Insights into the Use of UPI Payment Applications by Management Students in India

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Abstract

Today, with the penetration of smartphones coupled with the cheap availability of data, cashless payments have become the norm. Unified Payment Interface is an interbank payment system which works in real time and which is a major medium of cashless payments. Unified Payment Interface or UPI applications like Google Pay have taken over the traditional bank account transfers. The government of India which is keen on promoting cashless ecosystem in the country is also pushing for the adoption of these applications across the nation. According to government data, UPI payments now fulfils about half of the cumulative number of digital transactions in India. National Payment Corporation of India (NPCI) data shows that the sum total of UPI transactions in India were 1.31 billion in December,2019 alone. Management Students in India studying across various Business Schools in in India are the one of the major chunk users of such applications. UPI payments applications ensure hassle free transfer of funds which is ideal for youth who have high frequency, low-value transactions. UPI also ensures 24*7*365 availability. The focus of this research paper is on understanding some factors which influence the customer satisfaction of educated youth in India. The research was conducted using primary data collected from current and prior users of the major UPI applications in India. Factors affecting usage of UPI Payment Applications (User Behavior) like Performed Expectancy, Security, Social Influence, Habit and Effort Expectancy were analyzed to be a part of the research. Data of 102 valid responses from Management Students was analyzed by conducting reliability testing, exploratory factor analysis and multiple regression.

Keywords: UPI, Digital Payments, Demonetization, Reliability Testing, Exploratory Factor Analysis, Multiple Regression

1 Introduction:

Digitization is the new normal in India. Since demonetization on 08th November, 2016, the Indian government has given a big push to the digital payment space in India, thus creating a much needed digital payment framework in the country. The digital payment framework pushes for a cashless economy by enabling people to transact without necessitating the use of cash. The two major things required for promoting cashless transactions are smartphones and internet availability. The cumulative total people using smartphones in India are pegged at approximately 859 mn in 2022 and the internet has reached to more than 620 million people as of 2019. The said availability of smartphones and internet has ushered in the era of Unified User Interface (UPI) applications in the country. Convenience, ease of use and 24*7 availability are some reasons due to which UPI mobile payment applications are coming to the fore. According to Rathore (2016), digital payments offered a convenient way for consumers to shop products online. KC Balaji and K Balaji (2016)"A study on Demonetization and its impact on Cashless Transactions" talked as to how new heights are being achieved by cashless frameworks in the country.

and UPI is created by National Payments Corporation of India and serves like a mode of cashless payment. Various UPI payment applications in the country are Google Pay, PhonePe, BHIM etc. UPI applications work by creating a Virtual Payment Address (VPA) wherein using a UPI-enabled bank account, a person can make seamless transactions across various channels. The UPI address can be used directly to make payments on different shopping, food or other UPI payment enabled applications or websites. UPI also enables merchant to merchant and business to business payments. The UPI framework has integrated the entire bunch of money transfer and receipt related activities like Immediate Payment Service (IMPS) along with National Electronic Funds Transfer (NEFT) and other into a combined integrated platform. UPI applications also offer the option to check your account balance, pay bills, recharges, book cabs and much more at the click of a couple of buttons. The UPI applications also offer various offers like scratch cards, Referral bonuses, contests and festival highlights which further makes these applications the go to payment modes for a big chunk of the population in our country today. Also, a technology must be easy to understand and must also be quick for people to adopt the same. Management Course or the prestigious MBA is one of the most sought after courses in India. Every year more than three lakh management graduates pass out of the numerous Business Schools around the country. Management students are in general short on time owing to hectic work schedules and the ever so demanding course curriculum. These students are always on the lookout for technologies which would make their life easier, faster and more efficient. In such a scenario, making cash payments is a tedious task which requires these students to always carry a minimum amount of cash with them to pay for the various small and big things that they have to buy. This is where UPI payment applications come into the picture. Management students tend to be one of the major chunks of UPI users in the country. These applications provide all that these students want a technology to offer them, may it be speed, ease of use or cashbacks.

The present study seeks to establish and to understand the various factors namely -Performance Expectancy, Security , Social Influence ,Habit and Effort Expectancy on User Behavior for these UPI applications by management students. Reliability Analysis was performed for these factors along with Exploratory Factor Analysis and Multiple Regression..

2 Data And Methodology:

A. Various factors or constructs were used to gain insights into the use of UPI Payment applications by Indian Management Students. The dependent variable is this use so talked about and is known as User Behavior (UB).

User Behavior (UB)-As far as this research is concerned, User Behavior refers to the use of UPI Payment Applications by Management Students in India. User Behavior is generally highlighted by the number of times a particular application (in our study) might be used by a Management Student. User Behavior also hinges on the efficiency UPI Payment Applications provide to Management Students in the country. The constructs on which User Behavior depends or not have been explained below:

1)   Performance Expectancy or PE (Venkatesh (2012) and Venkatesh (2003)) - "Performance expectancy is the benefits and utilities (e.g., saving time and effort, efficiency, accessibility, customization, convenience) that could be attained from using innovative channel" [Alalwan et al., (2018), p.128]. As regards the current study is concerned ,Performance Expectancy highlights the usefulness of UPI Payment Applications for customers. Performance Expectancy also highlights as to how much a user of UPI Payment Application feels efficient or helped by the said UPI Payment Applications. This construct should make the students feel more productive to an extent as they can do their payment and banking tasks more quickly.

H1-There is a significant link between the usefulness of UPI Payment Applications (PE) and User Behavior

2)   Effort Expectancy or EE (Wang (2017) and Farooq (2017))- In the paper, Venkatesh (2003) Effort Expectancy means "the extent of ease associated with the usage of a system" (p.450). "To accept a new technology, the basic criterion for the people is to check to what extent the new technology is easy to use apart from its positive value addition" (Alalwan,2017). It has been highlighted in prior studies that if a certain technology is easy and provide convenience, then it can affect individuals to take up the same (Dwivedi et al.,2017; Shareef et al., 2017). Effort Expectancy means how easily can a person that is in our case a Management Student use an UPI payment application. According to the Effort Expectancy Construct, people should not face any problems or face only a few problems while using a technology; in our case using UPI payment applications by management students.

H2-There is significant link between using UPI Applications easily (EE) and User Behavior

3)   Security(S)-Security refers to the use of UPI Payment Applications by Management Students in India without any fear of fraud. Security would also involve the students being reasonably certain that their money is safe and no misappropriation of funds will occur as regards as their UPI Payment Accounts are concerned. Since UPI Payment Applications ask for the registration of a person's bank account, it becomes all the more important for such UPI Payment Applications to ensure that the person' money is absolutely safe. Management Students in India generally live on a shoestring budget and in such a case, it is imperative for them no money misappropriation takes place for them whilst using UPI Payment Applications for their daily payments.

H3-There is a significant link between Security and User Behavior

4)   Social Influence (SI) (Farah (2018) and Farooq(2017)) – This construct refers to "the degree to which a person perceives that something important which others believe, that he or she should apply the new system" [Venkatesh(2003), p.451].This construct means the way in which the habits of the people around a person can affect his or her habits. In this study, since we are focusing on Management Students, the Social Influence construct becomes all the more important since these students mostly live in hostels and are surrounded by peers who are like minded. Thus in such situations , the habit of other peers becomes a big reason which might or might not affect the usage of a technology which in our case is UPI Payment Applications. There is always a chance of individuals especially students to shit from a non-socially acceptable technology to a socially acceptable one.

H4-There is a significant link between how use of a technology by others (SI) and User Behavior

5)   Habit(H) (Farah (2018) and Hew (2015))- Venkatesh (2012) defined this construct as "the extent to which people tend to perform behaviors automatically because of learning" (p.161). Habit of using a technology may be a boon or on the flip side become detrimental to a person. UPI Payment Application are prone to this habit construct that is being used as part of this study. Habits are behaviors which are not thought of before or in other words come automatically "which are set in motion after some degree of repetition" [Morosan and DeFranco, (2016), p.20]. Habit also means that individuals might use or not use a particular technology based on the opinions of people that they value.

H5-There is a significant link between Habit and User Behavior

B. Scale Development

The five constructs identified by us were measured using a five point Likert Scale where 1 - strongly

disagree, 2 - disagree, and so on and so forth. This type of scale gives us the ease of understanding various factors related to a particular study. Such a scale also makes analysis of the data so collected easier and more comprehensive.

C. Collection and Analysis of data

A structured questionnaire was made and circulated amongst 134 Management Students across different business schools in India. Out of these 102 filled the questionnaire. The response rate for the questionnaire was 102/134=0.76 which is more than 0.4 indicating that the response rate is acceptable to go deep into further data analysis (Callegaro et al ., 2015) . Convenience sampling was used as the sampling technique to collect the responses for the study. The questionnaire comprised five questions of each of the constructs so discussed in the paper along with five questions related to User Behavior.

Reliability Testing was conducted to test how reliable the measurement scale was and Cronbach's alpha value was calculated for all the factors discussed in the paper. Exploratory factor analysis was performed and finally multiple regression was used to calculate R square value and determine the efficiency of the model.

3 Results And Discussion:

A. Reliability Analysis

Firstly, Reliability Testing was done to understand the reliability of the questionnaire and the measurement scales. The table highlights the values of Cronbach's Alpha for all the factors

Table 1.   Reliability Analysis

Factors	Mean Value	Std. Deviation	Communalities	Cronbach's Alpha Value
SI5	4.09	0.945	0.600	0.755
SI4	3.80	1.053	0.784	
SI3	3.63	1.024	0.710	
SI2	3.63	0.974	0.687	
SI1	3.94	1.088	0.695	
S4	3.44	1.140	0.774	0.83
S3	3.70	0.952	0.769	
S2	4.19	0.780	0.770	
S1	4.16	0.793	0.805	
PE5	4.31	0.808	0.481	0.769
PE4	4.56	0.638	0.721	
PE3	4.30	0.888	0.662	

PE2	4.12	0.915	0.516	
PE1	4.81	0.461	0.642	
H5	3.46	1.059	0.638	0.762
H4	4.32	0.747	0.705	
H3	3.46	1.132	0.550	
H2	3.62	1.090	0.651	
H1	4.48	0.793	0.695	
EE5	3.93	0.988	0.567	0.777
EE4	4.10	1.010	0.541	
EE3	4.41	0.749	0.639	
EE2	4.56	0.606	0.546	
EE1	4.67	0.635	0.658	

From the above table, we can see that the Cronbach's alpha values for all the factors or constructs is between 0.755 and 0.869. For the Security construct, there was one question which was removed in order to get a higher value for Cronbach's alpha. The threshold for Cronbach's alpha value is 0.7 (Hair et al, 2015).

B. Exploratory Factor Analysis

Since every variable had five similar questions which were asked in the questionnaire, it was important to do Exploratory Factor Analysis so as to understand the various factors in a comprehensive manner. Rotated Component Matrix was obtained. We got five factors in this rotated component matrix. All the factors so obtained were on the same lines as had been decided in the beginning. The factors have been renamed basis the similarity of the different questions which were obtained as part of the Rotated Component Matrix. The Kaiser-Meyer-Olkin Test (KMO) is computed to be as 0.812 which is comfortably above the benchmark of .5 (Hair et al, 2015). According to the Exploratory Factor Analysis, more than 65 percent of the variation is explained by the five factors.

Table 2.   Factor Analysis

	EE	PE
EE1	0.711	
EE2	0.666	
EE3	0.663	
EE5	0.603	
PE5		0.602
EE4	0.567	

PE3			0.713
SI5			
PE4			0.632
SI3			0.612
PE2			0.530
S1			
S3			
S2			
S4			
H1			
PE1			0.711
H4			
H5			
H2			
SI2			
H3			
SI4			
SI1			

Table 3. Factor Analysis

	S	SI	H
EE1			
EE2			
EE3			
EE5			
PE5			
EE4			
PE3			
SI5		0.66	
PE4			

SI3			
PE2			
S1	0.795		
S3	0.769		
S2	0.761		
S4	0.658		
H1			0.726
PE1			
H4		0.639	
H5			0.752
H2			0.744
SI2		0.594	
H3			0.583
SI4		0.829	
SI1		0.769	

As per the above table, the factors or constructs indicated are the final factors which have been further used to conduct multiple regression.

C. Multiple Regression

Multiple regression was performed taking User Behavior as the dependent factor and the above constructs-Performance Expectancy, Security, Social Influence, Habit and Effort Expectancy as independent factors.

Table 4. Regression

	Unstandardized Coefficients	
	B	Std. Error
(Constant)	8.919E-17	0.060
Effort Expectancy	0.262	0.060
Performance Expectancy	0.379	0.060

Security	0.161	0.060
Social Influence	0.628	0.060
Habit	0.127	0.060

Table 5.   Regression

	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		0.000	1.000
Effort Expectancy	0.262	4.348	0.000
Performance Expectancy	0.379	6.280	0.000
Security	0.161	2.671	0.009
Social Influence	0.628	10.415	0.000
Habit	0.127	2.103	0.168

As per the significant values in the above tables, it can be seen that for all factors except Habit, the significant values are below 0.05 which means that for factors – Performance Expectancy, Security, Effort Expectancy along with Social Influence, the null hypothesis is rejected.

Table 6.   Regression

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.752	0.713	0.56645292

As can be seen from the above table, the R square value is 0.752 which is above 0.7. This means that more than 75 percent of the variation can be explained by the model. Due to the high R square value, our model is acceptable

D. Research Model
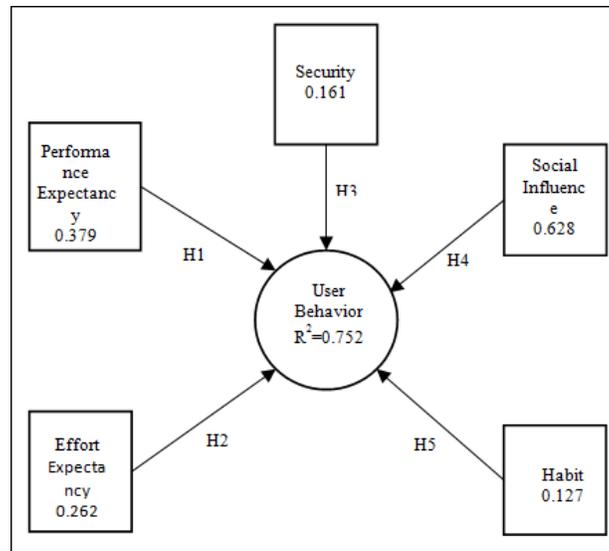
E. Other Results from the Study

• The most used UPI Payment Application in the country amongst management students is Google Pay with more than 75% respondents using the application for payments. The reason for this could be first mover advantage as Google Pay was one of the first UPI Payment Applications to be rolled out in the country.

• The age group of students between 22-25 is the group that most uses UPI Payment Applications. The reason for this is because the mean age of Management Students in the country is around 24 years.

• About 74.5% students had prior work experience and were using UPI Payment applications. This is because the trend of having more work experience people in Business Schools in India is fast emerging

4 Conclusion:

This is supposedly one of the first few studies which has tried to find insights about UPI Payment applications usage by Management Students in India. From the study, it was understood that Management Students behavior as regards usage of such UPI payment applications is based on various factors. The void which was created in research by not getting insights into the usage of UPI payment applications by Management Students is aimed to be filled by this study. Of these factor, according to this paper, four factors are of utmost importance. These four factors are- Performance Expectancy, Security , Effort Expectancy well as Social Influence. Students' habits does not make up for an important factor when we talk about UPI payment applications usage. The four factors talked above have a good impact on the usage of UPI Payment applications by Management Students. The present study can be used to further enhance the features of UPI Payment Applications by companies and have even more penetration for these applications. These efforts by the companies can lead to better adoption by the Management Students in the country the UPI Payment Applications. The analysis also showed that Security was the major concern that stopped students from using UPI payment applications. Individuals in general in India are concerned about the fraud in banking transactions and with such cases already on the rise, it is all but imperative for companies to make sure that UPI applications are not lacking in terms of the major concern that individuals and in this study , Management Students have which is misappropriation. There have been cases of fraud in the past which have shaken the belief systems of individuals in UPI Payment

Systems and that has necessitated the correction of this image for the UPI Payment Application management companies. to Checks should be in place to ensure that all pin authentications are in place and also new systems should be made so as to ensure that even more security can be offered to the users of UPI applications. As regards, the ease of use is concerned, some UPI applications in the country do not have a user friendly interface and are therefore lacking behind. The interface should not be cluttered with a lot of options at one place and should show only relevant options. The payment option should be very clearly visible and should not take more than three clicks to actually make the payment. Ease of use also means that these applications should make it much easier to pay bills, do phone recharges, book tickets and other such activities in a much easier manner than the actual applications made for these purposes. Social Influence will be more for Management Students as they live in a community environment with a lot of other students. Since these UPI Payment applications are fast becoming a rage and especially such is the case with Management students in the country. Companies can leverage this by providing more and more offers and cashbacks which in turn will make more student use the application and the Social Influence construct can then do it's job by spreading the application to more people. Performance Expectancy can be improved by making the UPI Payment applications quicker by giving faster payment options like scan payments.

5 Limitatıons And Future Scope:

Since convenience sampling has been used to collect the data, generalizing it might be an issue. Demographics like age and gender were not considered in the study. There is also an issue as regards the transactions getting stuck in processing. Due to this issue, a lot of times the merchants nor the customers are aware if the transaction has been settled or not and this leads to double payment or no payment at all. Also, apart from this, when bank servers are down, a lot of the UPI Payment Applications fail to function which becomes an issue for the customers. There is no option to add two or more bank accounts within one application and this leads to issues for the individuals who use multiple accounts for making payments. According the data collected by means of this study, there is becoming a monopoly in the UPI Payment Applications market with Google Pay emerging as the only choice of such payment applications for a majority of the Management Student population. It is necessary for other applications like BHIM which were the government's initiative but have failed to live up to the expectations of the students due to lack of security, cluttered interface, less cashbacks and discounts etc. Hence, other UPI Payment applications should also step up efforts to popularize such applications.

The research paper and techniques used in the study can be applied to other research studies related to mobile wallets and payment banks. This paper also might give ideas to do research on UPI Payment applications basis the demographics of individuals.

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