like network congestion, weak signal, etc. Besides, the analysis of the effectiveness of mobile banking services has revealed that the said services are rated comparatively less effective on the dimension economical, time flexible, safety & security and customization than the dimension of accessibility, thereby indicating the need to focus on these dimensions. Since the mobile banking services can be utilized with the help of mobile phones and the like, they have shown a dramatic increase in recent years. This reveals an easy accessibility of mobile banking thanks to which they might have rated mobile banking services highly on accessibility dimension. But the comparatively low rating of the said services on the other three dimensions of effectiveness should call for the attention of the banks towards adopting steps that enhance the

Table 6 Mobile Banking Usage Pattern and Technology Adoption Facets

Facets	(1)	(2)	(3)	(4)	(5)
Personal disposition	R	205	3.38	–1.82***	408.06
	I	208	3.33	–1.83***	411.00
Perceived usefulness	R	205	7.77	2.92*	411.00
	I	208	7.58	2.92*	380.95
Perceived ease of use	R	205	7.81	2.83*	411.00
	I	208	7.61	2.82*	392.79
Facilitating conditions	R	205	2.91	0.77	411.00
	I	208	2.83	0.77	410.99
Behavioral intentions	R	205	4.85	0.33	411.00
	I	208	4.83	0.33	394.16
Attitude	R	205	1.81	0.36	411.00
	I	208	1.79	0.36	401.26
Accessibility	R	205	7.25	4.24*	411.00
	I	208	6.41	4.23*	354.31
Economical	R	205	6.69	4.65*	411.00
	I	208	5.84	4.64*	366.49
Time flexibility	R	205	6.38	4.30*	411.00
	I	208	5.60	4.29*	373.85
Safety and Security	R	205	6.00	4.56*	411.00
	I	208	5.23	4.55*	378.14
Customization	R	205	5.64	3.79*	411.00
	I	208	5.03	3.78*	372.32

Notes Column headings are as follows: (1) usage pattern (R – regular usage, I – irregular usage), (2) number, (3) mean, (4) *t*-value, (5) degrees of freedom. * Statistically significant at 1% level of significance. *** Statistically significant at 10% level of significance.

effectiveness of mobile banking services. Moreover, the usage pattern of mobile banking services is found to be regular for some activities, namely, bill payment and shopping. In the present contemporary world (characterized by intense competition and a career-oriented approach of the people), customers opt for means and methods that save their time and efforts in carrying out their routine activities. This might be the reason owing to which the use of the mobile banking services is regular for activities of recurring nature, such as bill payments (electricity and mobile bills, etc.) and shopping. However, the low usage of banking services for the purpose of money transfers again indicates an underutilization of mobile banking for all the intended purposes.

On the other hand, it has also been found that the users of mobile banking services having favorable personal disposition towards technology adoption are utilizing the respective technologies regularly for serving their

banking needs. The customers with favorable personal disposition towards technology adoption are found to be highly optimistic, innovative, risk taking, self-confident, and considered as psychologically resilient individuals having the habit of using technology. Thanks to these traits, such customers develop high tendency towards technology adoption, which induces them to use technology regularly (Parasuraman, 2000). The same rationale may also be attributed for the significant association between personal disposition towards technology adoption and the usage pattern of mobile banking.

Also, the usage pattern of mobile banking services is found to be regular in the case of those users perceiving these technologies as useful and easy to use. When customers consider the latest banking technological developments useful and easy to use, they tend to use these technologies regularly (Taleghani, 2013; Nasri, 2011). With the same notion, it can be said that when users of mobile banking services perceive the latest banking technological developments useful in carrying out their banking activities (such as money transfers, bill payments, etc.), they tend to utilize these services more regularly. Similarly, when customers believe that it is easy for them to learn and become skillful at using the latest technologies, they tend to utilize mobile banking services more regularly (Shoki, Ariff, Min, Zakaun, & Ishak 2012; Abdel-Wahab, 2008; Aboelmaged & Gebba, 2013). Whereas mobile banking users who have not been found to give much preference to facilitating conditions, as well as behavioral intentions regarding the latest banking technological developments, while deciding the frequency of using mobile banking services.

Further, the difference in the usage pattern of mobile banking services on the account of the five dimensions of effectiveness implicates a statistically significant difference in the usage pattern of these services on all the five dimensions of effectiveness. This indicates that the mobile banking users consider accessibility of banking services important, along with other dimensions (i.e., economical, time flexible, safety & security and customization). The growth of mobile phones is still at a nascent stage (IDRBT, 2013) which results in a lack of easy accessibility, as these services can be utilized only with the help of mobile phones. This might be one of the plausible reasons for the concerns of the mobile banking users regarding their accessibility while developing their pattern of usage.

On the basis of the findings of the present composition, banks are suggested to focus on enhancing effectiveness of the mobile banking services. This can be done through various ways. For instance, effectiveness of the mobile banking services on the dimension of time flexibility can be enhanced by increasing the bandwidth of the mobile banking services, so that customers can avail the mobile banking services at any time irrespective

of the network congestion at different periods of time. In addition, in order to enhance the effectiveness of the mobile banking services on the economical dimension, banks are suggested to provide ways through which the cost of the customers can be saved. The use of mobile banking services requires the use of smart phones, as well as the availability of Internet on these smart phones, and bBoth aspects entail costs. Thus, banks should try to explore the ways of reducing/controlling such a cost. One of the implications in this regard can be that banks may collaborate with handset providers or internet providers in order to offer more cost-effective solutions regarding the use of mobile banking services to customers. Likewise, safety and security of mobile banking services needs to be improved by the banks in order to enhance their effectiveness. Although steps in this regard have already been initiated, yet there is a need to adopt a more rigorous phenomenon in order to maintainthe safety and security of the users while using these services. In this regard, a speedy protection through a multi-layered security should be adopted, which will not only reduce the chances of cybercrime but it will also allow banks to identify the defaulter party/person. In order to enhance customization of mobile banking services, customers can be allowed to make changes in their mobile banking accounts by themselves, such as changing the icons or a series of different icons as per their use, adding a third party instantly, etc. Doing so not only improves the effectiveness of mobile banking services but it also enhances the usage pattern of mobile banking services (since the aforementioned dimensions of effectiveness were found to affect the usage pattern of mobile banking services).

Banks are also suggested to focus on personal disposition, perceived usefulness and perceived ease of use in order to raise the use of mobile banking services among banking customers. Accordingly, with the view of enhancing personal disposition towards technology adoption, banks are suggested to focus on the personal traits of their customers (as personal disposition comprises personal traits, namely, optimism, innovativeness, self-efficacy, social influence, habit, psychological resilience, risk taking propensity). Moreover, banks should focus on explaining the benefits of the latest technologies to the customers in serving their banking needs. This can be done through various methods, such as organizing camps at various local places, playing short films, road shows, etc. Indeed, while targeting the usefulness of the latest banking technologies, the specific benefits of the latest technologies over the traditional technologies should be highlighted. This will enable customers to make comparisons between the traditional and the latest banking technologies, allowing them to explore the competences of the latest banking technologies in serving their needs in a much improved manner.

Finally, efforts should also be made to enhance the perceived ease of use regarding technology. In view of that, banks can provide hands on training to their customers on the use of the latest banking technological developments. Indeed, the training should be a blend of a classroom, as well as practical training, wherein, primarily, the use procedure of the latest banking technological developments could be explained and then customers would be allowed to use this technology under the supervision of the bank's personnel. Thereafter, customers may be allowed to use technology on their own in order to explore their cognizance regarding the usage procedure of the latest banking technologies. Moreover, fresher demonstration sessions should be organized by the banks from time to time in order to explore issues/apprehensions of the customers pertaining to the use of the latest banking technological developments. Doing so will enable banks to enhance the use of mobile banking services, thus benefiting from a maximum utility as the result of the introduction of mobile banking services into the banking system.

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