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An Empirical Study on User Loyalty towards Smartphone Applications Using Multiple Linear Regression Analysis

Deepika.R¹, Research Scholar, School of Management Studies, Vels University,
Dr. Karpagam.V², Assistant professor, School of Management Studies, Vels University,

Abstract: The study investigates the user loyalty towards smartphone applications in Chennai, Tamilnadu, India. The independent variables are user satisfaction and user trust and the dependent variable is user loyalty. From the analysis, using multiple linear regression the study found that there is a significant relationship between both user satisfaction and user trust towards user loyalty. But the user trust has more significant effect on user loyalty than the user satisfaction towards smartphone applications. The result revealed that if increase in user trust and satisfaction will have dramatic change in user loyalty in a positive way. The study will help the marketers to maintain the customer retention in their applications and more over its helps for the new e-retailers to enter into the applications for developing their business.

Keywords: User Satisfaction, User Trust, User Loyalty, Smartphone Applications.

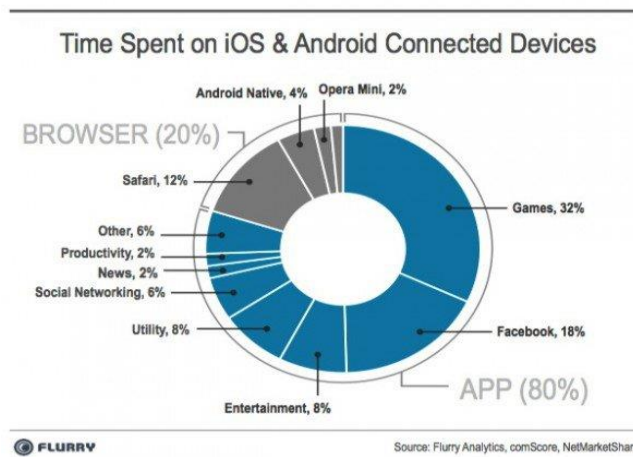
I. INTRODUCTION

The smartphone is the advanced growth of mobile operating system which combines the features of personal computers. Recently the express growth of smartphone's changed the lifestyle of every human. The smartphone's cable of accessing the internet and it has own native apps like call log, calendar, etc and it also has third party applications (apps) depends upon user request. Such applications Facebook, Whatsapp and games apps are mostly used by the users. In addition too, retail applications such as Flipkart, Amazon and Snapdeal, etc are also in usage frequently. Now a days, using smartphone applications and depending on them becomes trend in day to day life. So maintaining user satisfaction and user trust enhances the user loyalty towards particular applications.

Application dominates the browsers in Smartphone:

A report from the ComScore data revealed that smartphone's were used 82 percent of mobile media through applications. The application usage started to dominate the browsers. Most of the regular usage applications such as facebook, games, etc gained user loyalty because of their usage frequency and standard. The usage of browser is still significant by volume if not proportion.

Fig 1: The Global user Time spend on browser and applications (apps) in Smartphone



Source: Flurry Analytics, ComScore, NetmarketShare

II. LITERATURE REVIEW

Until there are several researchers conducted in m-commerce. The various literature sources are available for m-commerce user attitude and adoption (e.g. Amin, Rezaei, & Abolghasemi, 2014; Choi, Seol, Lee, Cho, & Park, 2008; Lin, 2003). The wireless technology differs on different factors such as geographical locations, size and others. These factors affect the users when user accessing the information (Sears and Jacko, 2000). Most of the previous researches concentrates on research issues in m-commerce (Hsu & Lu, 2007). The impact of satisfaction

towards mobile commerce is the key determinant of gaining user trust and this two builds the user loyalty (**Li and Yen, 2009**). The user trust is the assurance in other concern and that can be consensual ideology (**Ring & Van de ven, 1992**). The importance of relationship based on trust and it exchanges between technologically and legally separate entities for problem solving (**March & simon, 1958**). The importance of trust in mobile commerce is stressed in the study (**Lee, 2005**).

III. RESEARCH METHODOLOGY

This main purpose of this study is to measure the user satisfaction and user trust that influence user loyalty towards smartphone applications. The Chennai metropolitan city is selected for study. The sample of the study is collected from the smartphone users selected randomly from the population in Chennai. The five point Likert scale questionnaire were collected from 250 respondents among smartphone users.

User satisfaction towards smartphone applications:

The user satisfaction is most important for all the marketers. The user satisfaction is defined as the user satisfied with the provided smartphone applications. The user satisfaction in using smartphone applications is most important for wide range of firms, for it is a key element to ensure product or service success. Thus the hypothesis constructs as

H1: If there is a significant influence between user satisfaction and user loyalty towards smartphone applications.

User trust towards smartphone applications:

User Trust is the confidence level in the others goodwill about the particular product or service. The user trust about the smartphone applications forms the user retention in the usage of same product or service. If increase in user trust will helps to improve the user loyalty among smartphone applications. Thus the hypothesis constructs as

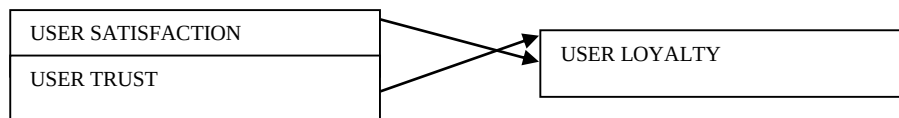
H2: If there is a significant influence between user trust and user loyalty towards smartphone applications.

User loyalty towards smartphone applications:

The user should have willingness and also should have a repeat usage of the same product or services. The user loyalty is the most important for the marketers to maintain their customer for long life and its ensure the success of business. If there is an increase in user satisfaction and user trust will have a significant influence in user loyalty towards smartphone applications. Thus the hypothesis constructs as

H3: Both user satisfaction and user trust have a significant influence in user loyalty towards smartphone applications.

Conceptual Framework:



IV. ANALYSIS AND RESULTS

The **Table 1** summarizes socio demographic profile of the respondents. There were 250 smartphone users who participated in the survey. Out of that 145 males and 105 were females. The survey reveals that 115 respondents were single and 135 were married. From the result, the married respondents percentage is high using smartphone applications are satisfied and they will be loyalty to the application product or service. From the education level, post-graduate respondents level is increase and from the results comes to know that educated people handling and adopting to the applications. If these users are loyal to the particular mobile applications when they are satisfied and they believe on an application.

Table 1: Socio Demographic Profile of Respondent

Variable	Frequency		Percent
Age	up to 25 years	135	54.0
	26 – 35 years	25	10.0
	36 – 45 years	35	14.0
	Above 46 years	55	22.0
Gender	Male	145	58.0
	Female	105	42.0
Marital status	Single	115	46.0
	Married	135	54.0
Education	School Level	05	02.0
	Graduate	65	26.0
	Post- graduate	180	72.0

In this study, multiple linear regression analysis is used to test the significant influence between user satisfaction, user trust and user loyalty.

Multiple regression test: Influence of User satisfaction and User trust on User loyalty

Table 2: An analysis of Multiple Linear Regression for dependent Variable : User loyalty

R value	R Square	Adjusted R Square	Std. Error of the Estimate
.658	.434	.429	1.25641

Table 2 shows the R value as .658 which is found to be good and indicates a good level of fit. The R^2 value here is 0.434 which shows 43.4% proportion of variance in the dependent variable explained by the independent variable. According to **Table 2** it is clear that value 0.434 that the independent variable explains 43.4 % of the independent variable which shows that the user satisfaction and user trust influences user loyalty towards smartphone application users.

Table 3: Coefficients

	Unstandardized coefficients		Standardized Coefficients	T value	Sig.
	B	Std. Error	Beta		
(constant)	6.975	.658		10.599	.000
User satisfaction	-.045	.050	-.056	-.904	.367
User Trust	.421	.038	.693	11.154	.000
Dependent Variable : User Loyalty					

Table 3 represents the statistical significance of all the other independent variables. Here in the coefficient table, we see that the p value for user satisfaction is 0.367 which is >0.05 hence H1 is rejected and the null hypothesis is accepted. The p value for user trust is 0.00 which is <0.05 hence the H2 is accepted and null hypothesis is rejected. The author here concludes that there is a significant influence between user trust and user loyalty where as there is no significant influence between user satisfaction and user loyalty of smartphone application users. From the overall value with the combination of user satisfaction and user trust there is a significant influence with the user loyalty towards smartphone applications. We can see the overall p value indicates .000 which is <0.05 hence H3 is accepted and the null hypothesis is rejected. The author here concludes that only with user satisfaction the user loyalty cannot be reached. Along with user trust and satisfaction, the user loyalty can be achieved.

V. CONCLUSIONS

This research examines the user loyalty towards smartphone applications. This study confirms that user satisfaction and user trust leads user loyalty towards particular product or service. The marketer makes the people mind through service and advertising. This study towards smartphone applications reveals that if the user has satisfied and his trust towards particular application increases, it results in user loyalty towards particular applications. But the user satisfaction alone need not makes the user loyalty, along with user trust it enhances the user loyalty towards that applications. Smartphone applications are the current trend in the marketing. Through users downloading those applications, the revenue margin for the marketers will increase accordingly. Thus these applications are most important for the retailers to make money in selling and advertising. The retailers eye on mobile applications then the mobile web because those applications retailers want in users screen. Because of this much importance, the user loyalty becomes most significant for the marketers. This study will help the marketers to make their business strategy successfully.

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