An Empirical Analysis on E- Retail Service Quality, 3PL in Supply Chain L-SQUAL, E-SQUAL and E-SRQUAL

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Abstract— Electronic commerce brings huge business opportunities and revenue growth to companies like e- retailers, mainly due to its convenient, interactive, lower costs and high degree of customization and personalization to their customers. With respect to logistics outsourcing, online shopping takes place in the chain consisting of the third party logistics providers, e-retailer, and the customer, which represents a service triad. Since, the delivery service is provided by the third party logistics (3PL) service providers, the satisfaction level of the end customers depends on the combination of both product delivery service and e-retailers service. The study proposes a research model that integrates the e-service quality (ESQ), e-service recovery quality(ESRQ), and the logistic service quality(LSQ) that are provided by the e-retailers, which furthers influences both customer satisfaction and loyalty. The study examines the second order dimensions of ESQ, ESRQ, and LSQ using second stage reflective-formative approach. The outcome of the data analysis, with the sample size of 350, concludes that ESQ strongly influences LSQ, customer satisfaction (CS) and customer loyalty (CL) when using online retail websites. Similarly, when CS is achieved it also has a strong relationship on CL. The outcome of the analysis also evaluated that ESRQ has a strong influence on CS. The relationship between LSQ and CS, LSQ and CL are strongly significant, than ESQ and ESRQ

Keywords— *Service Quality, ESQ, ESRQ, 3PL and LSQ*

1. INTRODUCTION

E-commerce offers enterprise opportunities in addition to sales growth to e-stores because of its interactive and convenient nature, high diploma of customization and lower prices. Irrespective of developing customer database on this segment, it stays complex to a traditional enterprise. This business sector has a major challenge in understanding the perceived service quality by the customer. As, this business model works on a triadic process (Fig. 1), the e-retailer's service quality is evaluated by the customers on different dimensions. The customer satisfaction is eventually driven by the perceived service quality. Mostly, the e-retailers depends on third party to deliver the products to customers, and their performance will indirectly effects the e-retailers' service quality. Therefore, it is of utmost importance that the 3PL service providers render supportive performance in conducting the e-retail business. The success of e-trade depends on the e-retailing deliver chain [2]. It is thought that logistic service satisfactory too creates customer preference [3], and then influences customer loyalty [4]. Although, the research at the role of logistic services in e-commerce is scarce. This research attempts to use an integrative technique in understanding the service quality using the three dimensions approach of service quality, such as, ESQ, LSQ, and ESRQ in measuring the customer satisfaction and loyalty.

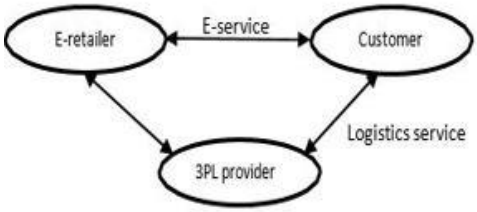

Figure 1 Triadic Framework [1]

II. LITERATURE REVIEW

The future growth of the e-retail segment is determined by the end customer satisfaction towards the service quality provided by the e-retailers. The study towards the service quality explains the major factors influencing the customers' satisfaction. E-service quality, has mainly two parts in its business model, and one among them is customer's perception about the online shopping, covering search and browsing product information, and placing order, the other part consists of the logistic activities which are vital in delivering the product to the desired destination. The e-retail business model, works by integrating the effective supply chain among the e-retailers, vendors, and the 3PL service providers. The success of this e-business model depends on the critical role played by all stakeholders of the business. Though, the e-retailer works continuously on customer satisfaction and customer retention, the service failure encountered by customer due to vendor performance or 3PL services, will drastically impact the customers' satisfaction towards the e-retailer. In turn, the dissatisfaction will result in decrease in repurchase intention. Thus, based on the triadic framework in Fig.1 the study assesses the customer satisfaction and loyalty based on the service quality rendered by different business stakeholders in the supply chain. The e-retailers consistently emanates with different strategies to improve the customer's satisfaction. But, the final services are delivered only by the 3PL, and the service failure during this service encounter would ultimately impact the customer's satisfaction and loyalty towards the e-retailers. Therefore this studies emphasizes the importance of 3PL service quality, in addition to e-service quality and e-recovery service quality, resulting to, purchaser's satisfaction and loyalty. Moreover, the study attempts to understand the first order dimensions of ESQ, ESRQ, and LSQ. These three dimensions of service quality are considered as second order higher level dimensions. The supportive literature review in further

sections will highlight the importance of considering the ESQ, ESRQ, and LSQ as second order higher level dimensions.

A. Dimensions of E-Service Quality

The study by [5] stated that, "e-service quality is defined broadly to encompass all phases of a customer's interactions with a web site: the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery". ESQ has been created to understand the electronic service quality. The research [5] have identified the requirement of having two different scales to effectively measure the service quality of e-retailers. The research [5] also explains the various variables and modifications that are made in order to measure the ESQ of online customer shopping sites. The initial E-S-QUAL scale developed by [6] contained a 22-item scale focusing on four dimensions: system availability, fulfilment, privacy and efficiency. In the study by [7] on online and offline research used the factors like web site design, reliability/fulfilment, privacy/security, and customer service to evaluate the validity of the factors in their point of view. Based on the literature of [7], the researchers [5] laded down 5 broad ESQ perceptions sets: information availability and content, ease of use or usability, privacy/security, graphic style, and reliability/fulfilment. And, the final E-S-QUAL scale has been created consisting of 22 items labeled under 4 dimensions. According to [5], efficiency (EFF) is defined as "the ease and speed of accessing and using the site", fulfilment (FUL) is defined as "the extent to which the site's promises about order delivery and item availability are fulfilled", system availability (SYS) is defined as "the correct technical functioning of the site" and privacy (PRI) is defined as "the degree to which the site is safe and protects customer information". The ESQ, which explains the website performance in evaluating the service quality, has been explained as process quality by [8] with five dimensions such as, ease of use, privacy, information accuracy, functionality, and design. The researchers [8] defines the dimensions as, *privacy referring* to "companies not sharing information with third parties unless the customer", d*esign* is "the visual appearance and audible applications of a site", *information accuracy* presents "information about a product or service in a clear and concise manner", ease of use is "the ability of a customer to find information or enact transaction with the least amount of effort".

Further, the study [5] mentioned about the ESQ as second order higher level dimension using EFF, FUL, PRI, and SYS as first order lower level dimensions. The prefer ability of treating ESQ as a second order latent construct with four ESQUAL dimensions serving as the first order constructs which in term represents by the 22 scale items. The first order dimensions like EFF, SYS, FUL, and PRI are associated to the ESQ (second order dimension) in a formative pattern. While first order dimensions like EFF, SYS, FUL, PRI are established using reflective indicators of [5]. These four lower level first order dimensions measures the second order higher level dimension of ESQ as the formative indicators. Further, the second order dimension ESQ has its own three reflective indicators as mentioned by [5], and [8].

Furthermore, [8] explains service quality as "the conceptualization of service quality has its roots in expectancy disconfirmation theory". It also explained the impact of process quality, outcome quality and recovery quality in measuring the behavioral intentions and customer satisfaction of service quality in e-retailing. The study have proposed the interdependencies between the process quality, recovery quality, and outcome quality on the behavioral intentions and also the impact on customer satisfaction on the behavioral intentions. The researchers [8] have also examined a positive and significant relationship between ESQ and LSQ. Based on the above literature support, three hypothesis are developed in understanding the impact of ESQ on CS, CL, and LSQ.

Hypothesis 1*: There is a positive and significant relationship between ESQ and CS*
Hypothesis 2*: There is a positive and significant relationship between ESQ and CL*
Hypothesis 3*: There is a positive and significant relationship between ESQ and LSQ*

B. Dimensions of E-Service Recovery quality

ESRQ emphasis the customers' perceived service quality towards the compensation provided by the e-retailers during the service failure. It also captures the availability and responsiveness of contact personnel to resolve the problem encountered. Reference [5] developed E-RecS-QUAL scale to understand the service recovery quality. This scale E-RecS-QUAL comprises of 11 items based on three dimensions: contact (CON), responsiveness (RES), and compensation (COM). The dimension were suggested based on a series of tests and analysis which includes analysis of items which are added for constructing a scale for measuring the website recovery service quality.

The research [5] have defined the dimensions of ESRQ as follows, *responsiveness* as "effective handling of problems and returns through the site", *compensation* as "the degree to which the site compensates customers for problems" and *contact* as "the availability of assistance through telephone or online representatives". The ESRQ, which explains the service recovery due to website performance failure in evaluating the service quality, has been explained as recovery quality by [8] with three dimensions such as, interactive fairness, procedural fairness, and outcome fairness. Reference [8] defines these dimensions as, *interactive fairne*ss refers to "the customer's ability to locate and interact with technology support on a Web site and how a company's employees treat the customer", *procedural fairness* refers to "the policies, procedures, and responsiveness in the complaint process", *outcome fairness* includes, as "monetary compensation, future free services, or an apology", This research uses the three dimensions of ESRQ as first order lower level dimensions with 11 reflective items of [5]. As per the suggestions and discussions of [5],and [8], this study used reflective formative framework for the E-RecS- QUAL.

Reference [5] mentioned about the ESRQ as second order higher level dimensions using CON, RES, and COM as first order lower level dimensions. The first order dimensions like CON, RES, and COM have 11 reflective indicators which are associated to the ESRQ (second order dimension) in a formative pattern. These four lower level first order dimensions measures the second order higher level dimension

of ESRQ as the formative indicators. Further, the second order dimension ESRQ has its own three reflective indicators as mentioned by [5],and [8].

The researchers [8] have developed 3 items for measuring the service recovery quality to satisfy two conditions of [9]. The 2 conditions are as follows: the first situation is that the dimensions size of the latent constructs ought to be installed with the aid of constraining the direction of one of the indicators to one. The 2nd circumstance vital for identification is that at least two reflective signs must have paths from the formative construct. These reflective instruments are considered in this study as a part of reflective formative framework development. These above said literature led to examining the significant relationship between ESRQ and CS, and ESRQ and CL.

Hypothesis 4: *There is a positive and significant relationship between ESRQ and CS*

Hypothesis 5: *There is a positive and significant relationship between ESRQ and CL*

C. Dimensions of Logistic service quality

The shipment of goods are mostly handled by the third party logistics providers in the e-retail business. The service failure related to order accuracy, order condition, and order timeliness was captured as the dimensions of logistics services and which is termed as outcome quality by [8]. However, these researchers have identified the necessity of outcome quality and recovery quality along with an adequate web site interactivity or process quality. This also includes creating a framework of e-service quality and testing it to combine process, outcome and recovery dimensions. Though, the e-retailer is not directly involved in the 3PL service quality, the service failure encountered by the customers related to 3PL service, will significantly impact the customer satisfaction and loyalty towards the e-retailer. The study [10] explained service quality delivery being a critical unique selling proposition about the marketers to differentiate their service offerings from their competitors, by creating a higher customer value. The 3PL service quality in supply chain plays major role in understanding the customer satisfaction towards e-retailer.

As per the study by [8], the outcome quality ensures the logistics service quality, which examines the third factor in measuring the overall service quality. The logistics service quality is the second order higher level construct, measured by three lower level constructs, such as, order timeliness (OT), order accuracy (OA), and order condition (OC). Order timeliness is defined as "receiving the service within expected time period". Order accuracy explains about processing the net order to the precise specification of the consumer, which incorporates location of receipt, amount, and agreed charge of the provider. Order condition refers back to the product being unfastened from harm and decay.

Reference [8] stated that LSQ as second order higher level dimension using OT, OA, and OC as first order lower level dimensions. The first order dimensions like OT, OA, and OC have 9 reflective indicators which are connected to the LSQ (second order dimension) in a formative pattern. These three lower level first order dimensions measures the second order higher level dimension of LSQ as the formative indicators. Further, the second order dimension LSQ has its own two reflective indicators. These above said literature led to examining the significant relationship between LSQ and CS, and LSQ and CL.

Hypothesis 6: *There is a positive and significant relationship between LSQ and CS*

Hypothesis 7: *There is a positive and significant relationship between LSQ and CL*

D. Customer Satisfaction and Loyalty

Many prior [8], [11], and [12] have significantly proved a positive relationship between CS and CL. However, the CS has always being one of the major influencing factor in determining the CL. Therefore, the following hypothesis is tested to assess the significance level of CS on CL

Hypothesis 8: *There is a positive and significant relationship between CS and CL*

III. RESEARCH METHODOLOGY

The type of research approach used in the study is a deductive research and also a cross-sectional study. The analysis of the generated data explains the relationship between the e-service quality, e-service recovery quality and logistic service quality factors with the customer's satisfaction and loyalty when using online shopping websites. The study employed the online survey method for data collection. The questionnaire comprised of well-designed close ended questionnaires using a 5-point Likert scale ranging between 'strongly agree' and 'strongly disagree'. The target population that was considered for the study were users in and around Manipal who had exposure to online shopping websites.

As per, [13] suggestion, the sample size considered for the study is 380. The researcher suggested that, the appropriate sample size for a study is estimated by the items-to-response ratio that ranges from 1:4 to 1:10 for every set of variables. Since 58 items were used to develop 5 variables in the study, the number of respondents required for data collection were at least 380 respondents.

The research [7] developed an e-service quality scale initially titled .comQ, which later progressed to eTailQ. Later, [8] have considered E-S-QUAL and the E-RecS-QUAL [5] as reference framework for creating their research model and also have not restricted the future research scope and developments on this model by adding few more constructs to have better understanding of customer's judgment of e-service quality. This framework consists of three second-order dimensions in measuring the online retail service quality, such as, ESQ, ESRQ, and LSQ. These dimensions have been mounted from the analysis of each academic and practitioner literature. Due to measurement constraints, the authors [5] noted that they were unable to apply formative indicators with the E-S-QUAL or E-RecS-QUAL scales, and recommended that being the future scope of the study. Therefore, this study, based on the suggestions by [5],[8], it emphasis on understanding the second order higher level dimensions of ESQ, ESRQ, and LSQ by using second order reflective-formative two stage approach.

The study employed the PLS-SEM approach for the purpose of specification of model and to measure the model [14], [15]. This method of using PLS-SEM approach is to be able to use it for hypothesis testing of the data of the current

study. The study uses the reflective-formative type of model for analysis of data. Numerous studies have highlighted that service quality is "an attitude that is based on a reflective judgment", and these ESQ indicators should never be reflective but formative [8]. Moreover, the study emphasis on understanding the second order higher level dimensions of ESQ, ESRQ, and LSQ by using reflective-formative two stage approach as suggested by [5], [8]. Fig. 2 explains the framework of this study.

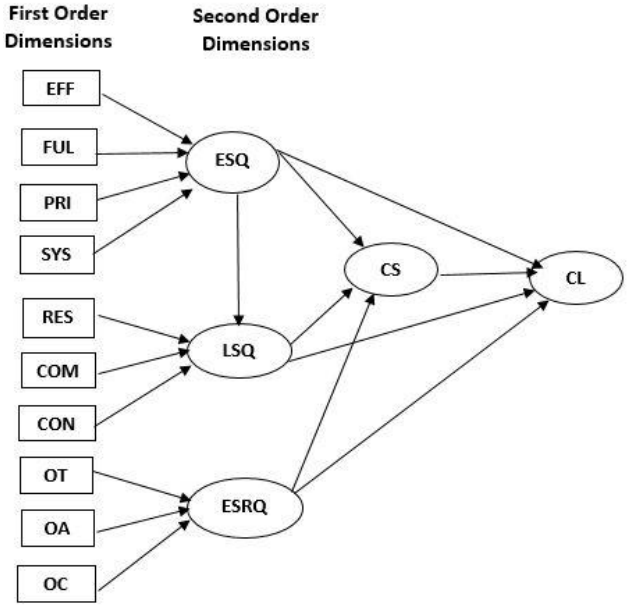

Figure 2 Theoretical framework

First order factor models specifying the scale items as reflective indicators of their corresponding latent constructs. First order dimensions as reflective indicators of a second order to understand the overall e-SQ construct. Reference [9] recommended that its more appropriate to treat the first order dimensions as formative indicators, the second order measurement models requires at least 2 other reflective indicators for the 2nd order construct, in addition to the formative indicators already in the model. Based on these suggestions study has ensured to use reflective items for all second order higher level dimensions. ESQ, ESRQ, and LSQ has three, three, and two reflective indicators respectively.

IV. DATA ANALYSIS

A. Demographic Details

The details of the demographic information of the online survey's target population are as follows. There were 380 respondents, out of which 47.72 % were female and 52.28 % were male. Among the age group, 1.43 % of the respondents were less than 18 years, 52.86 % of the respondents were between 18 to 24 years of age, 30.30 % of the respondents were between 25 to 34 years of age, 2.57 % of the respondents were between 35 to 44 years of age, 7.43 % of the respondents were between 45 to 54 years of age and 5.43 % of the respondents were greater than 55 years of age. The demographic analysis also indicated that their level of education corresponds well with the age group. The most frequent online website that was visited by the 68 per cent of respondents is Amazon India. Followed by the Flipkart , Jabong, Snapdeal and Shopclues .

A. Reliability and Validity Test

As per [15], composite reliability is used to evaluate internal consistency, individual indicator reliability and average variance extracted (AVE) is used to compute convergent validity, for the reflective measurement model. Table I explains the Cronbach Alpha, Composite Reliability, and Average Variance Extracted (AVE). The Cronbach alpha value for all the constructs of the model are greater than 0.7 and the composite reliability is greater than 0.8 and the average variance extracted is greater than 0.5. Therefore, it can be implied that the constructs used in the current study have good validity and reliability [15], [16], [17]. Researcher also adopted Fornell-Larcker criterion to assess the discriminant validity before examining the structural educational model.

Table I Reliability Test

	Cronbach's Alpha	Composite Reliability	AVE
CL	0.942	0.956	0.812
COM	0.805	0.885	0.719
CON	0.873	0.922	0.797
CS	0.942	0.958	0.851
EFF	0.929	0.942	0.669
ESQ	0.876	0.924	0.802
ESRQ	0.917	0.948	0.858
FUL	0.919	0.935	0.673
LSQ	0.868	0.938	0.884
OA	0.836	0.899	0.748
OC	0.840	0.904	0.758
PRI	0.859	0.913	0.778
RES	0.912	0.935	0.741
SYS	0.850	0.899	0.691
OT	0.824	0.895	0.739

B. Structural Model

The results of the second order dimensions are displayed in below Table II. Among the first order dimensions of ESQ, except SYS, other dimensions, such as, PRI, FUL, and EFF, have significant effect on ESQ, as the t–values are greater than 1.964, and p-values being less than 0.05. Moreover the first order dimensions of LSQ and ESRQ too have significant effects. These results confirms the second order higher level dimensions of ESQ, ESRQ, and LSQ.

The conceptual model in Fig. 2 depicts the path coefficients, which explains the strength of the relationship between exogenous and endogenous variables, and the coefficient of determination, R^2 values of ESQ, ESRQ, and LSQ. The R^2 value of LOY explains 82.5 per cent variance. Prior researchers'[15],[17] states that the R^2 value of 0.25 can be considered as weak, 0.50 as moderate and 0.75 as high for the endogenous constructs. The value of R^2, the coefficient of determination stands reasonably high for LOY. It implies that the structural model has predictive validity. However, the R^2 value of CS explains 67.4 percent variance, which is considerably moderate. The R^2 value of second order dimensions of ESQ, LSQ, and ESRQ are 0.678, 0.676, and0.727 respectively, which implies reasonably moderate.

Table II Results of Second Order Dimensions

First Order Dimensions	Path Coeffic-ients	t-values	p-values
SYS → ESQ	0.093	1.645	0.101
PRI → ESQ	0.223	4.879	0.000
FUL→ ESQ	0.372	6.947	0.000
EFF → ESQ	0.274	5.393	0.000
OA → LSQ	0.272	4.658	0.000
OC → LSQ	0.193	3.156	0.002
OT → LSQ	0.194	3.156	0.002
RES → ESRQ	0.355	6.813	0.000
CON → ESRQ	0.287	5.886	0.000
COM → ESRQ	0.319	5.943	0.000

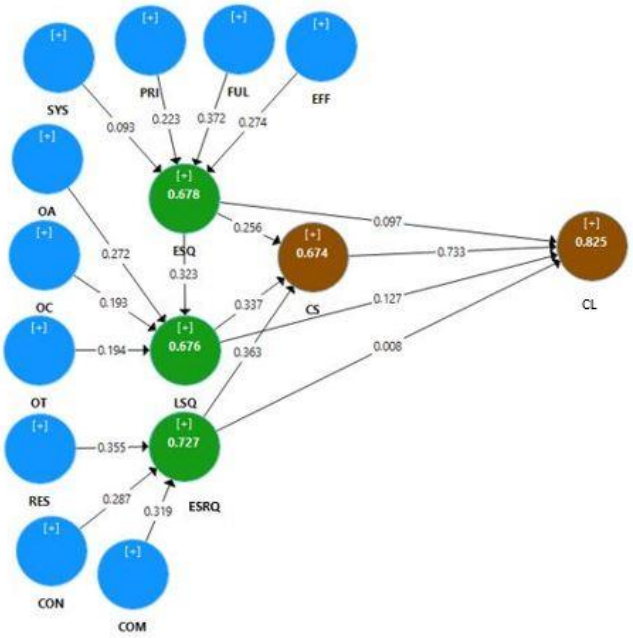

Figure 2 Results of Structural Model

Table III summarizes the hypotheses results of the study

Relationships	Path Coeff-icients	t-values	p-values	Decisions
ESQ → CS	0.256	4.052	0.000***	Supported
ESQ → LOY	0.097	2.251	0.025*	Supported
ESQ → LSQ	0.323	5.897	0.000***	Supported
ESRQ → CS	0.363	6.986	0.000***	Supported
ESRQ → LOY	0.008	0.223	0.824	Not Supported
LSQ → CS	0.337	6.343	0.000***	Supported
LSQ → LOY	0.127	2.823	0.005**	Supported
CS →LOY	0.703	15.099	0.000***	Supported

*** p < 0.001; **p<0.01; p < 0.05

The relationships between all exogenous and endogenous variables are significant, as the t-values are greater than 1.964, except the relationship between ESRQ and LOY. Table III exhibits model fit, which highlights that the SRMR value as 0.025 for saturated model . The SRMR value lesser than 0.08 and NFI value nearer to 1 [19] indicates good fit. Table IV reveals that the value of structural model of SRMR is 0.025 which is lesser than 0.08 and NFI is 0.916, which is quite closer to 1, and based on these values, this study justifies that the model is perfectly fit.

Table IV Model Fit

	Saturated Model	Estimated Model
SRMR	0.025	0.052
d_ULS	0.245	1.007
d_G	0.373	0.419
Chi-Square	787.711	789.933
NFI	0.916	0.916

V. FINDINGS AND DISCUSSIONS

The intention behind this research is to provide insight of customers' online shopping experience towards website performance, service recovery, and 3PL services. The research furthermore examines the customer preference towards the dimensions of, e-service quality, e-service recovery quality, and logistics service quality, in evaluating their satisfaction and intention for repurchase with the e-retailer. The study has analyzed the factors influencing the customer satisfaction, and customer loyalty. The ESQ, ESRQ, and LSQ have great influence in determining the customer satisfaction. Moreover, the customer loyalty is effected by ESQ, and LSQ. However, the ESRQ failed to have a significant effect on CL. Further, the ESQ have a significant positive effect on LSQ.

The findings suggested that customer evaluate the of e-retailer's website service quality, i.e., the process of placing order, by the factors like efficiency, fulfilment, and privacy. However, the results exhibited that the system availability failed to play a significant role in assessing the service quality of the website. This study throws limelight at the customer's side where they don't currently consider system availability as an influential factor on ESQ when compared with other factors. The reason would be that, the system availability in current scenario has become a default service which should be "any time availability" in the ecommerce platform businesses.

Therefore, the e-retailers cannot consider system availability as a core competence factor for the service quality. The study acts as platform to understand the behavior of the factors effecting the 2nd order dimension of the e-service quality. Through the p-values of first order dimensions of ESQ, which are less than 0.000 (Table II) ,it is evident that the EFF, FUL, PRI greatly measure and represent the customer's anticipation from the service provider during the service encounter. Only SYS is inefficient in measuring and representing the e-service quality.

Further, the study assist in understanding the customers' behavior towards the factors effecting the 2nd order dimension of the e-service recovery quality. The p-values of first order dimensions of ESRQ are less than 0.000, and this higher significance level draws the attention in determining the significant effects of RES, COM, and CON, towards ESRQ. Furthermore, the study has adopted factors like, order timeliness, order accuracy, and order condition in understanding the service quality provided by the 3PL, leading to customer satisfaction and loyalty. It has been understood that, all these three dimensions have significant role (Table II: p values <0.01) in measuring the logistics service quality provided by the 3PL in supply chain. Therefore, the study recommends the e-retailers to focus on

OT, OA, and OC during the product delivery, which would eventually lead to positive service experience among the customers. The results of this study exhibited the importance of logistics service quality in measuring the customer satisfaction, and customer loyalty. The study considers ESQ, and LSQ as the most important factors among ESQ, ESRQ, and LSQ, since these are the two factors having a positive effect on customer satisfaction and customer loyalty. Moreover, the ESQ has a positive and significant effect on LSQ too. Therefore, the importance of ESQ is comparatively high as it has significant effect on CS, CL, and LSQ.

The study also identified a healthy relationship and congruence between CS and CL by the path coefficient values, t- values, and p- values an as follows 0.703, 15.099, 0.000 respectively. The above results can differ based on the samples gathered and the factors effecting the sampling process.

VI. MANAGERIAL IMPLICATIONS

This research recommends the e-retailer to work on EFF, FUL, and PRI in measuring the customer's service quality for their website performance, OA, OT, and OC in measuring the customer's logistic service quality provided by 3PL, and finally RES, COM, and CON in measuring the recovery service quality. Managers of e- retailers need to be aware that a poor service experience in the e- service process can have a ripple effect with subsequent evaluations of the service experience. In this context, we considered factors like responsiveness, compensation and contact, which would be assisting for e-service recovery efforts. Moreover, these dimensions play significant role in capturing the service recovery quality among the customers, experiencing the service failure. The study highlights that there will be higher customer satisfaction if the recovery efforts can be made based on these factors. Therefore, managers need to place an emphasis on service recovery efforts with web page issues and online transactions in the event that a service failure occurs. It is also very evident from the result that, however efficient the recovery strategies are, the repurchase intention of the customers experiencing the service failure would be negatively impacting the customer loyalty. Therefore, the research recommends the e-retailers to fix them right at the first time.

The works of [5], [8], [20], emphasis only on performance of webpage quality and e-service recovery service quality in measuring the customer satisfaction and customer loyalty. However, the prior researchers [8], [10], addresses the prominence of logistics service quality in assessing the customer satisfaction and customer loyalty. Mostly in current scenario, the e-retailers depends on 3PL to deliver the products. And, this 3PL is the only service encounter where the customers interact with employees in person during the service delivery process of e-retailing business. However, the service quality provided by the e-retailers are high, if the service quality of 3PL goes poor, it would critically impact the customers' satisfaction and customers' loyalty, and finally the brand reputation . This is quite evident in this study as, the t-value of LSQ (Table III) being high among the three exogenous variables while measuring the CS and CL. Therefore, this research focuses on the importance of services provided by the 3PL. And, the study recommends the e-retailers to be quite cautious while selecting the 3PL, as these 3PL service providers are outsourced. Further, during the product delivery stage 3PL service providers not only deliver the product, but also they carry the brand value of the e-retailers. Hence, measuring service quality of 3PL service providers, is quite important as website performance and recovery service quality

Thus, the research strongly recommends that the online service quality researchers need to continue their work in understanding the factor of logistics service quality, in addition to e-service qualify and e-recovery service quality of CS & CL and dimensions of ESQ, ESRQ, LSQ based on current customer's preference and changing market conditions.

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