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TRUST IN FINANCIAL MOBILE APPS – A PARTIAL LEAST SQUARE REGRESSION APPROACH

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ABSTRACT

After demonetisation, Government of India and private companies are trying to encourage cashless transactions through financial mobile apps. The major financial mobile apps include BHIM promoted by National Payments Corporation of India, PhonePe promoted by Flipkart & Yes Bank and Paytm promoted by One97 Communications Ltd & Alibaba Group Holdings Ltd. One of the key aspects of financial transaction through a mobile app is trust. Without trust, the consumer will not transact through his mobile. This research paper uses Partial Least Square method to understand the variables that form the basis of trust in financial mobile apps. The responses from 100 users of BHIM, PhonePe and Paytm are analysed. The moderator variables and indirect variables that encourage trust in financial mobile apps are studied. The research will help in identifying variables which should be strengthened by the companies to improve trust in their mobile apps and will help in creating targeted promotions and marketing of their financial mobile apps.

KEYWORDS

partial least square, trust in financial mobile apps, cashless economy.

I. INTRODUCTION

Government of India's push towards digital transactions after demonetisation has led to flooding of financial mobile apps of banks and private corporations in the app stores. Among the panoply of financial mobile apps, few apps stand out due to their high downloads. Based on downloaded data, the major financial mobile apps include BHIM promoted by National Payments Corporation of India, Paytm promoted by One97 Communications Ltd & Alibaba Group Holdings Ltd, and PhonePe promoted by Flipkart Online Services Pvt. Ltd & Yes Bank Ltd. One of the key aspects of financial transaction through a mobile app is trust. Without trust, the consumer will not transact through his mobile. This research paper uses Partial Least Square method to understand the variables that form the basis of trust in financial mobile apps. The research helps in identifying variables which should be tweaked by the companies to improve trust in their mobile apps.

II. SCOPE OF STUDY

This study is confined to three major financial apps - BHIM, PhonePe and Paytm. The focus of the study is identifying variables which should be strengthened by the companies to improve trust in their mobile apps as trust is one of the major factor which leads to unfettered use of apps for transactions. The respondent profile is middle and upper middle class so the scope of the study is limited to this profile. The study results can be extrapolated to other financial products and apps in India after further research in the field.

III. OBJECTIVES OF THE STUDY

Following are the objectives of the study:

1. To ascertain the variables responsible for Trust in mobile apps
2. To establish the relationship between trust variables and over all trust.
3. To rank variables which lead to trust in financial transaction mobile apps.

IV. SAMPLE AND SAMPLING METHOD

Convenient Sampling was used to select three Malls from Chennai. Random sampling was used to select 150 customers who used financial mobile apps. The responses were gathered using structured questionnaire. Respondents who had more than one financial mobile apps were asked to name the frequently used app. The most frequently used financial app was considered as the default app for respondents with multi-apps. From the 150 questionnaires, 10 questionnaires were rejected. The usable data was 140. From these 140 questionnaires, 100 questionnaires were randomly selected for this study.

TABLE 1: RESPONDENTS PROFILE

Malls	Respondents
Express Avenue	45
Skywalk Ampa	34
Chennai Citi Center	21
Total	100

Table 1 shows the respondents profile. Maximum respondents were from Express Avenue mall

V. MEASURE AND PROCEDURE

Literature review shows no standard scale for measuring trust in financial mobile apps hence factor analysis was used to par down variables of trust. Based on factor analysis, the trust variables were divided into three groups – App Origin, App Behaviour and App Support. The variables which formed the basis of study of trust in mobile apps are listed below:

App Origin:

- a) Perceived as Government app as Government officials promote it
- b) App from a known Bank / large company
- c) App used and recommended by User's social circle

App Behaviour:

- a) Smooth User Interface
- b) No crashes during transactions

App Support:

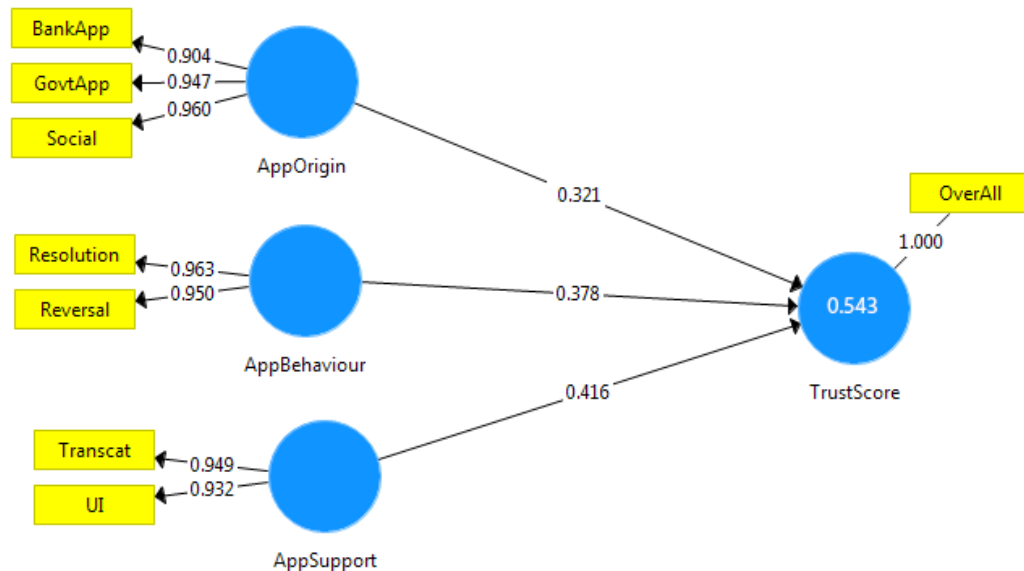
- a) Prompt reversal of mistaken payments
- b) Quick resolution of complaints

The responses to above trust factors were obtained using 7 point Likert scale. The data was analysed using Partial Least Square Structural Equation Modelling. SmartPLS Ver 3.0 was used for analysis of the data. The significance of path coefficients was analysed by using bootstrapping. T-statistics value of above 1.96 indicates significance.

VI. DATA ANALYSIS AND RESULTS

The Structural Equation Path Model was created and the analysis was carried out. The Path Model is shown in Figure 1. The relationship of each variable to the underlying factor is expressed by factor loading. It can be noted from the figure that the factor loadings for App Origin are 0.904, 0.947 and 0.960. The factor loadings for App Behaviour are 0.963 and 0.950. The latent variable App Support has factor loadings of 0.949 and 0.932. These factor loadings indicate strong relationship of variables with the latent constructs.

FIGURE 1: SEM PATH ANALYSIS OF TRUST IN FINANCIAL APP



The standardised regression coefficient are indicated by the arrows emanating from the latent constructs. It can be noted from the path diagram that the regression rates are positive which indicates that the App origin, App Behaviour and App Support all affect the overall Trust Score.

In order to analyse if the path coefficients are significant, bootstrapping was carried out with 500 subsamples. In bootstrapping, subsamples are created with observations randomly drawn from the original set of data. The results are tabulated in Table 2:

TABLE 2: PATH COEFFICIENT

Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
0.378	0.367	0.138	2.729	0.007
-0.321	-0.311	0.150	2.133	0.033
0.416	0.415	0.088	4.722	0.000

From the data tabulated above, it can be inferred that the all path coefficients show t-statistics value above 1.96 and the P-values all below 0.05. This indicates that all paths are significant. Figure 1 depicts the t-statistics of the path coefficients.

FIGURE 1: SEM PATH DIAGRAM SHOWING T-STATISTICS OF PATH MODEL

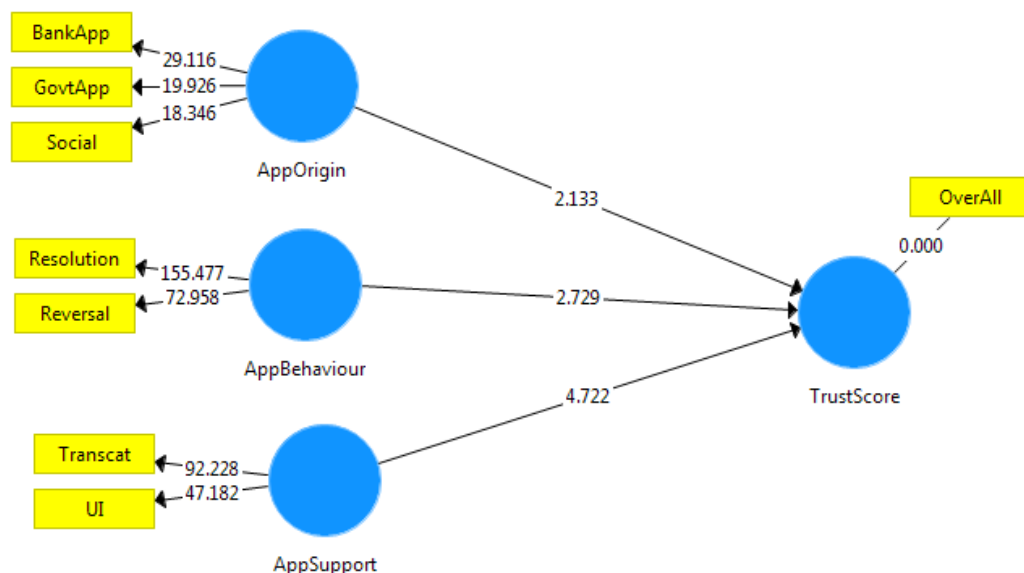


Figure 1 depicts the Structural Equation Model path model and their t-statistics. All values are above 1.96 indicating that the paths are significant. The App Support latent construct is the most significant with t-value of 4.722, followed by App Behaviour with a t-statistics score of 2.729 and App Origin with a t-statistics score of 2.133.

VII. FINDINGS

The study's major findings can be summarised as below:

- Based on bootstrapping results, all latent variables – App Origin, App Behaviour and App Support were found to significantly affect the trust in financial mobile
- The trust variables explain significant 54.3% of overall trust and the path of all variables is significant at 95% level of confidence.
- The most important variable in establishing trust in financial mobile app is App support, followed by App Behaviour and App origin

VIII. CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH

The study is a major step in analysing trust in financial apps and has contributed in the novel approach of latent variable analysis. Companies now have the means to study the variables which help in establishing trust in finance apps. The findings indicate that although the App's origin might inspire downloads, the trust is developed when app is used. App support is found to be the major factor which needs attention of app and finance companies. Quick resolution of complaints and reversal of wrong transactions will help in improving trust. App behaviour too has to be analysed and checked for smooth user interface. Avoiding crashes during transactions too will help in establishing trust. Further study can be done to ferret out indirect variables by studying if there is indirect and direct effect of individual variables. A larger study spanning across India can also be done to ascertain if there are significant deviation in customer behaviour with respect to trust in financial mobile apps. The study can also be extended to related financial services and web based apps.

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