INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

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INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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EFFECT OF APP-BASED PURCHASING BY THE TEENAGERS ON CUSTOMER SATISFACTION AND CUSTOMER LOYALTY IN COMMODITY SECTOR: A STUDY BASED ON KOLKATA AND 24 PARGANAS (NORTH)

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ABSTRACT

In the era of globalization, app-based economic activities provide a welcome avenue through which purchasing a lot of commodities has now come under the palm of the teenaged group. The present study seeks to investigate the impact of level of satisfaction of the teenaged group on their loyalty while using app-based services for purchasing various commodities. An empirical study is conducted based on the districts of Kolkata and 24-Parganas (North) in West Bengal to seek the answers to the following research questions: What are the demographic factors of the teenagers that are influencing their loyalty while using app-based purchasing? How does the app-based purchasing of various categories of products affect the teenagers' loyalty? What are the major factors those make a teenager satisfied toward using mobile apps? How do such factors affect the customer satisfaction scores (CSATS) obtained by them? How does the customer satisfaction score (CSATS) relate to the customer loyalty score? What are the various problems, associated with using apps-based purchasing services, significantly affecting the loyalty of the teenagers? It is a self-administered survey and the data is collected through pre-designed closed-ended questionnaire. The data are analyzed using statistical package SPSS version 20. The study reveals various factors that influence the level of satisfaction of the teenagers using Principle Component Analysis (PCA) under Exploratory Factor Analysis (EFA). The results of the study also admit that there is a positive relationship between the level of customer satisfaction and customer loyalty in the context of using app-based technology for purchasing commodities by the teenagers. Therefore, the business houses should develop effective and innovative app-based marketing and selling strategies that will influence teenagers' level of satisfaction with the aim of achieving their loyalty much more than before.

KEYWORDS
app-based purchasing, customer loyalty, customer satisfaction, teenagers.

JEL CODE
M31

I. INTRODUCTION
The app-based economy encompasses the economic activities through using apps that are now affecting a shift from desktop to laptop and then laptop to smart phone for making online businesses. A surge in the popularity of using apps from procuring commodities such as foods, retail goods, resale goods etc., for acquiring services online is expanding the satisfaction level of the customers. In society, teenagers play a pivotal role in setting any new trend. According to Belch et al. (1989), teenagers are the main influencers of family-spending whose opinion and preferences are heeded and encouraged by their parents. Therefore, understanding teens' present and future purchase behavior, their existing and desired level of satisfaction, their willingness to engage in repeated buying and their recommendation to others to buy a product in the context of using app-based technology for procuring a commodity is the best way for the industries to hold and expand a large market share in future. Empirically, it shows that satisfaction is a key to achieving loyalty (Kim, Li& Brymer, 2016). Loyalty links customer attitudes (i.e., how much customers are satisfied with firms' product or service) to customer behavior (i.e., customers' actual repurchase behavior for the product or service) (Mohsan, Nawaz, Khan, Shaukat and Aslam 2011) and finally, it affects the financial performance and the value of the firm (Wong, Tong and Wong 2014). Thus, the emergence of developing effective app-based technology in the field of marketing and selling commodities have raised customer expectation and are creating customer loyalty. However, some researchers argue that the impact of product quality on loyalty is greater than any other factors (Poku, Zakari and Soali, 2013). However, some researchers found that a good product alone may be insufficient to influence repurchase behavior of the customers (Donio, 2006). Therefore, this study is conducted in order to determine the impact of teenagers' satisfaction on their loyalty in the context of using app-based technologies to purchase various commodities.

II. LITERATURE REVIEW
Achieving customer satisfaction is one of the crucial tools for any successful business. It is the customers' feelings based on evaluating their consumption experience with the goods or services overtime (Fornell, Johnson, Anderson, cha & Bryant, 1996). Customer satisfaction is primarily influenced by specific product or service features as well as perception of quality. Yang, et al. (2010) found that for online satisfaction, quality of online service is also a valuable component. It reveals that if a product's perceived performance does not meet the expectation of the customer, it makes him unhappy or disappoints (Kotler & Keller, 2006). Hence, customer satisfaction is considered as a barometer that predicts a customer's post-purchase behavior including repeat purchase and good word-of-mouth advertising (Hill, Roche & Allen, 2007). Loyalty is a customer's commitment to purchase a preferred good or service repeatedly or consistently as long as they feel they are receiving better value from the present service provider than that of their rival suppliers (Mellroy & Barnett, 2000). Therefore, achieving sustained customer satisfaction accompanied by their emotional attachment, preference, patronage and premium has a big impact on future customer behavior in the form of customer loyalty (Rai & Medha, 2013). Customer satisfaction is dynamic and relative. The findings of some supporting research conducted by Fernandes, Proenca & Rambocas (2014) revealed that demographic factors of the customer moderate the relationship between customer satisfaction and customer loyalty. The research found that the young and female customers are more likely to be loyal and spread positive word of mouth than other market segments.

III OBJECTIVES OF THE STUDY
PRIMARY OBJECTIVE
To study the impact of level of satisfaction of the teenagers on their loyalty while using app-based services to purchase various commodities.
SECONDARY OBJECTIVES
1. To study various demographic factors of the teenagers those are influencing their loyalty while using app-based purchasing.
2. To examine whether customer loyalty is influenced by the ultimate-users of various products categories that the teenagers are actually purchasing online.
3. To determine the major factors those, make a teenager satisfied toward using mobile apps.
4. To assess how such factors, affect the customer satisfaction scores (CSATS) obtained by them.
5. To understand how the customer satisfaction scores (CSS) relate to customer loyalty scores and
6. Finally, to identify various problems associated with app-based purchasing that are significantly affecting the loyalty of the teenagers.

IV RESEARCH METHODOLOGY

This is an empirical research where data has been collected from both primary as well as secondary sources. Primary data is collected through self-administered survey with simple random sampling. Secondary data is collected from the published sources and it is used to develop the theoretical background of the study. The target population is the school-going teenagers with the age group of minimum 13 years and maximum 19 years. In order to qualify as a respondent all of them are required to access smart phone. The research instrument that is used to collect the data is well-structured questionnaire. Questionnaire is filled up by the teenagers in the school premises. A sample of 900 respondents from 30 schools are drawn and asked to fill up a pre-designed closed questionnaire separately in order to avoid their influence on each other while answering. The responses against categorical variables are collected using 7-point Likert Scale. The study is conducted from 17thNovember, 2019 to 10th March 2020 in the districts of Kolkata and 24-Parganas (North) of West Bengal.

V. DATA ANALYSIS

TABLE 1: DEMOGRAPHIC PROFILE OF THE RESPONDENTS USING APP-BASED PURCHASING

Demographic Characteristics		No. of respondents	Percentage
Age Group	Early-teenaged (13-15)	194	21.56
	Middle-teenaged (16-17)	314	34.89
	Late-teenaged (18-19)	392	43.55
Gender	Male	520	57.78
	Female	380	42.22
Working Parents	Mother	87	9.72
	Father	475	52.78
	Both	263	29.17
	None	75	8.33
Family Status	Joint Family	363	40.28
	Nuclear Family	537	59.72
Highest educational qualification of the parent (any one)	Post-graduate	326	36.22
	Graduate	287	31.89
	Higher Secondary	125	13.89
	Madhyamik (Secondary)	87	9.67
	Uneducated	75	8.33
Family Income per month	More than Rs.100000	25	2.78
	Rs. 50000-Rs.100000	100	11.11
	Rs. 25000-Rs.50000	463	51.44
	Less than Rs.25000	312	34.67

Source: Primary Data

Table1 demonstrates the socio-economic factors of the teenaged participants. The overall sample portrays that out of the parents of 900 teenagers, 31.89% are graduates and 36.22% are post-graduates. It also shows that majority of the parents are job oriented either individually or jointly and the family income of the most of the respondents are ranging from Rs.25000 to around Rs. 50000. It proves that the teenagers are belonging to the educated family background and our data fall in the category from middle income to upper income group.

Figure1: Percentage of teenagers of different age-groups spending time on mobile app for purchasing commodities per day

	13-15yr	16-17yr	18-19yr
7-8hrs	13	29	31
3-5hrs	24	26	27
1-2 hrs	31	23	24
Less than 1hr.	32	22	18

Time spent (in hours)
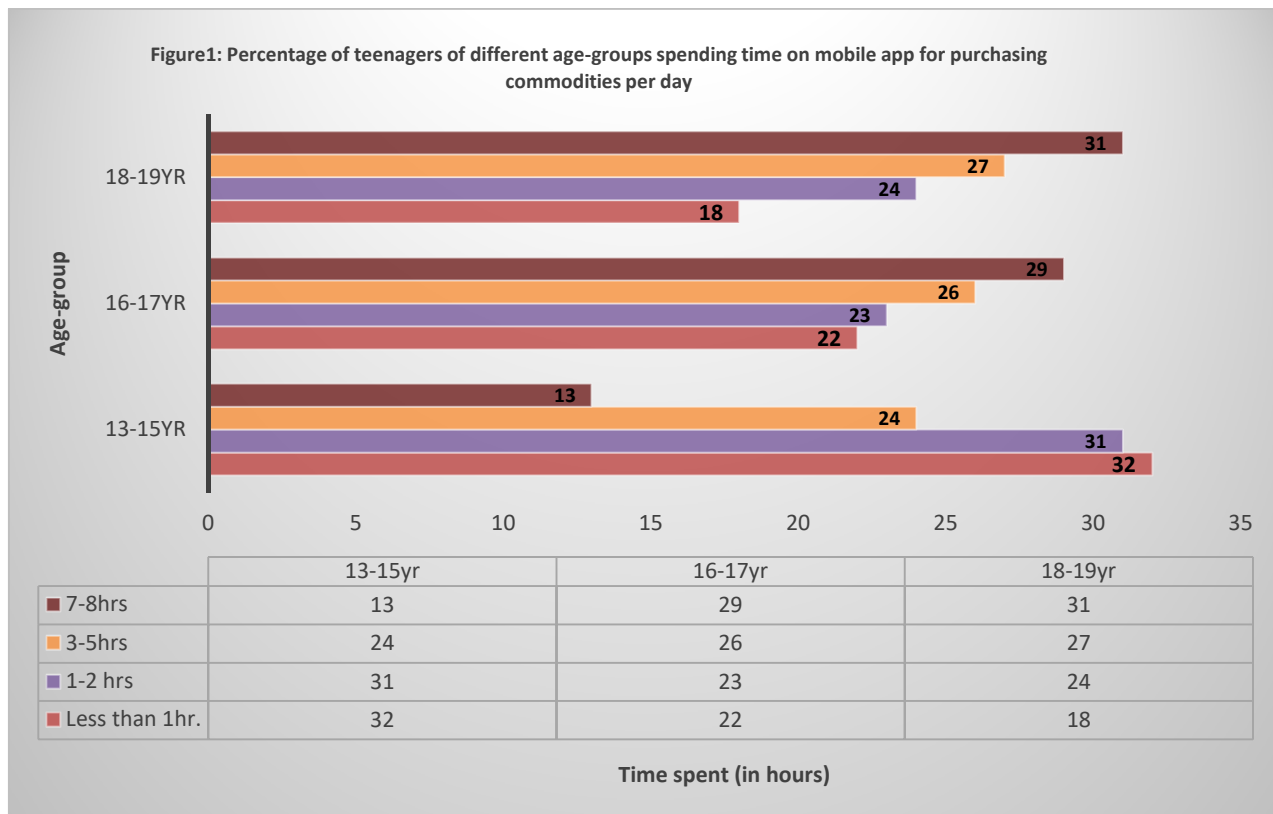
Source: Primary Data

The survey studied that the craze of using mobile app is rapidly increasing with the increase in age, especially when they shift from one age bracket to another. Once they shift from one age group to the next, not only they are increasing in volume but also their duration of using social media is increasing significantly. As it is seen in Figure1, when only 13% of early-teenaged group is spending 7-8 hours for using mobile apps, it is 29% for middle-teenaged group and 31% for late-teenaged group.

Figure 2: Percentage of teenagers of different age-groups using mobile apps for purchasing different commodities

	13-15yr	16-17yr	18-19yr
■ Households	3	5	7
■ Toiletries and personal Care	12	11	10
■ Apparels	17	14	15
■ Computer products	7	13	16
■ Electronic gadgets	8	15	18
■ Books/CDs	26	24	22
■ Toys and Games	27	18	12

Variuos Duable and Non-durable Product Categories
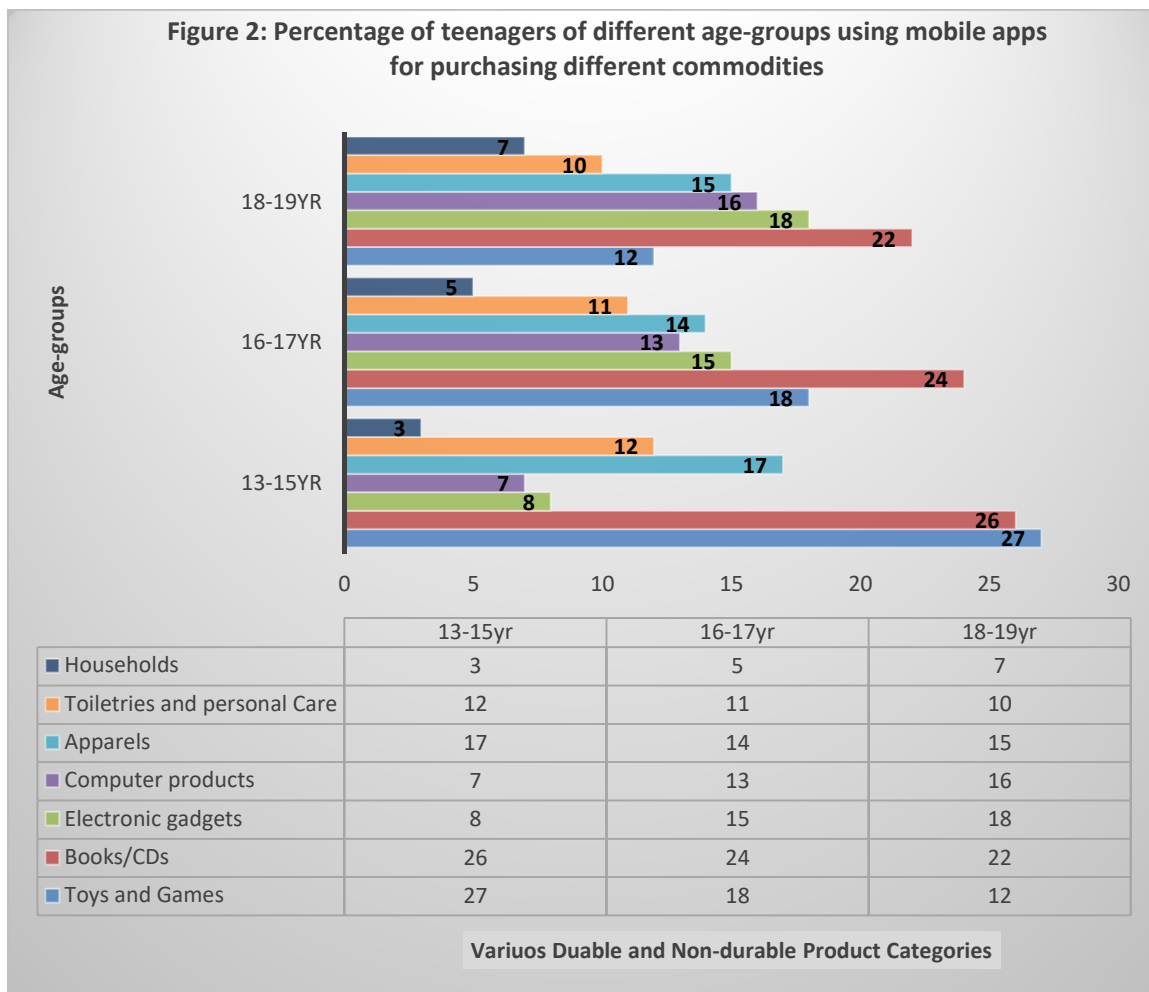
Source: Primary Data

From theFigure2 it is derived that primarily at the early-stage (i.e., 13-15 years), the teenagers are using mobile apps mainly for purchasing self-used products such as Books/CDs and toys and games. As their age is increasing, they are more inclined to app-based purchasing not only for self-used products but also for those products used by others in the membership group. The availability of wide varieties, price comparisons, fashion trends, accessing international brands and such other facilities give a boost to demand for using mobile apps for purchasing such commodities.

Figure 3: Percentage of Teenagers using providers of different mobile apps for purchasing Durables and Non-durables

- Amazon: 31%
- flipkart: 34%
- Snapdeal: 24%
- E-bay: 7%
- Others: 4%
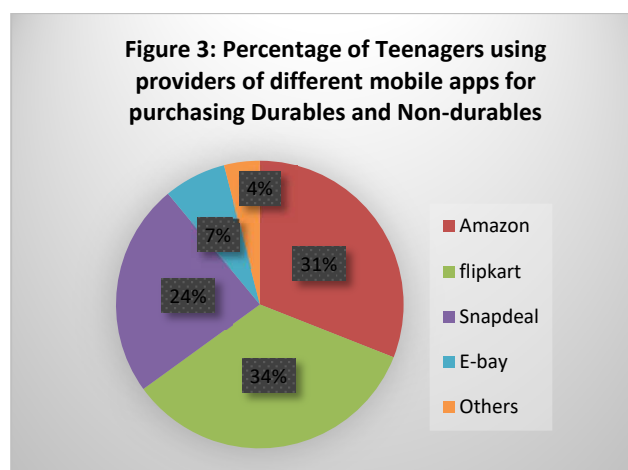
Source: Primary Data

Figure3 shows that the teenagers' most preferred app-based service provider is Flip kart as it was the only service provider in the country for many years. Later when other service providers came into picture its market went down, still it's the most preferred site as it maintains customer loyalty with providing superior brand quality and competitive price range for durable and non-durable products.

Figure 4: Percentage of Teenagers using different app-based service providers for purchasing Processed Foods and Beverages
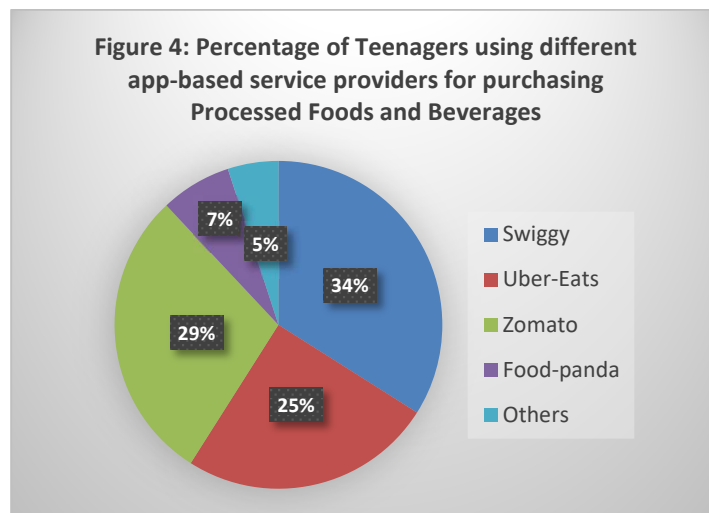
Source: Primary Data

So far as cooked/fast foods and beverages (Restaurants / food coat order) are concerned, Figure 4 depicts the most preferred brands are Swiggy, then Uber eats and Zomato, based on their fastest door-to-door delivery service and quality of foods delivered.

Figure 5: Percentage of Teenagers using different app-based service providers for purchasing Resale Products
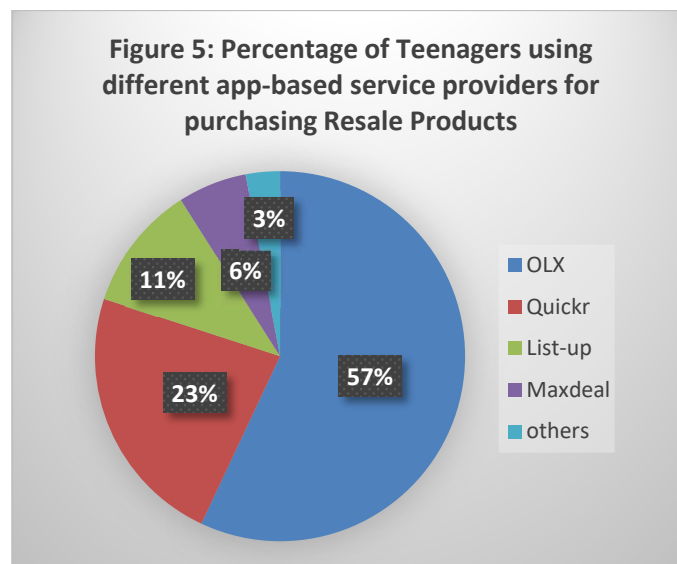
Source: Primary Data

In addition to the retail and fast food products, app-based services also offer a wide range of market for Resale products. Such service providers must ensure condition of the product with competitive price range. As per the record, Figure 5 displays that 57% of 900 respondents prefer OLX for dealing with such products.

HYPOTHESES

H1: Customer loyalty is significantly associated with the demographic factors of the teenagers while using mobile app service.
H2: Customer loyalty is significantly associated with the ultimate-users of various products categories that the teenagers are actually purchasing online.
H3: The factors, those make a teenager satisfied toward using mobile apps, significantly affect the customer satisfaction scores (CSATS) obtained by them.
H4: There is a significant relationship between customer satisfaction level and customer loyalty of the teenagers based on app-based purchasing.
H5: There are significant effects of some distracting factors that prevent the teenagers to maintain customer loyalty while using app-based services.

TABLE 2: RELIABILITY STATISTICS

Variables used	N of Items	Cronbach's alpha
Various product categories affecting the use of mobile app	8	.613
Variables that enhance the level of satisfaction while using app-based service	14	.812
Variables that reduce the level of satisfaction while using app-based service	5	.747

The above table shows that the values of all the Cronbach's alpha are greater than .6. It means that there is internal consistency among the factors that are considered to analyse the application of app-based purchasing habit among the teenager. Hence our questionnaire is reliable and we continue the research using this instrument.

TABLE 3: THE SUMMARISED RESULTS OF THE MODERATED REGRESSION ANALYSIS OF THE DEMOGRAPHIC FACTORS OF THE TEENAGERS IN RELATIONSHIP WITH CUSTOMER SATISFACTION AFFECTING CUSTOMER LOYALTY

Variables	Beta	t	Sig.	R square	Adjusted R square
Customer Satisfaction	.341	3.109	.000	.374	.356
Age	.265	2.663	.002		
Customer Satisfaction X Age	.553	4.902	.008		
Customer Satisfaction	.338	3.658	.000	.476	.469
Gender	-.395	-2.734	.034		
Customer Satisfaction X Gender	.518	4.227	.012		
Customer Satisfaction	.246	2.184	.000	.320	.312
No. of working parent	-.204	-2.044	.017		
Customer Satisfaction X No. of working Parents	.632	3.197	.003		
Customer Satisfaction	.172	3.328	.000	.374	.367
No. of family members	-.247	-2.938	.000		
Customer Satisfaction X No. of family members	0.348	3.394	0.027		
Customer Satisfaction	.322	3.405	.000	.402	.392
Parent's Education	-.335	-4.993	.035		
Customer Satisfaction X Parent's education	.684	5.929	.032		
Customer Satisfaction	.227	4.760	.000	.245	.234
Parent's income	-.314	-2.749	.014		
Customer Satisfaction X Parent's income	.451	5.385	.036		
				Significance level 5%	

The Table3 demonstrates that each of the demographic factors in combination with customer satisfaction had a significant influence on the determination of customer loyalty (as p value<.05 for each of them). The proportion of moderator effect of each of such demographic variables on customer satisfaction and on customer loyalty is explained by the component "adjusted R square". Therefore, 35.6% of the moderator effect on the relationship of customer satisfaction and customer loyalty is explained by the age of the teenagers. In the same way 46.9%, 31.2%, 36.7%, 39.2% and 23.4% of the moderator effect on such relationship is explained by the variables- teenagers' gender, their no. of working parents, no. of family members, parent's education and parent's income level.

TABLE 4: THE EXTRACTED RESULTS OF THE CHI-SQUARE TEST SHOWING ASSOCIATION BETWEEN VARIOUS PRODUCT CATEGORIES PURCHASED BY TEENAGERS USING MOBILE APPS AND THEIR LOYALTY

Categories of products	Pearson Chi-squire values	DF	p-values	Significant/ Non-significant
Durables	17.328	12	.056	Not Significant
Non-durables	*32.655*	*12*	*.024*	*Significant*
Processed foods and beverages	12.655	12	.124	Not Significant
Re-sale Products	*24.483*	*12*	*.035*	*Significant*

Significance level 5%

In order to determine whether ultimate-users of various product categories are affecting teenagers' loyalty or not, while using mobile apps for purchasing such products, Pearson chi-square test is conducted at 5 % level of significance. For this purpose, the various products are categorized as durables (i.e., households, electronic gadgets, computer products, books and CDs, toys and games) non-durables (i.e., toiletries and personal care, apparels) foods& beverages and re-sale products. Each of the above product category consists of three groups according to their ultimate users- Self-used products, used by other family members and Used by Both. Table4 shows the result of the chi-square test for each of the above product categories. For durables and processed foods the value of chi-square test are $\chi^2(12) = 17.328$ and $\chi2(12)=12.655$ with p =.056 and p=.124 respectively which implies that customer loyalty based on app-based services used by the teenagers for purchasing durables and processed foods is independent of the end-users of such products (as p value>.05). However, for non-durables and resale products, the customer loyalty associated with such purchases is associated with the end-users of such products (as p values<.05)

Here Exploratory Factor analysis (EFA) is conducted as a dimension reduction technique to handle the large number of variables that are coded against 7-point Likert scale. In the study 14 variables are used to measure the level of satisfaction of teenagers towards using mobile app service. The result has been obtained using eight iterations using SPSS.

TABLE 5: THE RESULT OF KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.660
Bartlett's Test of Sphericity	Approx. Chi-Square	*143.317
	Df	91
	Sig.	.000

*5% Significance level

The Kaiser-Meyer-Olkin (KMO) measure is used to test the sampling adequacy, which varies between 0 and 1. The value closer to 1 is better and the value of.6 is the suggested minimum. In Table5 KMO=.66 which indicates that the sample is adequate and we may proceed to the factor analysis.

The Bartlett's Test of Sphericity follows chi-square distribution with p(p-1)/2 d.f., where p is the number of variables. Bartlett's test of sphericity reveals the zero level of significance i.e., less than the required level of significance of 0.05 percent, which indicates there is a significant correlation among variables. Hence, Bertlett's test is significant and factor analysis is appropriate.

TABLE 6: FACTORS IDENTIFIED AGAINST STATEMENT SHOWING THE ATTITUDE OF THE RESPONDENTS TOWARDS APP-BASED SERVICE

Statements	Factor loadings	Eigen Value	% of variance	Cumulative % of Variance
F1: Prices and charges involved in app-based purchase		*5.183*	*37.021*	*37.021*
I always find the price of any product less than general market price.	.970			
I always find huge transaction cost involved in app-based purchase	.820			
I consider the amount of shipping charges associated with delivery of product	.944			
I usually get the benefit of discount on bulk purchase.	.847			
I enjoy seasonal offer ones or twice during a particular year	.905			
F2: Quality of services offered by mobile-apps.		*4.172*	*29.8*	*66.821*
I give much more importance on after-sales service of any particular app.	.676			
Return Policy of the application is very important to me.	.779			
I experience quick delivery of any product	.692			
I always take care of the quality of the product offered	.649			
I always pay attention to the packing of the product physically received	.676			
I always prefer those application which are technologically easy to access	.772			
F3: Security issues of app-based purchase		*2.620*	*18.714*	*85.535*
I always prefer those applications which guarantee security of payment.	.617			
I always alert about whether the personal details of a consumer are properly kept or not.	.608			
Mode of payment available for purchasing a product is an important issue to me.	.620			

Table 6 shows the factors identified against statement showing level of satisfaction of the teenagers while using app-based service. It also reveals the factor loadings of the variables in each factor, its Eigen value and the percent of variation are explained. Each of the above three factors have the Eigen values exceeding 1.0 and all the three factors together explain 85.535% of the total variance. Varimax rotation is applied for transforming the factors to make them more interpretable. Thus 14 variables are reduced to Three-factor model and each factor is intensified with corresponding variables.

Based on the above factors influencing the satisfaction level of teenagers using mobile app, we can able to perform "one-way Repeated Measure ANOVA" to assess whether or not there is a significant effect of such factors on the customer satisfaction score (CSATS) obtained by them. The dependent variable is the average Customer Satisfaction Score (CSAT) obtained by the teenagers and the independent variable involves three categorical independent groups consisting of Prices and charges, Quality of service and Security issues affecting CSAT score.

TABLE 7: DESCRIPTIVE STATISTICS

	Mean	*Std. Deviation*	N
Prices and Charges	*59.73*	*10.376*	900
Quality of services	*60.30*	*10.543*	900
Security issues	*59.53*	*10.186*	900

Descriptive statistics show the pattern of data used in the analysis. But in order to find out whether the observed differences are significant, we need to consider the inferential statistics.

TABLE 8: MAUCHLY'S TEST OF SPHERICITY (Measure: MEASURE_1)

Within Subjects Effect	Mauchly's W	*Approx. Chi-Square*	*df*	*Sig.*	Epsilon[b]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
factor1	.999	*1.537*	*2*	*.464*	.899	.995	.500

Significance level 5%

In the above Table, it is revealed that the Mauchly's test is not significant at 5% level (as p value is more than.05), hence the assumption of sphericity has been met, $\chi^2(2) = 1.537, p = .464$

TABLE 9: TESTS OF WITHIN-SUBJECTS EFFECTS (Measure: MEASURE_1)

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Factor	*Sphericity Assumed*	*1289.130*	*2*	*644.565*	*6.024*	*.029*	*.182*
	Greenhouse-Geisser	1289.130	1.999	644.887	6.024	.029	.182
	Huynh-Feldt	1289.130	2.000	644.565	6.024	.029	.182
	Lower-bound	1289.130	1.000	1289.130	6.024	.045	.182
Error(factor1)	*Sphericity Assumed*	*192370.204*	*1798*	*106.991*			
	Greenhouse-Geisser	192370.204	1796.914	107.056			
	Huynh-Feldt	192370.204	1798.000	106.991			
	Lower-bound	192370.204	899.000	213.982			

Significance level 5%

As the Mauchly's Test of sphericity assumption has been met, we should use the data obtained in the row of 'Sphericity Assumed'. Hence, based on the row of 'Sphericity Assumed', the result of the test can be reported as **F (2, 1798) = 6.024, p =.029, η_p^2=.18.** Thus, it can be concluded that there is a significant main effect of the above factors on the customer satisfaction score (CSATS) of the teenaged participants using mobile app.

Finally, to establish the relationship between customer satisfaction level (measured by CSATS) and customer loyalty (measured in customer loyalty score) of the teenagers, Multiple Regression Analysis is used. The findings of the study are presented in the following Table.

TABLE 10: MODEL SUMMARY

Model	*R*	*R Square*	*Adjusted R Square*	Std. Error of Estimate
1	*.937*	*.878*	*.834*	.413

a. Predictors:(Constant), CSATS of Prices and charges, CSATS of Quality of services, CSATS of security issues

The Table10 shows the model summary consisting of R, R square, adjusted R square and the Standard error of the estimates. Those components are used to determine how well the model fits the data. The multiple correlation coefficient, R is used to measure the quality of prediction of Customer loyalty score (Dependent variable). Here the value of R is.937 which represents a good level of prediction. The R square, called Coefficient of determination shows the value.878 which indicates 87.8% of the variability of the dependent variable (i.e., Customer loyalty score) is explained by the independent variables (i.e., CSATS of Prices and charges, CSATS of Quality of services and CSATS of security issues). Moreover, the low discrepancy between the values of R square (.878) and adjusted r square (.834) indicates a better fit of the model.

TABLE 11: COEFFICIENTS

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.012	1.589		1.896	
	CSATS of Prices and charges	*.564*	*.162*	*.376*	*3.481*	*.012*
	CSATS of quality of services	*.475*	*.089*	*.411*	*5.337*	*.003*
	CSATS of security issues	*.468*	*.152*	*.339*	*3.079*	*.028*
a. Dependent Variable: Customer loyalty score						

The Table11 shows the statistical significance of the independent variables used in the study. The t values and their corresponding p values reflecting in the table indicate that for each of the independent variables p value is less than.05, which means that all the explanatory variables are useful and all of them contribute substantially in explaining the customer loyalty score of the teenagers using mobile app services.

TABLE 12: CHI-SQUARE TEST SHOWING EFFECTS OF THE DISTRACTING FACTORS ON TEENAGERS' LOYALTY WHILE USING APP-BASED PURCHASING

Factors	Pearson Chi-squire values	DF	p-values	Significant/ Non-significant
Delay in delivery	*30.529*	*36*	*.026*	*Significant*
Cheap Quality	*39.384*	*36*	*.004*	*Significant*
Product Damage	34.152	36	.321	Non-Significant
Non-delivery	19.645	36	.058	Non-Significant
Wrong Product sent	*62.545*	*36*	*.007*	*Significant*

Significance Level 5%

In the Table12, the results of the chi-square test are shown that explain the significant association between two variables. Here the two variables are different problems associated with app-based purchasing and loyalty of the teenagers on such purchases. The test is run at *5% level of significance (α-level)*. It is clear from the above table that out of five independent variables, three variables (Delay-in-delivery, Cheap quality and wrong product sent) significantly affect application of app-based purchasing of teenagers (as p-value<.05). However, other two variables (Product damage and Non-delivery) are not significantly affect their app-based purchasing (as p-value>.05).

VI. CONCLUSION AND RECOMMENDATION

Empirically, the results demonstrate that the effects of customer satisfaction on customer loyalty based on app-based purchasing by the teenagers need to be acknowledged and understood by the marketers in order to identify the target market and to formulate different marketing offerings productively. However, the level of such influences varies among different age and gender of the teenagers, socio-economic influence of their membership group, different product categories, various factors affecting their levels of satisfaction and various problems associated with using app-based purchasing services. The result of the research should also encourage the businesses to do market research and customer analysis prior to adoption of advanced app-based technology not only for offering and selling various commodities but also retaining a reasonable amount of loyal teenaged customers.

VII. LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

Despite the theoretical and empirical contribution provided by the present study, it is limited to the restricted number of variables and the selected durables and non-durables. Due to time and resource constraints this study is only limited to the districts of Kolkata and 24-Parganas (North) in West Bengal. That means the study concentrates only on urban families ignoring rural purchase-making process. Therefore, there is a further scope of research to include more widely geographical area with other relevant variables that can explore a wider picture relating to such influence of customer satisfaction on customer loyalty in the context of using app-based technologies by the teenagers for purchasing commodities.

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