FACTORS INFLUENCING THE USAGE OF UPI AMONG CUSTOMERS

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Abstract: Factors affecting the usage of UPI among customers have been diagnosed in this research paper. It is tried to investigate the usage pattern, customer's perceptions and awareness about Indian Government's UPI for banking and financial transactions. A questionnaire was circulated and response have been collected from the users of UPI. The responses have been analysed through regression model using SPSS. Five variables that have independent relationship with usage of UPI have been identified and used as major factors influencing customer's usage of UPI. Five factors are: Perceived Usage Risk (PUR), Compatibility of Apps and OS (CAO), Customer's Demographic Profile (CDP), Comparative Advantage over Other Apps (CAOA), and External Threats (ET). Factors like transaction risk, demographic profile of customers, compatibility of apps and benefits of UPI were significantly affected the usage pattern of UPI. While factors like geographic distribution of the customers, phishing and virus attack were negatively affected the usage of UPI.

Keywords: UPI, Perceived Usage Risk, Compatibility of Apps and OS, Customer's Demographic Profile, Comparative Advantage, External Threats

I.   INTRODUCTION

UPI or Unified Payments Interface is a unique platform built by Government of India that helps in sending or receiving the funds to or from the two bank accounts through a mobile platform via IFSC or email like VPA. UPI facilitates users to link their bunch of bank accounts into a single mobile application for transferring funds or other services making a single corner of bank zone. Unified Payments Interface (UPI) is a trending payments system in India now-a-days, because of various benefits of UPI platform, it is becoming very popular among merchants across pan India also. Many merchants are going to live on UPI platform to accept payments from their customers for the goods and services sold or rendered. Today, big business houses and small grocery stores to individual vendor are accepting their payments on the UPI platform. Thus, UPI becomes very popular platform for payment not only for individual customers but for merchant also.

II.   LITERATURE REVIEW:

Kate (2016) said that there would be no more isolated areas in India, because of the boon of UPI. Because of the various benefits of UPI, like the interoperability, speed, safety, benefits of more than one account linking etc. UPI benefits users the cost advantage as compared to wallet payments which come at the cost of MDR. So that, the usage of UPI is more and wallet usage has been declining. With UPI, customers can link more than one account in the same application and can benefit having multiple accounts in the one umbrella. Thus, UPI acts as the boon for the digital users and it is free from loading of funds as it is in the case of wallets.[1]

Somanjili Mohapatra (2017) concluded, "UPI is the best digital platform developed by NPCI until now. The interoperability becomes the boon for the growth of UPI in the digital era. UPI has been increased at the fast pace because of several factors like growth in the sales volume of smart phones, decreased data cost, free and easy money transfer platform, and easy access to mobile banking facilities."[2]

Radhika Basavraj Kakade and Nupur A Veshne (2017), concluded, "UPI is one of the easiest digital platform developed which is as easy as sending email or message. UPI works on that platform which is always open at any point of time, i.e. it works 24 X 7 X 365. Such a grate platform isn't available in the mobile banking platform which is not operable after banking hours and on holidays, though Government of India recently started NEFT and IMPS transactions throughout the year at any time."[3]

Roshna Thomas and Dr. Abhijeet Chatterjee (2017) studied that UPI came as the boon for customers with its easy to use features and various benefits which aren't available with other digital platforms. They indicated two aspects of UPI platform. One is positive and another is negative. Positive aspect includes such factors like decreased data cost, increased smartphones penetration. Increased usage of wallets for utility payments and high failure risk in money transfer by UPI are the negative aspects."[4]

Dr. Dhani Shankar Chaubey and Piyush Kumar (2017) made a study on "demonetization and its impact on adoption of digital payment: opportunities, issues and challenges". They have made a research report studying the perceptions of the customers towards digital payments platforms after the demonetization. They have concluded that people became rational about the digital trends in the country, and readiness of people for the digital platform acceptance was high, but, it was degraded by the cost incurred in the digitisation of monetary transactions in term of failure risk."[5]

Mohd. Forman and Waseem Khan (2017) made a research report titled, "factors affecting adoption of mobile based internet banking in emerging market". They concluded that age was the main factor responsible for the adoption of

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[1] (Kate, H. (2016). What is UPI and How It Will Benefit Your Business.

[2] A Cashless Indian E-Transaction Process. New Delhi Publishers. 5, 2, 29 – 42, June

[3] A Way towards Cashless Economy. International Research Journal of Engineering and Technology

[4] A Catalyst Tool Supporting Digitalization – Utility, Prospects & Issues. (Ijiras) Volume 4 Issue 2, February 2017. 4, 2, 192 – 195,

[5] Research gate, Volume 6 (Issue 6)

UPI and satisfaction of the digital platforms. They found that there was no linkage between the usage of UPI and transaction failure risk. The study reported that the usage pattern of digital banking channels was more in case of younger users having the age of below 25 years.[6]

III.   RESEARCH METHODOLOGY:

A. SCOPE OF THE STUDY:

The scope of the study includes five variables namely User's perceived usage risk, compatibility of application and OS, customer demographic profile, comparative advantage over other apps and external threats to the usage of UPI. Based on these five variables, the usage of UPI has been analysed.

B. OBJECTIVES OF THE STUDY:

i.   To examine the individual factors that influence the usage of UPI

ii. To analyse the effect of five variables namely perceived usage risk, compatibility of Apps and OS, customer's demographic profile, comparative advantage over other apps and external threats in relation to the adoption of UPI.

C. SOURCES OF THE DATA:

To gain the knowledge of UPI and Digital transactions industry, secondary data have been used and collected from the fact sheets, newspapers, journals and web sites. Primary data have been collected through self-administered questionnaire.

D. TOOLS USED:

Various statistical tools like regression method have been used to assess the impact of factors affecting the usage of UPI. Hypothesis are constructed to examine and analyse the relation between dependent and independent variables. Correlation and Regression methods are used for the study.

E. HYPOTHESIS:

Following alternative hypothesis are constructed based on the objectives of the study.

H1: Perceived Usage Risk has a significant impact on the usage of UPI

H2: Compatibility of Apps & OS has a significant impact on the usage of UPI

H3: Customer's Demographic Profile has a significant impact on the usage of UPI

H4: Comparative Advantage over Other Apps has a greater impact on the usage of UPI

H5: External Threats have a major impact on the usage of UPI

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[6] Research gate, Vol.22

F. VARIABLES:

- **Perceived Usage Risk**: It includes five types of risks namely risk of personal identity, financial risk, transaction failure risk and cost.
- **Compatibility of Application & OS**: It contains the availability of suitable OS on all phones, smoother transactions, regular updates of the application and software or application hanging and crash issues.
- **Customer's Demographic Profile**: It indicates customer educational background, customer's denial in adopting UPI as the banking platform, neutrality of gender and relation of age in adopting UPI.
- **Comparative Advantage over Other Apps**: It includes various features available with UPI like utility bill payments, recharge, insurance premium payments, money transfer, and other services.
- **External Threats**: It includes hacking, data theft, and phishing attack and safety provisions on the UPI platform.

G. CONCEPTUAL MODEL:
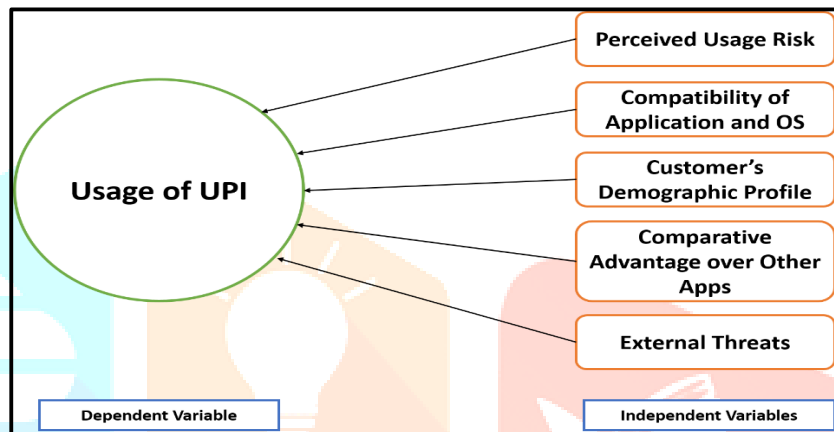
H. VALIDITY AND RELIABILITY TEST:

Cronbach's alpha is a measure of internal consistency which measures how the samples are related closely to the group. It is used as a scale reliability. The value of Cronbach's α lies between 0 to 1. A minimum α coefficient between 0.65 and 0.8 should be acceptable and α coefficients that are less than 0.5 are usually unacceptable. Kruskal Wallis test has been done to compare five independent groups of variables on an ordinal outcome. If p-value is less than 0.05, there exists enough evidence to conclude that there is a difference in the median and mean tests scores among the five variables.

Table :2 Reliability Test		
Variables	**Cronbach's Alpha**	**Specification**
Perceived Usage Risk	0.727	Acceptable
Compatibility of Apps & OS	0.764	Acceptable
Customer's Demographic Profile	0.732	Acceptable
Comparative Advantage over Other Apps	0.815	Acceptable
External Threats	0.828	Acceptable

Table :3 Descriptive Statistics			
Variables	**Mean**	**Standard Deviation**	**Variance**
Perceived Usage Risk	1.6175	0.69309	0.480
Compatibility Of Apps & OS	1.7400	0.86524	0.749
Customer's Demographic Profile	1.7450	0.82264	0.677
Comparative Advantage over Other Apps	1.5750	0.82534	0.681
External Threats	1.6800	0.84692	0.717

Table :4 Kruskal Wallis Test	
Variables	**Asymp. Sig**
Perceived Usage Risk	0.03
Compatibility Of Apps and OS	0.03
Customer's Demographic Profile	0.00
Comparative Advantage over Other Apps	0.00
External Threats	0.19

I. REGRESSION MODEL:

The relationship between dependent and independent variables was analysed through the following regression model.

$UUPI = \alpha + \beta_1 PUR + \beta_2 CAO + \beta_3 CDP + \beta_4 CAOA + \beta_5 ET$
Where,
UUPI = Usage of UPI
PUR = Perceived Usage Risk
CAO = Compatibility of Apps and OS
CDP = Customer's Demographic Profile
CAOA = Comparative Advantage over Other Apps
ET = External Threats
Where,
$\alpha, \beta_1 \ldots \beta_5 = $ Constants

IV. RESULTS AND FINDINGS:

RELATIONSHIP BETWEEN THE USAGE OF UPI AND INDEPENDENT VARIABLES:

From the data, we found that 93% users are using UPI for banking and other financial transactions. Regression analysis suggests that if the individual variable has $p<0.05$, then the variable influences the usage of UPI. All individual variables indicates that all the null hypothesis are rejected indicating the significant impact on the usage of UPI. Furthermore, variables like Safe Felling, Personal Details, User Interface, Data Loss, Educational qualification, Rural People, Data Safety, and Phishing etc. have negative coefficients which indicates that their impact on the usage of UPI is negative. Thus, it indicates that majority of users believe these variables as hindrances to their UPI usage.

Table 5: Model Summary (Model I)						
Model	**R**		**R²**	**Adjusted R Square**	**Std. Error of the Estimate**	
I	0.760[a]		0.577	0.469	0.18779	
ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
I	Regression	3.754	20	0.188	5.323	0.000[b]
	Residual	2.751	78	0.035		
	Total	**6.505**	**98**			

Coefficients[c]						
	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**	
	B	**Std. Error**	**Beta**			
(Constant)	0.874	0.056		15.496	0.000	
Feel Safe	-0.185	0.041	-0.591	-4.474	0.000	
Personal Details	-0.007	0.032	-0.022	-0.206	0.837	
Encrypted Techniques	0.082	0.038	0.273	2.152	0.034	
Hidden Charges	0.057	0.022	0.258	2.622	0.011	
User Interface	-0.020	0.026	-0.093	-0.758	0.451	
Software Updates	0.059	0.024	0.266	2.445	0.017	
Mobile Platforms	0.045	0.027	0.185	1.641	0.105	
Data Loss	-0.030	0.027	-0.129	-1.136	0.259	
Educational Qualification	-0.012	0.020	-0.063	-0.632	0.529	
Rural People	-0.005	0.034	-0.018	-0.148	0.883	
High Amount of Transactions	-0.043	0.034	-0.180	-1.275	0.206	
Younger People	0.017	0.029	0.073	0.610	0.543	
Money Transfer	0.066	0.027	0.287	2.455	0.016	
Rewards	-0.124	0.036	-0.452	-3.404	0.001	
Stock Market Services	0.037	0.030	0.147	1.228	0.223	
Other Facilities	0.139	0.031	0.567	4.484	0.000	
Virus Attack	0.072	0.034	0.321	2.143	0.035	
Data Transfer	0.025	0.036	0.099	0.686	0.495	
Phishing Attack	-0.040	0.038	-0.147	-1.052	0.296	
Data Safety Provisions	-0.052	0.025	-0.207	-2.082	0.041	

Note: [a] Dependent variable: Usage; [b] Significance level for ANOVA (i.e., p-Value <=0.05); and [C]   Source: SPSS 21.

INFLUENCE OF FIVE VARIABLES ON THE USAGE OF UPI:

For the fitness of the model, F-statistic had been used at 5% significance level (sig. F<0.05). Coefficient of Determination (R^2) indicates that 12.3% changes in the usage of UPI can be explained by the changes in the independent variables namely perceived risk, compatibility of application, customer profile, comparative advantage and threats. Coefficients B are the values for the regression equation for predicting the dependent variable from the independent variable. These are called unstandardized coefficients because they are measured in their natural units. As such, the coefficients cannot be compared with one another to determine which one is more influential in the model, because they can be measured on different scales.

Table 6: Model Summary (Model II)				
Model	**R**	**R^2**	**Adjusted R Square**	**Std. Error of the Estimate**
II	0.409[a]	0.167	0.123	0.24016

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
II	Regression	1.088	5	0.218	3.774	0.004[b]
	Residual	5.422	94	0.058		
	Total	6.510	99			

Coefficients					
	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.878	0.064		13.778	0.000
Perceived Usage Risk	-0.032	0.059	-0.086	-0.539	0.591
Compatibility of Apps	0.076	0.050	0.256	1.533	0.129
Customer Profile	-0.027	0.056	-0.087	-0.483	0.630
Comparative Advantage	0.091	0.051	0.293	1.781	0.078
External Threats	0.009	0.051	0.029	0.174	0.862

UUPI= 0.878 – 0.032PUR + 0.076CAO – 0.027CDP + .091CAOA + 0.009ET

Perceived risk and customer profile have negative impact on the usage of UPI. This indicates that because of perceived risk, users are sensible to the risk in using UPI. Customer profile is also negatively related to the usage of UPI. Thus, rural and backward people tend to use UPI less than urban region users. The change in the usage of UPI due to one unit change in perceived risk is -0.032 which is significantly valid at 5% level. The partial increase in the usage of UPI is due to one unit change in compatibility of application is 0.076. For every unit increase in customer profile, a -0.027 unit decrease in usage of UPI is predicted, if all other variables are constant. Every unit increase in comparative advantage, a 0.091 unit increase is predicted in the usage of UPI. The coefficient for threat is 0.009. So, for every unit increase in threats, we expect 0.009 point increase in the usage of UPI.

V. CONCLUSION:

Factors influencing the usage of UPI have been identified in this research. The findings revealed that compatibility of application, comparative advantage and threats have positive impact on the usage of UPI. Perceived risk and customer profile have negative impact on the usage. Customer perceived risk about loss of money, transaction cost makes users averse to using it. Threats like hacking and phishing also makes them reluctant to use UPI. Customer's educational profile has negative impact on the usage of UPI. Thus, rural people do not use UPI for their financial and banking transactions because of lack of awareness, and other factors. Users use UPI more than other banking channels as digitization has evolved in last five years. Customers demand safety standards for online UPI transactions which must be robust in industry safety grades.

VI. REFERENCES:

1) https://www.npci.org.in"

2) UPI product statistics, NPCI "https://www.npci.org.in/product-statistics/upi-product-statistics.

3) Kate, H. (2016). What is UPI and How It Will Benefit Your Business. Profit Books. http://www.profitbooks.net/upi-unified-payment- interface

4) Somanjoli Mohapatra (2017). Unified Payment Interface (UPI): A Cashless Indian E-Transaction Process. New Delhi Publishers. 5, 2, 29 – 42, June.

5) Radhika Basavaraj Kakade and Prof. Nupur A. Veshne (2017). Unified Payment Interface (UPI) - A Way towards Cashless Economy. International Research Journal of Engineering and Technology (Irjet). 4, 11, 762 – 766, Nov.

6) Roshna Thomas and Dr. Abhijeet Chatterjee (2017). Unified Payment Interface (UPI): A Catalyst Tool Supporting Digitalization – Utility, Prospects & Issues. International Journal of Innovative Research and Advanced Studies (Ijiras) Volume 4 Issue 2, February 2017. 4, 2, 192 – 195, Feb.

7) D. S., KChaubey, & P., Kumar. (2017). Demonetization and its impact on adoption of Digital payment: Opportunities, Issues and Challenges. Researchgate, Volume 6, Issue 6.

8) Khan, Waseem & Farhan, Mohd. (2017). Factors affecting adoption of mobile based internet banking in emerging market: study of the Indian consumer's observation. Research gate, Vol.22.