Knowledge Outlook of Indian Consumers Towards BHIM App

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Abstract

As demonetization in India brought a sudden stir in the country, a need for online banking and mobile banking has risen drastically. This need directed the Indians to start looking towards digital money. The Government of India introduced the BHIM app, a mobile banking app which allows users to carry out e-transactions free of cost. BHIM depicts "Bharat Interface for Money". As the name suggests, the BHIM app has bridged the gap between the users and their hard earned money. The app has made e-transactions very easy. In the present study, we conducted a survey with 87 respondents from Telangana. The data were analysed using the principal component analysis (PCA) method. Four factors were extracted using PCA, which explained a total accumulated variance of 64.69% for consumer motivation to use, and consumer identified drawbacks of the BHIM app. The study revealed two clear patterns of responses among the respondents about BHIM app - one pattern of motivation to use BHIM app, and the other pattern was the drawbacks of using BHIM app. These two were independent of one another, that is, they were not correlated. To overcome the drawbacks while using BHIM app, a success model was proposed by us.

Keywords : **knowledge outlook, Indian consumers, BHIM app, PCA method**

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The Indian economy is one the fastest growing economies in the world. The Indian e-commerce market grew rapidly within the Asian Pacific region between 2012 - 2016 (Joshi & Achuthan, 2016). In 2017, India was ranked 7th in economic growth as per the Centre for Economics and Business Research, London. India is said to rank as the 5th largest economy by overtaking UK and France by the year 2018. According to Bruce (2017), by the year 2027, India would be the third largest economy in the world. The socioeconomic condition of India is totally different (Makkar & Dhyani, 2010). Despite the global economic conditions, the Indian economy is focused upon development. In recent years, tremendous changes have taken place in the financial sector in India which led to sudden transformation from cash transactions to cashless transactions (Singh & Verma, 2016).

The evolution of the barter system to virtual payment method led to the changeover in the payment industry (Deepa, 2016). The consumer's awareness is growing day-by-day towards the mobile payments due to the potentiality of the digital-payment method (Woodward, 2016). Customers have totally different set of considerations like they were abundantly distressed concerning the dearth of development in rules and regulations of web banking (Srivastav & Mittal, 2016).

When the clock struck 12 at the midnight on November 8, 2016, an unforeseen economic reform came in the

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form of demonetization in the Indian currency. This sudden change left the banks and ATMs empty with no cash. The daily cash withdrawal limit by RBI also created inconvenience for the common people. This unanticipated move of the Central government shifted the focus of people towards cashless and e - transactions. Though cashless and e - transactions of mobile wallets were prevalent even before demonetization, the limited availability of cash with the banks after demonetization resulted in a sudden increase in Indian users using the mobile wallets. Mobile wallets were luxury for people who had access to technology and smart phones, but today, it has replaced a common man's wallet. The existing apps like Paytm, BHIM, etc. have become very convenient for Indian users to carry out money transactions. The continuous and tremendous changes taking place in the financial sector of the country developed a need in Indian users to have knowledge of mobile wallet and to acquaint themselves with the merits of e - transactions.

Aiming for a cashless and digital economy, the Government of India introduced "Bharat Interface Money app" also referred to as "BHIM app" which was developed by National Payment Corporation of India, and it is available on Android platform with minimalist design approach, which uses UPI (unified payment interface) system by which transactions can be made across all the supported banks. The distinctive feature lies in the transfer, that is, a customer can make the amount transferable between the banks, not to the wallet and can use multiple bank accounts (Rajawat, 2017). The BHIM app's intention is to provide easy, speedy, reliable, and safe online cashless transactions in the country. The USSD support system enables the non-smart phone users also to carry out the transactions (Harshit, 2017). Even without an Internet connection also, UPI payments are supported. This is an RBI approved wallet, which protects the money you saved through Escrow account in a reputed bank (Sharma, 2016). The app supports all Indian banks and all android mobiles. This app allows users to transfer money instantly. Transactions of BHIM are nearly 24/7 and 365 days, including bank holidays. It allows checking the current balance of an account. The BHIM app currently supports 13 languages and in the near future, it will support 22 languages excluding English. Currently, 125 lakh Indian citizens are using the BHIM app. The BHIM app went on its way to create a world record. The BHIM app was downloaded by 17 million users in a very short span of time.

Considering the merits of the BHIM app, we collected opinions from Indian consumers regarding the app. The present study focuses on the consumer's perception concerning the BHIM app. The study was conducted considering two main factors, that is, motivation among consumers to use BHIM app and the drawbacks of using the BHIM app.

Objectives of the Study

- To throw a light on motivation to install BHIM app.
- To blurb the drawbacks of BHIM app.

Hypotheses

- **H_1:** Consumers are motivated to use BHIM app.
- **H_2**: Consumers have faced drawbacks in using the BHIM app.

Methodology

(1) Questionnaire Design: The questionnaire method was adopted to conduct the survey. Based on the literature and our understanding of the concept, a questionnaire was developed. The questionnaire consisted of five demographic questions and 13 questions related to the core essence of the study. The 5 - point Likert scale with the anchors being *"high influence"* and *"very low influence"* was used for framing the questions in the questionnaire.

Table 1. Scale Construction

Questionnaire	Items	Alpha
Knowledge Outlook of M -Wallet		
Motivation	8 Items	0.72
Drawbacks	5 Items	0.63

The reliability of the questionnaire was checked by calculating the Cronbach's coefficient alpha value. This value depicts the reliability of a single uni-dimensional latent construct. The Cronbach's coefficient alpha of the overall scale for this study is calculated to be 0.745. A Cronbach's coefficient alpha value of 0.60 is suggested as threshold for the Cronbach's alpha reliability and acceptability (Pallant, 2013). This confirms the validity and reliability of the current study. Two variables : motivation to use BHIM app and drawbacks of BHIM app are considered. The alpha values were calculated separately for both the variables to check for the reliability of the further study. The Cronbach's coefficient alpha values for motivation and drawbacks in using BHIM app are found to be 0.72 and 0.63, respectively (See Table 1). This further validates the study.

(2) Respondents and Research Approach : Telangana state is a cultural hub of India and has a varied population comprising of people from different states of India. In this cross-sectional study, common people from India belonging to Telangana state were requested to participate in the study. Respondents were contacted and were requested to fill the questionnaire about BHIM app. Male and female respondents were included in the study. The random sampling technique was implied for collecting the data. Respondents were included in this study only if they were willing to respond. In total, more than 100 questionnaires were distributed, and 87 respondents accepted to participate in the study. The response rate for the study was calculated to be 87 %, which was sufficient to conduct further analysis. The field work of the study was conducted during November - December 2017.

(3) Content Validity : Content validity plays a vital role in any research. To make certain the content validity of the questionnaire, it was made sure that the language used in the questionnaire was simple, clear, and understandable. For the respondents who had a problem with the language, the questions were orally translated into the local language and then their responses were recorded. The respondents were given clear instructions on how to fill the questionnaire before the survey. The anonymity of the respondents was ensured. The survey was conducted keeping in view the ethical considerations.

Data Analysis and Results

(1) KMO and Bartlett's Test : The KMO and Bartlett's test was conducted for quantifying the sampling adequacy. The Kaiser-Meyer-Olkin test of sphericity is a check of sphericity that may be a measure of sampling adequacy that is suggested to examine the case to variables' quantitative relation for the analysis. In most business and educational studies, KMO and Bartlett's test play a crucial role for accepting the sample adequacy, where KMO ranges from 0 to 1, and the global accepted index is 0.6. The Bartlett's test of sphericity must be less than 0.05 (Peri, 2012). The KMO - Bartlett's test relates to the importance of the study, as it shows the reliability and validity. Kaiser-Meyer-Olkin measure of sampling adequacy is found to be 0.627 and the Bartlett's test of sphericity is found to be 0.000 (see Table 2). This makes the sample of this study adequate for factor analysis. Hence, the instrument was recommended for further study.

(2) Factor Analysis : Thirteen questions relating to motivation and drawbacks in using the BHIM app were factor

Table 2. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.627
Bartlett's Test of Sphericity	Approx. Chi-Square	453.513
	Df	88
	Sig.	.000

Table 3. Factor Analysis

Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	Percentage of Variance	Cumulative %	Total	Percentage of Variance	Cumulative %
1	4.145	31.883	31.883	4.145	31.883	31.883
2	1.816	13.969	45.852	1.816	13.969	45.852
3	1.424	10.950	56.802	1.424	10.950	56.802
4	1.026	7.892	64.694	1.026	7.892	64.694
5	.970	7.460	72.154			
6	.953	7.334	79.489			
7	.790	6.074	85.562			
8	.485	3.732	89.294			
9	.463	3.559	92.853			
10	.374	2.877	95.730			
11	.275	2.116	97.846			
12	.189	1.455	99.301			
13	.091	.699	100.00			

Extraction Method: Principal Component Analysis

Figure 1. Scree Plot

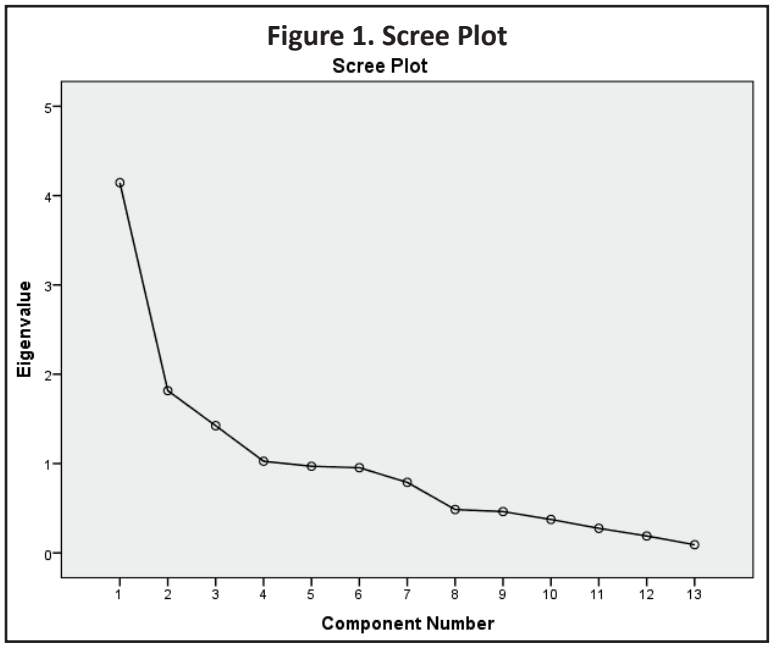


Table 4. PCA Analysis : Rotated Component Matrix

Component Matrix[a]				
	Factors			
	1	2	3	4
Motivation				
M1 : More secure than cash			.809	
M2 : Access to coupons/rewards			.730	
M3 : More convenient			.649	
M4 : Saves time		.448		
M5 : More secure than credit card/ debit card		.639		
M6 : Hassle free		.546		
M7 : Cost savings		.811		
M8 : Leave physical wallet at home		.554		
DRAWBACKS				
D1 : Too complicated				.799
D2 : Preferred retailers don't offer BHIM				.671
D3 : Security concerns	.747			
D4 : Not familiar	.546			
D5 : Fear of losing mobile	.809			

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

Table 5. Summary and Labelling the Factors

Component Matrix[a]				
Factor Name	Factor Loading			
	1	2	3	4
F1 : Confidentiality & Popularity Concern				
Security concerns	.747			
Not familiar	.546			
Fear of losing mobile	.809			
F2 : User Friendliness				
Saves time		.448		
More secure than credit/ debit card		.639		
Hassle free		.546		
Cost savings		.811		
Leave physical wallet at home		.554		
F3 : Secure Access & Rewards				
Access to coupons/ rewards			.730	
More convenient			.649	
More secure than cash			.809	
F4 : Inaccessibility				
Too complicated				.799
Preferred retailers don't offer BHIM				.671

analyzed using principal component analysis with varimax rotation. As evident from the scree plot which levels off to a linear decreasing pattern and the analysis, four major factors were extracted (see Figure 1). Each factor contains factor loadings greater than 0.05. These four extracted factors explain a total accumulated variance of 64.69% for consumer motivation to use and consumer identified drawbacks of the BHIM app. The first factor explains 31.88% of the variance followed by the second factor which describes a variance of 13.96%. The third factor elucidates a variance of 10.95% and the fourth factor explains a variance of 7.89 % (see Table 3).

(3) Measurement Model - Principal Component Analysis : Principal component analysis was performed with varimax Kaiser Normalization. Four factors were extracted. The analysis yields four factors, which represent 64.6% of the total variance of the original variables, which is quite acceptable for factor analysis. The four factors represent (see Table 4) the two dimensions covered under motivation to use BHIM app and consumers' response towards drawbacks of BHIM app. The four factors (See Table 5) represent motivation of consumers in using the BHIM app, that is, User Friendliness and Secure Access & Rewards. Two factors explain the drawbacks of BHIM app usage, that is, Confidentiality & Popularity Concern and Inaccessibility.

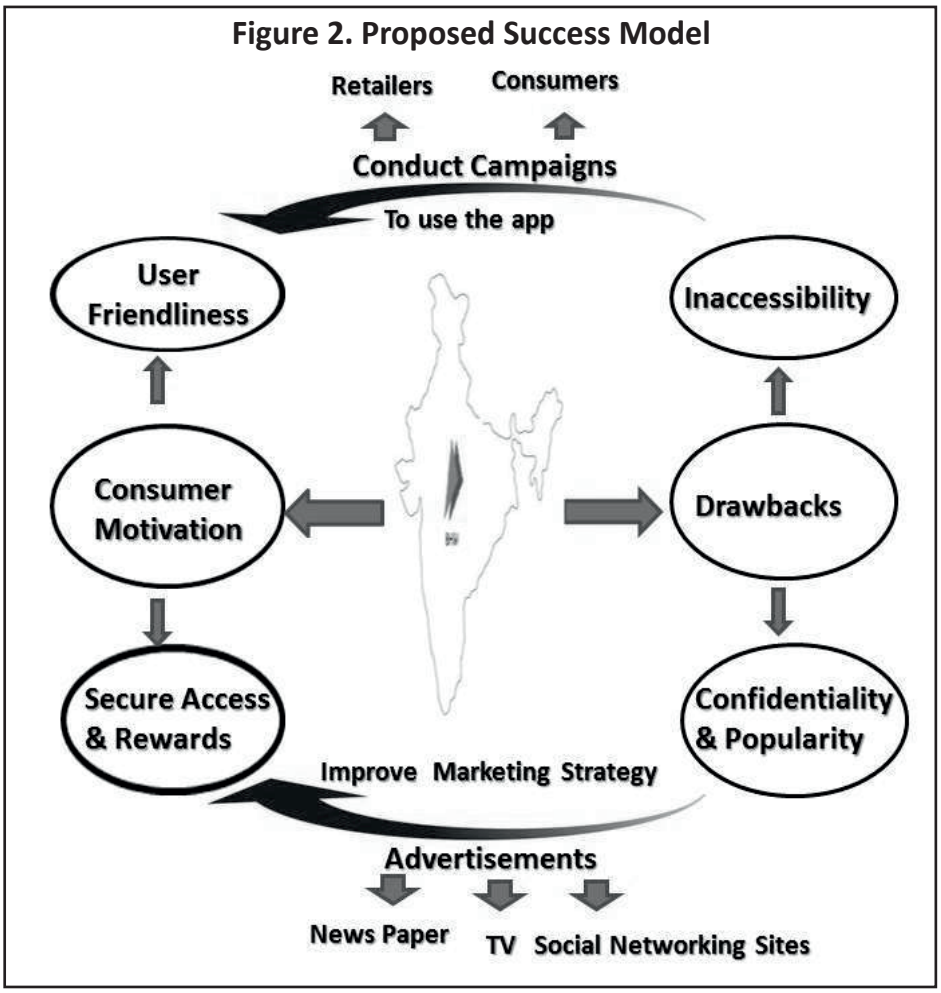
The first principal component factor is labelled as Confidentiality & Popularity Concern which explains the consumer's fear of losing mobile phone, unfamiliarity with BHIM app, and consumer's concern of data security and confidentiality. The cumulative variance explained by this factor is 31.83%. The second principal component factor is labelled as User Friendliness which reflects on cost savings, hassle-free usage, more secure than credit/ debit card, can leave physical wallet at home, and time saving. The second factor explains 45.85% of the variance. The third principal component factor is labelled as Secure Access & Rewards, which explains about BHIM app to be more secure than cash, giving access to coupons and rewards, and provides convenience in making purchases using the BHIM app. The cumulative variance explained by this factor is 56.80%. The fourth principal component factor is labelled as Inaccessibility, which includes statements like BHIM app is too complicated and the consumer's preferred retailer does not offer this payment option. The cumulative variance explained by this factor is 64.6%.

Discussion and Implications

This study determines the effect of the four factor model. The first principal component extracted is Confidentiality & Popularity Concern. The correlation values of 0.809, 0.747, and 0.546 are found for the responses given by the consumers under the considered component. The highest correlation value of 0.809 under the first component is for the fear of the consumers about losing their mobile phones. As BHIM app is a mobile wallet app which is used to carry out e-transactions, most of the respondents opined that they had a fear of losing their mobile phone, which was considered the greatest drawback of using a mobile wallet app such as BHIM. The correlation value of 0.747 is related to security concerns. Manikandan and Jayakodi (2017) in their empirical study on consumer adoption of mobile wallets with special reference to Chennai city also obtained similar findings. They found that security and safety of funds played a challenging factor for the users of mobile wallets. The BHIM app users were concerned about their personal data such as details of bank accounts, credit cards, and debit cards saved in the app. The common people were not as familiar with the BHIM app as they were with other mobile wallet apps. The correlation value of 0.546 shows that the people were not aware of the BHIM app and its advantages. The first factor hence explains about confidentiality and popularity concern of the common people.

With the demonetization in India, the need for using mobile banking or Internet banking became mandatory for the common public. The BHIM app was introduced at the time of demonetization by the Government of India to reduce the problems being faced by people in accessing their own money. However, the people were not very familiar with the app because it was not marketed effectively. As common people are not aware of the BHIM app and its merits, they also have security concerns and fear of losing their mobile phones. Hence, if the merits of the

Figure 2. Proposed Success Model



BHIM app are highlighted and if it is efficiently marketed, people would use this app more effectively for their day to day monetary transactions, and this would in turn reduce their fear of losing their phone or personal data.

The second component extracted is User Friendliness. The correlation values of 0.811, 0.639, 0.554, 0.546, and 0.448 are found for the responses given by the participants of the study. The highest correlation value of 0.811 under the second component is cost savings. As BHIM is a Government initiative, for now, it is free to use. Hence, it has an advantage over other mobile wallet apps. The correlation values of 0.639, 0.554, and 0.546 show that the BHIM app is easy to use, reducing the risk of carrying a physical wallet with credit and debit cards. The correlation value of 0.448 corresponds to time saving. The BHIM app reduces the time spent in going to a bank and making transactions. The respondents felt that the BHIM app is user-friendly as it involved time saving, hassle-free transactions, which were more secure than credit or debit cards. The BHIM app also reduces the risk of carrying a physical wallet as cash can be stolen or can get lost.

The third principal component is Secure Access & Rewards. The highest correlation value is 0.809, which explains that the BHIM app is more secure than cash. The next correlation value of 0.730 explains the advantage of BHIM app as it provides access to coupons and rewards. The correlation value of 0.649 shows that this app is convenient to use. Hence, the people felt that this app is secure and also rewarding as they were getting discounts and other benefits.

The fourth principal component is Inaccessibility extracted from two items drawn from drawbacks of BHIM app. The correlation values under this factor are 0.799 and 0.671. These values explain that the app is too

complicated to use and that the preferred retailers are not offering this app. This was seen as a drawback.

Substantively, the study reveals two clear patterns of responses among the respondents about BHIM app - one pattern of motivation to use the BHIM app, and the other pattern is the drawbacks of using the BHIM app. These two are independent of one another, that is, they are not correlated. Therefore, H1 and H2 are accepted.

There are further two patterns recognized under motivation to use BHIM app. This shows that there were two groups among the respondents who had slightly different opinions about the app. One group preferred using BHIM app as it is user-friendly, hassle free, time saving, and more secure than credit and debit cards ; whereas; another group preferred this app as the app was more convenient and secure over cash, and the users were getting rewarded for using the app.

There are two different patterns recognized under drawbacks of using BHIM app. This shows that there were two different groups among the respondents. The first group was not very familiar with the BHIM app, resulting in a fear to use the app. The second group of respondents, though were familiar with the app, felt that the app is too complicated, and they were unable to access the app with their preferred retailers as they were not offering the BHIM app facility.

To overcome the drawbacks while using the BHIM app, a theoretical model has been proposed by us in the current study as seen in the Figure 2. If the inaccessibility component is rectified, the app would become user friendly. If the confidentiality and popularity concern is corrected, it will lead to secure access and rewards. Marketing the app more efficiently by advertising about BHIM app in newspapers, television, and social networking sites will propagate about BHIM app to every citizen of the country. Campaigns to popularize the BHIM app among retailers and consumers have to be conducted from time to time. Fighting the drawbacks of the BHIM app will increase the users of the app and will lead India towards digital money.

The present study focuses on the importance of BHIM app as an e-transaction method for carrying out every day monetary exchanges. The study reveals the motivation of users towards using BHIM app and the drawbacks in using the BHIM app. The study reveals the different opinions of the respondents about the use of BHIM app.

Conclusion

The present study has revealed the opinions of Indian respondents of Telangana about the mobile wallet app - BHIM introduced by the Government of India in the wake of demonetization to solve the problems being faced by the common public. The BHIM app is a useful app used for e-transactions. The app has both merits and demerits. Two unrelated patterns of responses were obtained when a questionnaire on the BHIM app and its usage was distributed among the common respondents. One group was motivated to use the BHIM app as they were of the opinion that the app is both user-friendly and involved secure access and rewards. The other group felt that BHIM app was insecure as they had no knowledge about the app and was inaccessible as it was complicated to use and retailers were not offering the BHIM app facility. This clearly shows that there are people who were not aware of the BHIM app and those who were aware were concerned about the security and confidentiality of their data.

To overcome these drawbacks and to popularize the BHIM app, proper marketing strategies have to be adopted by the Government. Giving advertisements in television, social networking sites, and newspapers can help in marketing the BHIM app in a better fashion. Campaigns to popularize the BHIM app should be conducted on a regular basis among the retailers and consumers. This would increase the usage of BHIM app among users of different age groups and will increase its customers. In the present study, a theoretical success model for BHIM app has been proposed by us. This model will reduce the drawbacks and increase the merits of the BHIM app. The model can be implemented and used by the Government to move ahead towards making 'Digital India'.

Limitations of the Study and Scope for Further Research

There are few limitations of the study. First is that this study is a descriptive based study. The study is based on primary as well as secondary data. The casual relationship of the variables of the study is limited. The present study is confined to BHIM app only. The current study was confined to the respondents from Telangana state of India. A similar kind of the study can be conducted with Paytm, mRupee, Jio Money, Airtel money, Mobiwik, Chillr, etc. in the future. A comparative study can be conducted with similar apps; studies can also be conducted city wise, state wise, and nation-wise.

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