CUSTOMER SATISFACTION AND CUSTOMER LOYALTY IN ONLINE SHOPPING: A STUDY ON UNIVERSITY STUDENTS OF BHUTAN

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Abstract

Purpose-Today with the advancement of e-commerce and online consumer shopping trends the significance of creating and retaining e-loyalty in electronic market places has come into picture in marketing theory and practice. Managing the consumer confidence, satisfaction, loyalty and attitude of ecommerce services is necessary for growth in a long run for a business as the competition in e-commerce is intense; it becomes more important for shopping online. This paper attempts to seek out loyalty and satisfaction of university students of Bhutan in organized ecommerce sites. Considering the factors acceptance of technology and quality of service in
online, the study seeks to check the relationship and impact of “e-satisfaction” and “e-loyalty” in the context of online shopping among university students of Bhutan.

**Design/methodology/ approach:** This study uses a descriptive statistics, reliability and correlation analysis through SPSS and structural equation modeling (SEM) through AMOS as an analytical tool to explore the demographic frequencies and to explore how the students among university of Bhutan are influence by external factors that is technology acceptance factors and service qualities.

**Findings:** The research result of this study shows that the technology acceptance has a direct and positive effect on customer satisfaction and customer loyalty. Further, the study reveals that quality of service in online shopping has a direct and positive influence on customer e-satisfaction and e-loyalty. When the influence of customer e-satisfaction was checked on customer e-loyalty, the same was found to positive and direct. With the help of SEM, it was found out that quality of service online has more influence on customer satisfaction as compared to technology acceptance factors and this will ultimately lead to customer loyalty.

**Research Limitation/Implications:** This study is mainly focused on the online purchase behavior among the university students of Royal University of Bhutan, thus the results of this study cannot be generalized to the whole of the nation or demography that not related to the university students like higher income groups, higher age group, people with negligible exposure to technology etc. Further, the psychological factors are expected to change with the penetration and usage of technology and subsequently change completely with advent of new technology.

**Originality/value:** This paper is an original paper based on the primary data collected from the students of Royal University of Bhutan.

**Paper type:** Paper is based on descriptive and cross-sectional analysis

Key Words- Online shopping, TAM factors, online service quality, Customer Loyalty, Customer Satisfaction, University Students.
Introduction

More than 50 percent of the world’s population was reported to be online in 2017. In the year 2018, the number of internet users was reported to be 4.021 billion with a social media users as 3.196 along with 5.135 billion number of mobile phone users, this clearly shows that the number of internet users is increasing every year (Kemp, 2018). As the time passes the new technology is upgraded and given many comfort and usefulness to the user as a result people tend to seek the comfort and work performance as the main tools. “The advancement in internet and mobile technology has not only enhanced communication and information sharing culture among the Bhutanese but it has also led to an exhilarating growth of doing business online that was unimaginable a few years ago” according to Pema Seldon, due to which it has boosted up the online shopping among the Bhutanese people as the number of internet subscribers has increased over 28% from 2016 to 2017 i.e. 5,65,557 to 7,26,138 which shows that many Bhutanese people are now getting familiar with such technology.

The number of smart phone users’ worldwide has reached 2.32 billion in the year 2017 and will reach up to 2.87 billion by 2020. Likewise, shopping through online services using websites and apps like Flipkart, Myntra, Snapdeal, Amazon.com, AliExpress are used quite often by Bhutanese society (Tshomo, 2015).

The use of such websites and apps has made Bhutanese people feel more convenient without them having to physically visit the stores and they can just avail services from the sites where ever they are and as per the report, 38% of the active internet users are of university students of Bhutan (Lhamo, 2018). This has ultimately led customer satisfaction among Bhutanese students which in turn, has led to the loyalty towards the sites and apps that they avail. But, for the satisfaction and loyalty to be obtained by the customers, it is the external factors that they have to consider while availing the services in online websites and apps. External factors are the strength that impact the business rapidly and those influences or the situations that the individuals cannot control while taking decisions (Poll, 2017).

Sufficient numbers of researches have advocated the role of factors like acceptance of technology and online service quality playing a significant role to influence customer satisfaction and loyalty towards online shopping (Shih et al 2004).
Problem statement

There are many avenues for purchasing the goods that people want, through online websites. Today in the internet driven world shopping is a field that everyone is attracted to, from the basic human need to the unlimited desires of the people, purchases through online has become a convenient one. Online shopping is considered convenient, if the services provided are upto the satisfaction of the user. According to Lin and Sun (2009), the satisfaction is measured through a post-activity measurement index that quantifies the inner state of being happy about the customer's purchases in the past. Due to which when a consumer experiences satisfaction it directly leads to customer loyalty. Bhutan is still considered as a new platform for online shopping for both sellers and customers. And from it young people have been the majority shoppers which mostly include university students who are going to be future customers of the online world as a result they will define the fate of existing online shopping as well as upcoming online shopping channels (Dey, 2014). But with no proper understanding on online shopping site many problems are faced while entering into the world of online shopping in terms of online service quality/ reliability on the website. Together with that the adoption of technology in the area of online shopping is still growing and much aren’t aware of it though (Seldon, 2017). However, buying satisfaction and loyalty are directly influenced by considering the external factors namely the acceptance of technology and online service quality. Hence, the present study is to find the relationship between “customer satisfaction” and “customer loyalty”through online shopping.

Significance of the study

This study stimulates growth of online shopping using technology and making right decision on purchasing of goods and services through online placing an important e-commerce business in the society. The study serves as a reference to other local researcher about the current knowledge on satisfaction and loyalty of the Bhutanese college students. In addition to this, the present study becomes more significant as:

- Majority of the research on online shopping for loyalty and satisfaction has been conducted for the developed countries; very limited study is available for developing
nations. Least developed economies like Bhutan have been ignored by researchers across the globe.

- Online Shopping being a new concept in Bhutan suffers non-availability of online support platforms, the perception towards online shopping may identify avenue through which such platforms can be developed.

**Literature review**

Our study is concerned with the students driven towards online shopping by external factors that have been identified from the review of conceptualized theories and related literatures. The main factors considered for our study are technology acceptance factors and service qualities which will be determining the influence towards customers’ loyalty and satisfaction through online shopping.

Customers in recent shopping online which increases over the recent years. According to Farber (2016), shoppers now make 51 percent of their purchases online, compared to the purchases in 2015 and 2014. Internet shopping was invented and pioneered by Michael Aldrich in 1979 and is still present till today’s date. Many researchers have found that online shopping has enhanced the shopping outcomes of its customer in Bhutan. The effort to infuse purchase behavior on online shopping among college students is not recent. In case of Bhutan, telecommunication network was launched in 1963 and computers during early 1980s and internet were introduced later in 1999. The development of internet has led to the improved communication and information and accelerated the growth of online shopping that was unimaginable a few years ago among Bhutanese people (Selden, 2017).

Together with growth in internet it has also motivated college students in offering access to the products of wide range beyond their desires had influenced many customer ranging from student to other people in providing convenient space without having to physically visit the stores, and if provided services are upto the standard of its consumer then it will be called as satisfaction. Hence if provided with satisfaction the customer is bound to be resulted as loyal, as it has resulted in positive emotional experience in buying the product from internet. But for a developing country like Bhutan which still lacks in providing such convenience as it mostly deal with the timely delivering issues (Choezom, 2017). Our study is concerned with the students
driven towards online shopping by the factors that have been identified from the review of conceptualized theories and related literatures. Several studies have dealt the role of internet technology and quality of service that impacts customer satisfaction and loyalty and also the emotional feelings, one’s attitude and conduct on while shopping online (Flavian, Gurrea, & Guinaliu, 2006).

**Technology Acceptance Model**

The main source of e-shopping is from websites. Customers get to create a platform where they can have a wide variety of choice online based on their needs but to make use of e-shopping, customers must make sure that the use of website is easier and useful for them.

Most of the researches have adopted the technology acceptance factors where it measures the willingness of the customers to do online shopping. According to Davis (1989) and “The Technology Acceptance Model (TAM)” explains how user adopts the Information Technology (IT) or Information Systems (IS) for shopping online. TAM has two main drivers which act as factors to influence user to accept the technology or information system that is “Perceived ease of use (PEOU)” and “Perceived usefulness (PU)”.

In this context, PU is defined as, “the degree to which a person believes on IT towards his shopping performance. If the students believe that the internet shopping use will benefit him or her, they would be willing to make use of it”. It has known that perceived usefulness have a direct influence over online purchase behavior. Davis (1989) mentioned that PEOU will have indirect influence on system usage through PU, there is direct connection between the use and usefulness as a result there is an intention for the user to accept the technology. Technology acceptance factors were used by past researchers to determine how the users accept the technology of online shopping and TAM has been tested for loyalty and satisfaction (Astuti, 2013) Likewise, our study is using technology acceptance factors for determining college student’s loyalty and satisfaction.

According to the results of past previously study, it has been confirmed that PEOU and PU have a significant effect on user attitudes, that has an impact on user acceptance and satisfaction. The study by Verhagen et al., 2009, suggest that customer satisfaction in the internet mode is relatively higher than the conventional mode of purchase.
So, the following hypotheses are formulated based on above literatures for the purpose of this study:

H₁: Acceptance of Technology for shopping online improves the satisfaction among the university students of Bhutan.

H₂: Acceptance of Technology for shopping online improves loyalty among the university students of Bhutan.

**Online Service Quality**

According to Sharma (2017), the SERVQUAL dimensions are used to measure the quality of service provided by the website designs and the factors associated with the website usage to evaluate customer e-satisfaction which further leads to customer e-loyalty (Sharma, 2017). The perceptions towards the online service quality by the consumers are undefined because the value it gives may exceed their need and make them prefer online channels. The accuracy in accounting process, proper maintenance of records and performance of the service at the appropriate time all represents an effort to achieve reliability and according to Idrisu (2015), employee’s knowledge, their courtesy of employees, their ability to convey confidence and trust forms part of assurance.

The consumers use of E-commerce channel has grown considerably in Bhutan because the online service that handicraft business provide has been considered the best options for the consumers as they find more assurance in getting the varieties and people are more dependable. The Bhutanese students perceives the value of service provided by the local online websites like Druk-sell, Druk-Bees, Bbuying, Bhuanbuy.com, etc as a means objectives and they find it more reliable and they get immediate responds of the feedbacks that they give and they also go for online websites of other countries like Flipkart, Aliexpress, Myntra, Amazon, etc (Tshomo, 2015).

According to Lai et al., 2012, customers perceive better online service quality and they feel more loyal and ultimately influences the customer loyalty. Hence the following hypotheses are formulated.

H₃: Online service quality increases the satisfaction among university students of Bhutan
H₄: Online service quality increase the loyalty among university students of Bhutan.

**Customer satisfaction and loyalty**

Satisfaction quantifies how products and services supplied by the company meets the expectation of customers. When customers are satisfied, there is the high chance of leading towards loyalty (Amin, 2014). It helps how the customers’ feel about the product through their past purchase experiences and it influences the decision of customers to continue or not using the internet technology. It means that when customer meets the expectation of what they desired then they experience the shopping where is the customer does not mean the expectation the they tend to switch the brand as result they does not have loyalty toward the brand. As per the study of Gajendra Sharma (2017), loyalty is influenced by satisfaction. Customer loyalty is defined as a “deeply held commitment to repurchase a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing”.

Earlier studies have determined that the e-satisfaction has an impact on e-loyalty and has some level factors playing as moderating role that includes convenience, motivation, and purchase size which has the higher impact of e-satisfaction on e-loyalty (Srinivasan, 2003). With respect to that when the customer has more level of satisfaction; this in turn increases the level of loyalty of a customer to re-visit the web-channel. As a result the advancement in technology and the introduction of a new online platform and the Website online service quality provided by online sites in Bhutan will be studied in this research as the influencing factors towards-satisfaction and e-loyalty because of which the hypothesis is proposed for our study.

H₅: if the satisfaction is improved, loyalty increases among university students of Bhutan.
Research Methodology

The following paragraphs throw light on the methodology adopted for the purpose of this study.

Research Design

A quantitative research approach is adopted in this study so as to get an idea of the factors which control the satisfaction and loyalty of the college students. This method will help in quantifying the attitudes, opinions, behaviors and other defined variables.

Geographical area of study

The area of research was 5 colleges namely Paro College of Education (PCE), Gedu College of Business Studies (GCBS), Samtse College of Education (SCE), College of Science and Technology (CST) and Royal Thimphu College (RTC), with a total sample size of 388 based on Krejcie and Morgan (1970) sample size determination model.

Sampling Design

Among the colleges of Bhutan the sample for this research is done on (CST, RTC, GCBS, PCE and SCE). For that the method of data collection was through google form. The sampling procedure is non-probability sampling, where the recipients of the questionnaires will be
through email, facebook and wechat. The sample determination technique used is Krejcie & Morgan (1970) formulae for a total population of the five sampled colleges of RUB i.e. 5393 (Royal University of Bhutan, 2017), the sample size was determined as 357 at 95% confidence level whereas the actual administered sample reported at 388. In Bhutan this study is conducted across five colleges of Royal University of Bhutan, namely, Royal Thimphu College (RTC), College of Science and Technology (CST), Gedu College of Business Studies (GCBS), Samtse College of Education (SCE) and Paro College of Education (PCE), in order to generalize the responses gathered from the respondents. Sampling technique used was Convenience sampling using google docs.

Data Collection

This study is a descriptive research based on primary data; online survey is conducted through google docs. The data is collected through a questionnaire that is done through developing a 5 point likert scale survey questionnaires whereby the answer will be ranging from strongly disagree to strongly agree that will be circulated through Google form by Email, facebook and WeChat. We have distributed survey questionnaire to different colleges of RUB that is CST, GCBS, RTC, PCE and SCE to make sure that we can obtain good quality of information as well as maximum number of respondents. The following is shown in the table below:

Table 1 Demographic statistics of sampled population

<table>
<thead>
<tr>
<th>Descriptive statistics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>170</td>
<td>43.8</td>
</tr>
<tr>
<td>Female</td>
<td>214</td>
<td>55.2</td>
</tr>
<tr>
<td>prefer not to say</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>RUB College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE</td>
<td>127</td>
<td>32.7</td>
</tr>
<tr>
<td>GCBS</td>
<td>86</td>
<td>22.2</td>
</tr>
<tr>
<td>RTC</td>
<td>87</td>
<td>22.4</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>CST</td>
<td>58</td>
<td>14.9</td>
</tr>
<tr>
<td>SCE</td>
<td>30</td>
<td>7.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>1st Year</th>
<th>73</th>
<th>18.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Year</td>
<td>87</td>
<td>22.4</td>
<td></td>
</tr>
<tr>
<td>3rd Year</td>
<td>141</td>
<td>36.3</td>
<td></td>
</tr>
<tr>
<td>4th Year</td>
<td>87</td>
<td>22.4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income level(in Ngultrums)</th>
<th>1000-2000</th>
<th>166</th>
<th>42.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-3000</td>
<td>94</td>
<td>24.2</td>
<td></td>
</tr>
<tr>
<td>3000-4000</td>
<td>68</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Above 4000</td>
<td>60</td>
<td>15.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shopping frequency</th>
<th>Once every 6 month</th>
<th>32</th>
<th>8.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Once a year</td>
<td>121</td>
<td>31.2</td>
</tr>
<tr>
<td></td>
<td>Once in 2-3 months</td>
<td>111</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>once in a month</td>
<td>80</td>
<td>20.6</td>
</tr>
<tr>
<td></td>
<td>Once in a week</td>
<td>44</td>
<td>11.3</td>
</tr>
</tbody>
</table>

| Preferred websites | Amazon | 133 | 34.3 |
Analysis and Discussion

The following section exhibits the results of CFA (Table 2), Correlation analysis and SEM Analysis.

**Confirmatory factor Analysis, reliability and validity of the constructs**

CFA is used to test whether measures of the constructs are consistent with researchers understanding of the nature of that constructs. Table 2 offers the results of CFA of the measurement constructs along with Cronbach’s Alpha (α), Average Variance Extracted (AVE), and Composite Reliability (CR).

**Table 2** Confirmatory Factor Analysis of the measurement model

<table>
<thead>
<tr>
<th>Code</th>
<th>Name of the Variable</th>
<th>Loading</th>
<th>α</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>1. Technology Acceptance Model Factor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAM1 Shopping via websites are convenient</td>
<td>0.774</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAM2 Online shopping is easy to use</td>
<td>0.805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>All</strong></td>
<td>0.815</td>
<td>0.600</td>
<td>0.818</td>
<td></td>
</tr>
</tbody>
</table>

N=388
TAM3 Online shopping websites are easy to understand 0.744

2. Online Service Quality Factors

2.1. Tangibility

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1</td>
<td>I agree that the attractive design of the website catches my attention</td>
<td>0.734</td>
</tr>
<tr>
<td>TA2</td>
<td>The websites displays the product in a visually appealing way</td>
<td>0.719</td>
</tr>
<tr>
<td>TA3</td>
<td>The websites provides detailed description regarding the products</td>
<td>0.702</td>
</tr>
</tbody>
</table>

2.2 Empathy

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EM2</td>
<td>I am satisfied with the concern and care that online service give to my needs and wants</td>
<td>0.654</td>
</tr>
<tr>
<td>EM3</td>
<td>The varieties of items were made available of my choice</td>
<td>0.697</td>
</tr>
<tr>
<td>EM4</td>
<td>The online retailers behave with me politely via electronic communications</td>
<td>0.659</td>
</tr>
<tr>
<td>EM5</td>
<td>In physical interaction, the retailer behaves well to me</td>
<td>0.647</td>
</tr>
</tbody>
</table>

2.3 Reliability

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RL2</td>
<td>The product was delivered within</td>
<td>0.624</td>
</tr>
</tbody>
</table>
the promised time

RL4 The online retailers follows return policies when the goods are not up to your choice 0.680

RL5 Refund policies are followed when your products are damaged 0.703

2.4. Assurance

AS1 I feel safe to buy product from online websites 0.689

AS2 The websites of the retailers are frequently updated 0.658

AS3 I am satisfied with the in time delivery of goods I paid for 0.707

2.5. Responsiveness

RS2 The websites has quick response to our search items 0.615

RS3 The online retailers responds quickly to my complaints 0.663

RS4 The online retailers quickly resolves my issues 0.646

3.Customer Satisfaction

CS1 I am satisfied with the shopping website related business 0.837

CS2 I like the features and the layout 0.695
of the shopping websites

CS3  I am satisfied with the level of service provided by website and online dealers  0.744

4. Customer loyalty

CL1  I will recommend this shopping websites to my close friends and family.  0.756

CL2  I first think about this shopping website whenever I think about internet shopping  0.765

CL3  I would prefer this website for future purchases  0.91

.850  0.662  0.853

Cronbach’s (1951) recommended that Alpha result of 0.5 to 0.7 is acceptable while higher than 0.7 is considered as scale of good internal consistency, based on which the data as given in table 2, is found to be reliable. The indicator of convergence is measured through AVE for all items being calculated using factor loading on a single construct (Hair et al., 2010).

The rule of thumb for adequate convergence is an AVE > 0.50, indicating that more than half of the indicator variance is included in the construct score (Hair et al., 2017c) in table 2 the recommended level was achieved for TAM, Tangibility, customer satisfaction and customer loyalty. However, the factors like empathy (.442), reliability (.449), assurance (.469), responsiveness (.412) was found to be higher than .4 but couldn’t achieve the recommended value. According to Henseler et. al., 2015, the outer loadings need to exceed 0.708. In table 2, all factors except responsiveness (.677) have exceeded the suggested values i.e. .708. The indicator loadings in the model are above 0.6. This threshold is chosen based on the previous researchers proposed such as Zainudin (2015), Hair et al (2006), Bollen & Pearl (2013), Bentler
(1990), and Meulener et al. (2003). Based on this value only 25 items were retained out of total 30 items administered in the research tool. This implies that the study reached convergent validity.

**Correlation Analysis**

Correlation studies how strongly the pairs of variables are related. Table 3 presents the relationship between the latent variables and the same has been used to test the proposed hypothesis.

*Table 3 Pearson Correlation Analysis*

<table>
<thead>
<tr>
<th></th>
<th>TAM</th>
<th>SQ</th>
<th>CS</th>
<th>CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAM</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SQ</td>
<td>.721*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>.621*</td>
<td>.776*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CL</td>
<td>.580*</td>
<td>.713*</td>
<td>.773*</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2-tailed).*

N= 388

The table 3 shows the correlation between the variables in the study whereby the correlations are positively significant between TAM and SQ by .721(72%), TAM and CS by .621(62%), TAM and CL by .580(58%), SQ and CS by .776(77%), SQ and CL by .713(71%) and CS and CL by .773(77%). This also signifies that the Customer satisfaction has the highest influence of 77.3% on customer Loyalty and Technology acceptance factors has the lowest influence on Customer loyalty i.e. of 58%. On the other hand Service quality factors has a high influence on Customer satisfaction with a high positive correlation of 77.6% and likewise Technology acceptance factors has a high positive influence of 72.1% on service quality. Hence, leading to the acceptance of the hypotheses; \(H_1\), \(H_2\), \(H_3\), \(H_4\) and \(H_5\).
Measurement Model:

This model studies the relationship between the latent variables and their measures. Measurement model studies the constructs based on global fit indices and the same has been analyzed in table 4.

### Table 4: Measurement Model Summary

<table>
<thead>
<tr>
<th>Constructs</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>TLI</th>
<th>CFI</th>
<th>(RMSEA)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Service Quality</td>
<td>2.322</td>
<td>.932</td>
<td>.938</td>
<td>.953</td>
<td>.058</td>
<td>Achieved</td>
</tr>
<tr>
<td>TAM</td>
<td>.421</td>
<td>.999</td>
<td>1.000</td>
<td>1.000</td>
<td>.000</td>
<td>Achieved</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>3.920</td>
<td>.993</td>
<td>.992</td>
<td>.976</td>
<td>.087</td>
<td>Achieved</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>.183</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>.000</td>
<td>Achieved</td>
</tr>
</tbody>
</table>

The measurement model was studied using the following indices: $\chi^2$/DF, and its significant level, the root mean square error of approximation (RMSEA), and the Comparative Fit Index (CFI).

For a satisfactory model fit, the $\chi^2$ statistics must have a low value of less than 5 (Hair et al, 2006). The indicator CFI and GFI must exceed 0.9 and RMSEA must be below 0.05 (Hair et al, 2006). However, for RMSEA less than 0.5 is referred as close fit and less than 0.8 is considered to be reasonable (Browne & Cudeck, 1993; Byrne, 2001). The $\chi^2$ test is sensitive to sample size even if the model fit is good (Bentler and Bonett, 1980). However, the results of the modified model complies with all the recommended values as suggested by literatures.
SEM Analysis

SEM analysis is used on the proposed model to check the impact of independent variables (TAM Factors and Online service quality) on dependent variables (customer satisfaction and customer loyalty). The modified model (Figure 2) is given below:

Fig. 2
Path diagram for the proposed model

The model fit coefficients i.e. CMIN/DF (2.526), GFI (0.940), CFI (0.969), TLI(0.960), RMSEA (0.063), indicates a good fit for the proposed model. The p value for the two-path coefficient i.e
H3(Service quality → customer satisfaction) and (Service quality → customer satisfaction) were found to be significant at 99% confidence level with standardised estimate coefficient of 0.914 and 1.240 respectively. The same is captured in the table 5.

**Table 5 SEM Analysis results**

<table>
<thead>
<tr>
<th>Hypotheses and path</th>
<th>Estimated path</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1(Technology acceptance factor → customer satisfaction)</td>
<td>0.034</td>
<td>0.662</td>
</tr>
<tr>
<td>H2(Technology acceptance factor → customer Loyalty)</td>
<td>-0.046</td>
<td>0.604</td>
</tr>
<tr>
<td>H3(Online Service quality → customer satisfaction)</td>
<td>0.914</td>
<td>***</td>
</tr>
<tr>
<td>H4(Online service quality → Customer Loyalty)</td>
<td>-0.293</td>
<td>0.371</td>
</tr>
<tr>
<td>H5(customer satisfaction → customer loyalty)</td>
<td>1.240</td>
<td>***</td>
</tr>
</tbody>
</table>

*** Significant at p<.001

The estimated path coefficient allows us to know the different effect and influence of independent variables on the dependent variables. Some of the findings of the path analysis is as follows:

- Technology acceptance factors have a positive influence of 0.034 on customer satisfaction and a negative influence of -0.046 on customer loyalty. However, the same is found to be insignificant at both the levels.

- For Customer satisfaction, major influencing role is played by Online service quality with significant influence level of 0.914.

- Highest influencing factor for Customer loyalty is Customer satisfaction where a significant level of influence is found to be at 1.240.
The SEM analysis concludes that online service quality leads to customer satisfaction and customer satisfaction henceforth leads to customer loyalty. In other words, without satisfaction of customers, loyalty of customer cannot be achieved. However, the correlation analysis suggests that all the factors have a positive correlation between them and increasing in independent factors will lead to increase in dependent factors namely customer satisfaction and customer loyalty. The study suggests, to improve the quality of services online in order to gain customer satisfaction and subsequently customer loyalty.

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