
EXAMINING THE MEDIATING ROLES OF E-SATISFACTION AND E-TRUST IN DEVELOPING E-LOYALTY AMONG ONLINE FASHION CONSUMERS: A COGNITIVE–MOTIVATIONAL–RELATIONAL THEORY PERSPECTIVE

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Abstract

With the growth of e-commerce, online retailers are increasingly facing competition with one another, and customers' loyalty is a key factor in long-term success. Although a lot of effort is put into studying consumers' online behaviors, few studies have investigated the psychological mechanisms that link online service quality to e-loyalty, especially in emerging economies. Based on the Cognitive–Motivational–Relational Theory, this study aims to explore the impact of delivery efficiency and website design on e-loyalty and analyses the mediation of e-satisfaction and e-trust in between. A cross-sectional research design approach was used and 226 Pakistani customers were selected for the data collection process, relevant questionnaires were used. Partial Least Square Structural Equation Modeling (PLS-SEM) was used to analyze the proposed model. The findings show that delivery efficiency and website design greatly contribute to e-satisfaction, whereas website design also has a positive effect on e-trust. Also, e-satisfaction plays a significant role in boosting e-trust, and e-trust is found as the strongest predictor of e-loyalty. The results of mediation analysis support the findings that online service quality is followed by e-satisfaction and then e-trust in the process of customer loyalty. The results highlight the relevance of CMR Theory for the online context and the fact that customer loyalty is the result of interrelated cognitive, emotional and relational processes. The study is a contribution to the literature on e-commerce, relationship marketing, and extends the CMR theory to the online fashion retail context within an emerging economy. From a practical perspective, the results highlight the importance of delivering a consistent service, usability of the website and trust-creating measures in order to increase customer satisfaction and build customer loyalty in a sustainable way for online retailers.

Keywords: Cognitive–Motivational–Relational Theory; e-loyalty; e-satisfaction; e-trust; delivery efficiency; website design; online shopping; Pakistan; PLS-SEM.

1. Introduction**1.1 Digital Transformation of Online Fashion Retail**

Digital technology has completely revolutionised the way the world shops, making the way people look for information, assess products and make buying decisions a vastly different experience. The fashion industry has undergone a notable digital transformation among other retail sectors with the availability of the internet, the use of smartphones and the development of e-commerce platforms. Online fashion retailers now allow consumers to “shop” through huge product catalogues and look around different retailers, get customer reviews, and complete transactions from anywhere in the world.

While digital commerce has created unforeseen opportunities for retailers, it has also led to an ever more competitive marketplace. The low switching costs in online markets give consumers plenty of freedom to go from one site to another one and try to find the best price, get the best service quality or find a better shopping experience. For online retailers, the focus is no longer on attracting new customers, but more on building enduring customer relationships (Faisal, 2021).

Given this tough business landscape, e-loyalty has become one of the most important factors in a company's continued success. E-loyalty is a positive attitude and repeated purchase behavior of the customer for the same online retailer even if there are many different options available (Dávila Espuela et al., 2023). Compared with offline shopping, in online shopping, customers' service quality perception, website usability, transaction security, and shopping experience are the most important factors in building their online loyalty (Khoa & Nguyen, 2020; Alnaim et al., 2022). This makes it more crucial than ever for online retailers to comprehend the mental mechanisms which drive customers to stay loyal, particularly in today's competitive electronic marketplaces.

1.2 Online Fashion Retail in Pakistan

With growing internet penetration, the rapid adoption of smartphones, the growth of digital payment systems and a young population, Pakistan is one of the fastest growing digital economies in South Asia. The results have fueled the expansion of ecommerce, especially in the fashion retail online industry. According to market reports, the gross revenue of the online fashion industry in Pakistan is estimated at US\$949 million in 2024, which is projected to grow at 10-15 per cent annually until 2030 (Saira et al., 2025).

Major e-commerce platforms like Daraz.pk, as well as the well-known home-grown fashion brands – Khaadi, Sapphire, Nishat Linen, Outfitters and J. – have greatly improved their online presence, contributing to the rapid growth of the sector. Furthermore, Pakistan's online shopping landscape is largely dominated by smartphones, which are also a pivotal part of the nation's digital retail landscape (Ul Haq & Awan, 2020).

Though these are positive developments, the Pakistani e-commerce market still has a lot of structural and psychological issues to address. Security of payments, authenticity, privacy, lack of delivery, and lack of after sales service are still major issues for consumers when it comes to buying online. These concerns have resulted in a high prevalence of COD as payment options, with continued high levels of uncertainty and low levels of institutional trust in digital transactions (Jabeen et al., 2024).

Moreover, this is a unique socio-cultural environment in which the online purchasing patterns vary from many of the developed countries. Women are the main consumers of fashion products, but the level of digital financial inclusion is lower among females. This means that men are often the main holders of online accounts and the main executors of online transactions in the household. The exclusive purchasing model indicates that besides technological and service factors, socio-cultural factors play a significant role in influencing consumer loyalty in Pakistan that influences digital consumption behaviour.

1.3 Research Problem and Knowledge Gap

Retailers transitioning to eCommerce are all concerned about customer retention, especially when it comes to fashion, which is not all that different from many other product categories and has a lot of competition. Retailers spend a lot of time and money to acquire new customers but retaining their long-term loyalty is a lot tougher. This convenience in comparing products and even switching to the other online stores that offer similar products has been called the 'leaky bucket' effect, because new customers don't become loyal to a retailer.

Previous studies have shown that the quality of the website, delivery performance, perceived usefulness, service quality and customer satisfaction are all factors that affect online loyalty. However, the majority of this research has been based on technology adoption models like the Technology Acceptance Model (TAM) (Shankar & Jain, 2021) which mainly underpin consumers' adoption intent of digital technologies based on perceived usefulness and perceived ease of use. While these models are informative models of technology adoption, they do not

adequately explain how online experiences become lasting customer loyalty, in terms of emotions and relationships.

Shopping for fashion is basically experiential and emotional. Consumers assess their satisfaction, confidence, trust, and their psychological connection to retailers when they visit online stores, besides the functionality of the online shopping experience. Although these emotional mechanisms are crucial, there is relatively little research that has examined the role of emotion in customer-loyalty in the context of online fashion retail in developing countries like Pakistan (Lim et al., 2014). To be more specific, the psychological mechanisms by which operational aspects such as website design and delivery speed affect customer satisfaction, customer trust and ultimately e-loyalty are still poorly understood (Shankar et al., 2021a).

1.4 Research Objectives

Drawing upon the Cognitive–Motivational–Relational (CMR) Theory (Lazarus, 1991), this study seeks to explain how consumers' cognitive evaluations of online shopping experiences generate emotional responses that subsequently influence loyalty behaviour. Specifically, the study pursues the following objectives:

1. To examine the effects of delivery efficiency and website design on consumers' cognitive evaluations of online fashion retailers.
2. To investigate the mediating roles of e-satisfaction and e-trust in explaining the relationship between online service quality attributes and e-loyalty.
3. To extend the application of Cognitive–Motivational–Relational (CMR) Theory within the context of online fashion retail in Pakistan by developing and empirically validating an integrated model of customer loyalty.

2. Theoretical Framework

2.1 Cognitive–Motivational–Relational (CMR) Theory

This study is based on the Cognitive – Motivational – Relational (CMR) Theory presented by Lazarus (1991) which explains how an individual thinks about the stimuli present in the environment, how they feel about it, and how they act on it (Lazarus, 1991a). CMR theory differs from previous theories which conceptualized emotions as automatic physiological responses to events, and proposed that emotions are active and dynamic processes influenced by cognitive appraisal processes, which involve ongoing interactions with the environment (Lazarus, 1991b; Folkman & Lazarus, 1985).

CMR theory says that when people see something, whether it is a situation, they first assess if it helps or hinders their personal goals then react emotionally. These cognitive assessments lead to the interpretation that individuals give to the event and which in turn affects their emotion and behavior (Lazarus, 1991a). Thus, emotions are not direct responses to external stimuli, but rather are related to cognitive interpretations of one's environmental conditions (Smith & Lazarus, 1993).

The theory suggests that there are four stages of the process that are interconnected. The first part of cognitive appraisal is the assessment of environmental stimuli in terms of how relevant they are to personal goals. In online shopping, consumers evaluate the quality of the website, the delivery process, the security of the transaction and the reliability of the services to understand whether these characteristics make it easier to make purchases successfully (Kawaf & Tagg, 2012).

Secondly, when consumers take on a psychological significance for these evaluations, they introduce relational meaning. For instance, if the product was delivered in time, it means that the retailer is competent and reliable, but if the product is not delivered on time, it means that the retailer is inefficient or not good in service (Gill et al., 2021).

Third, the emotional reactions are triggered by these mental evaluations. Positive appraisals elicit feelings of satisfaction, trust and confidence, while negative appraisals elicit feelings of disappointment, frustration and anxiety (Lazarus, 1991b).

Finally, behavioural responses result from these emotional experiences. Positive emotions motivate consumers to come back to online retailers, recommend them to others, and foster long-term loyalty, while negative emotions drive consumers to switch to other websites and make them less likely to return to the online retailer. (Lazarus, 1991a; Bagozzi et al., 1999).

In general, CMR theory offers a sound psychological basis for comprehending consumer emotional reactions to online shopping experiences in the context of their conversion into loyalty behaviours.

2.2 Application of CMR Theory to Online Fashion Retail

Although CMR theory was originally developed within psychology to explain emotional responses to stressful life events, its principles have been increasingly applied to consumer behaviour, relationship marketing, and electronic commerce research because purchasing decisions involve both cognitive evaluations and emotional experiences (Bagozzi et al., 1999; Kawaf & Tagg, 2012).

Within online fashion retailing, consumers continuously evaluate multiple service attributes before completing a purchase. Among these attributes, website design and delivery efficiency constitute two of the most influential cognitive stimuli affecting consumers' shopping experiences (Wolfenbarger & Gilly, 2003; Cyr & Bonanni, 2005).

Website design encompasses interface aesthetics, navigation structure, information quality, responsiveness, usability, and technical functionality. These characteristics shape consumers' perceptions of retailer professionalism and credibility while reducing cognitive effort during online shopping (Cyr & Bonanni, 2005; Shukla, 2014). Similarly, delivery efficiency reflects logistics performance through delivery speed, order accuracy, shipment tracking, and reliability. Efficient delivery signals organizational competence and reduces uncertainty associated with online purchasing (Ltifi & Gharbi, 2015; Cui et al., 2024).

Following CMR theory, consumers cognitively evaluate these service attributes according to the extent to which they facilitate successful shopping experiences. Positive evaluations generate favourable emotional responses, particularly e-satisfaction, representing consumers' overall evaluation of their purchasing experience (Anderson & Srinivasan, 2003), and e-trust, reflecting confidence in the retailer's integrity, competence, and reliability (Gefen, 2002; Pavlou, 2003). These emotional responses subsequently strengthen e-loyalty, which is reflected through repurchase intentions, continued patronage, and positive electronic word-of-mouth (Oliver, 1999; Harris & Goode, 2004).

Accordingly, this study operationalizes the CMR framework as follows:

- **Cognitive Appraisal:** Website design and delivery efficiency function as cognitive antecedents that consumers evaluate during online shopping (Lazarus, 1991a; Kawaf & Tagg, 2012).
- **Emotional and Relational Responses:** Positive cognitive evaluations enhance e-satisfaction and e-trust, representing consumers' emotional and relational reactions toward online retailers (Anderson & Srinivasan, 2003; Gefen, 2002).
- **Behavioural Outcome:** E-satisfaction and e-trust subsequently promote e-loyalty by encouraging consumers to revisit, repurchase, and maintain long-term relationships with online retailers (Harris & Goode, 2004; Horppu et al., 2008).

Compared with technology adoption models such as the Technology Acceptance Model (TAM), which primarily emphasizes perceived usefulness and perceived ease of use (Davis, 1989), CMR theory offers a broader explanation by integrating cognitive appraisal, emotional

reactions, and relational development within a unified framework. This perspective is particularly relevant for online fashion retailing because purchasing decisions are influenced not only by technological functionality but also by consumers' psychological experiences, trust perceptions, and emotional attachment to retailers (Bagozzi et al., 1999; Shankar & Jebarajakirthi, 2019).

Furthermore, applying CMR theory within Pakistan's online fashion industry contributes to the literature by extending its applicability to an emerging economy characterized by relatively high transaction uncertainty, widespread reliance on cash-on-delivery, and evolving digital infrastructure. Under such conditions, consumers' emotional evaluations of trust and satisfaction become particularly important mechanisms through which service quality influences long-term loyalty (Jabeen et al., 2024; Shankar & Jebarajakirthi, 2019).

3. Literature Review and Hypotheses Development

3.1 Delivery Efficiency and E-Satisfaction

Delivery efficiency is the capability of web retailers to deliver purchased products punctually, accurately and reliably, and to provide customers with sufficient information about the status of their order throughout the delivery process (Cui et al., 2024). When shopping online, customers do not have the opportunity to physically inspect products before buying, so the delivery process is considered to be the last link in the sequence of services that impact customers' shopping experiences (Ltifi & Gharbi, 2015). Therefore, delivery performance is an important yardstick for the competence and reliability of retailers.

The studies conducted before this one have proved that delivery efficiency is a key factor affecting customer satisfaction in electronic commerce. On-time delivery, order correctness, efficient logistics and shipment tracking eliminate the uncertainty of consumers and improve their service quality perception (Lemanowicz & Sitarska, 2022). On the other hand, late deliveries, product damage and misordered products can cause dissatisfaction and lead to fewer future purchases (Cui et al., 2024).

According to the Cognitive–Motivational–Relational (CMR) Theory, efficiency of delivery is an external environmental stimulus which consumers cognitively process in terms of its capacity of delivering their buying aims (Lazarus, 1991a). On-time, and quality, deliveries create a goal-congruent consumer and elicit positive emotions (satisfaction, etc.). The positive emotions in turn shape behavior towards the future (Kawaf & Tagg, 2012).

This relationship is also supported by empirical evidence in a number of ecommerce contexts. Ltifi and Gharbi (2015) concluded that logistics performance has significantly affected customer happiness and satisfaction, whereas Shankar and Jebarajakirthi (2019) reported the delivery related service quality among the strongest predictors of customer satisfaction and customer loyalty in digital environment.

Therefore, the following hypothesis is proposed:

H1: *Delivery efficiency has a significant positive effect on e-satisfaction.*

3.2 Website Design and E-Satisfaction

The design of any website deals with its physical appearance, ease of use, ease of navigation, information content, responsiveness and technical functionality of an online shopping site (Cyr & Bonanni, 2005). Because consumers will meet websites directly during the shopping process, there is a distinct influence of website design on the online shopping experience (Wolfinbarger & Gilly, 2003).

A well-designed website helps customers find products quickly, browse and compare options, easily access and log into products and services, and easily gain information that is relevant to them with little cognitive effort. Previous studies show that websites that are attractive, easy-to-navigate, fast and usable result in higher customer satisfaction due to

decreased frustration and increased shopping efficiency (Coursaris et al., 2008; Cyr & Bonanni, 2005).

In the CMR paradigm, website design is considered a cognitive stimulus that consumers consider before forming emotional responses. When website usability and aesthetics are evaluated positively, it leads to favourable cognitive appraisals that then result in satisfaction in the overall shopping experience (Lazarus, 1991a). Poorly designed websites, on the other hand, make consumers expend more cognitive effort, become frustrated, and lower their emotional attachment towards online retailers (Kawaf & Tagg, 2012).

There are a number of empirical studies that have validated the positive correlation between website quality and customer satisfaction. According to Wolfinbarger and Gilly (2003), website functionality is one of the most important dimensions of electronic service quality, and Shukla (2014) found that a user-friendly interface of websites can have a positive impact on consumers' purchasing experience and post-purchase satisfaction.

Accordingly, the following hypothesis is proposed:

H2: *Website design has a significant positive effect on e-satisfaction.*

3.3 Website Design and E-Trust

Trust has been identified as one of the most key factors influencing consumer behavior in online settings, as the transactions take place without any face-to-face contact between buyers and sellers (Gefen, 2002). Before a consumer decides to make an online purchase, they may use characteristics of the website as indicators of the credibility, professionalism and reliability of the retailer (Pavlou, 2003).

The website design is one of the main components in the formation of trust by conveying an organization's legitimacy and removing perceived uncertainty. When consumers have confidence in online retailers, features like secure payment gateways, privacy policies, professional layouts, clear product descriptions, customer reviews, and responsive interfaces make them feel that way. (Shukla, 2014; Espirito Santo & Trigo, 2020). On the other hand, a website that has broken links, confusing navigation, and lacks proper security measures, can raise perceived risk and deter online transactions. CMR theory suggests that consumers cognitively process the quality of a website before they infer a relational meaning to their interactions with retailers (Lazarus, 1991a).

A professionally designed website demonstrates competence and reliability, which consumers will find trustworthy about the retailer. Thus, trust becomes a relational response that is created as a cognitive response to the quality of the services provided (Gill et al., 2021). This is a relationship that has been repeatedly confirmed by empirical evidence. Cyr and Bonanni (2005) found that the design of websites has a significant impact on the perception of trust, while Espirito Santo and Trigo (2020) showed that good website design can decrease the level of perceived risk and increase customer confidence in online shopping settings.

Therefore, the following hypothesis is proposed:

H3: *Website design has a significant positive effect on e-trust.*

3.4 E-Satisfaction and E-Trust

E-satisfaction is consumers' general judgment of their online shopping experiences on the basis of all of their interactions with an electronic retailer (Anderson & Srinivasan, 2003). It is a representation of how well customers' expectations have been met during their buying experience. Reiterated positive experiences should build consumers' confidence in the retailer's competence and reliability (Horppu et al., 2008), thus satisfaction should come before trust in relationship marketing. As the customers continue to get satisfactory services, their beliefs about the integrity and dependability of the retailer slowly grow, thus enhancing their trust

(Nsairi & Khadraoui, 2013). In the context of CMR theory, satisfaction is the feeling that results from the positive cognitive evaluation of the environment (Lazarus, 1991b).

Consumers' feelings of satisfaction with their purchases become relational trust when they have confidence in how they will be treated by the retailer in their next shopping experience. The previous empirical studies consistently found that the level of trust of satisfied online customers is significantly higher than that of dissatisfied customers (Horppu et al., 2008; Shankar & Jebarajakirthy, 2019). The satisfaction process can be considered as one of the important psychological mechanisms that mediates the relationship between service quality and consumers' relational evaluation.

Accordingly, the following hypothesis is proposed:

H4: *E-satisfaction has a significant positive effect on e-trust.*

3.5 E-Trust and E-Loyalty

E-trust is a consumers' expectations of a confidence in an online retailer related to its competence, integrity and benevolence, as it is termed (Gefen, 2002). Trust is the agent of repeated purchasing behavior in the context of online transactions, which are subject to uncertainty, information asymmetry and perceived risk (Pavlou, 2003). Studies on e-loyalty have consistently found that trust is one of the most powerful factors that predicts e-loyalty. Those who have confidence in online retailers tend to return, recommend the retailer to others, and have continued relationships with the retailer despite other retailers available (Harris & Goode, 2004; Horppu et al., 2008).

Trust lowers perceived risk, enhances consumers' confidence in future transactions, thus improving behavioural commitment. Trust, according to CMR theory, is the relational meaning that arises after the positive cognitive evaluations and emotional experiences (Lazarus, 1991a). When consumers feel they can trust retailers, they are more likely to develop long-term relationships where they continue buying products. When consumers trust the retailers, they are more likely to have long-term relationships with the retailers, with repeated purchases and loyalty.

Therefore, the following hypothesis is proposed:

H5: *E-trust has a significant positive effect on e-loyalty.*

3.6 Mediating Roles of E-Satisfaction and E-Trust

The present paper also suggests that e-satisfaction and e-trust serve as successive mediators between the online service quality attributes and the e-loyalty. The CMR theory states that cognitive appraisal does not directly result in behavioural responses, but rather that it leads to emotional reactions and relational understandings which in turn lead to behaviour (Lazarus, 1991a). Satisfied consumers who have a positive impression of the delivery effectiveness and the site design will be even more satisfied with the retailer, and this will further enhance their trust in the retailer. These emotional and relational responses help to foster the repeated buying behaviour and loyalty in the long run (Harris & Goode, 2004; Shankar & Jebarajakirthy, 2019).

Therefore, the following mediation hypotheses are proposed:

H6: *E-satisfaction mediates the relationship between delivery efficiency, website design, and e-loyalty.*

H7: *E-trust mediates the relationship between e-satisfaction and e-loyalty.*

4. Methodology

4.1 Research Design and Research Context

The study used a quantitative and cross-sectional research design to explore the relationship between delivery efficiency, website design, e-satisfaction, e-trust and e-loyalty in online fashion retail sector of Pakistan. A quantitative approach was deemed to be suitable as

it allows the testing of theoretically proposed hypotheses in practice and offers the opportunity to examine complex relationships between several latent constructs by applying the structural equation model (SEM) (Hair et al., 2022). This study was carried out in the context of the online fashion retailing sector in Pakistan, which is the fastest growing e-commerce sector in South Asia.

The Pakistani online fashion sector has witnessed significant growth with the rise of internet connectivity, smartphone usage, digital payment methods and the growing acceptance of online shopping. However, service quality, service reliability, and consumer trust remain pivotal challenges that impact customer purchase decisions, and Pakistan is a suitable context for exploring the psychological factors that drive the creation of e-loyalty (Jabeen et al., 2024; Saira et al., 2025).

4.2 Population, Sampling, and Data Collection

The respondents were the consumers of Pakistan who had bought fashion products through online shopping platforms in the last 12 months. The requirement of having some online shopping experience ensured that the respondents had a good level of knowledge to be able to assess the delivery service and the quality of the website, satisfaction, trust and loyalty from their own buying experiences. The researcher used purposive sampling in order to get individuals with prior online shopping experience to give meaningful responses to the constructs studied (Hair et al., 2022).

Structured self-administered online questionnaire was administered through social media (Facebook, WhatsApp, and Instagram) platforms to collect data. 400 questionnaires were handed out. 226 questionnaires were used in the subsequent statistical analysis, giving a 56.5% response rate after discarding incomplete and unusable questionnaires. The sample size is higher than the minimum requirement for Partial Least Squares Structural Equation Modeling (PLS-SEM); the researcher believes that the sample size is adequate for estimating the proposed structural model (Hair et al., 2022).

4.3 Respondent Profile

The demographic characteristics of the respondents are presented in Table 1. Most respondents were male (85.7%) and 14.3% were female. While not in keeping with the world's fashion consumption trends, this trend reflects Pakistan's socio-cultural environment where men often make online purchases for household members and use digital payment methods (Data Darbar, 2023).

In terms of educational qualifications, 43.11% had bachelor's degree, 23.39% had master's level, 22.04% had intermediate education and 11.46% had other educational qualifications. In regards to age, most respondents (52.75%) were aged between 20 and 30 years, followed by those aged 31–40 years (39.44%), and 7.81% were above 41 years of age. As far as their online shopping experience, 44.03% of them had two to three years with online shopping, 39.90% had one to two years of experience and 16.07% had more than three years.

The overall demographic profile suggests that the respondents had experience enough to assess the service quality, satisfaction, trust and loyalty in the context of fashion ecommerce.

4.4 Measurement of Constructs

The measurement instrument was prepared by modifying the scales from previous studies which had been validated in order to achieve content validity and construct reliability. Measurement items were evaluated on a five-point Likert-type scale (1 = Strongly Disagree to 5 = Strongly Agree). Three items adapted from Constantinides (2004) and Ltifi and Gharbi (2015) were used to measure Delivery Efficiency (DE): Delivery Speed, Order Accuracy and Shipment Tracking. Three items from Wolfenbarger and Gilly (2003) and Shukla (2014) were

used to measure website usability, visual attractiveness, information quality and ease of navigation and were used to assess Website Design (WD).

E-Satisfaction (ES) was assessed through the use of three items from Anderson and Srinivasan (2003) which measure the overall satisfaction of their experience of shopping online. E-Trust (ET) was implemented with four indicators derived from Gefen (2002) and Pavlou (2003) that represent consumers' trust in retailer honesty, competence and reliability. Lastly, E-Loyalty (EL) was assessed through four items drawn from Oliver (1999) and Doong et al. (2008) which addressed consumers' intentions to repurchase, revisit the website, and maintain the long-term relationship with the online retailers. The adaptation of existing measuring scales helps to validate the findings of the study and to make these results comparable to existing e-commerce studies (Hair et al., 2022).

4.5 Data Analysis Procedure

The collected data was analyzed to SmartPLS 4 based on the approach of Partial Least Squares Structured Equation Modeling (PLS-SEM). PLS-SEM is chosen because it is well-suited for prediction-oriented studies, mediation studies and complex multiple latent variable models. Moreover, PLS-SEM does not assume multivariate normality and it is robust to relatively small sample sizes (Hair et al., 2022; Henseler et al., 2015).

The analysis was carried out in two consecutive steps. Then, the measurement model was validated by evaluating indicator reliability, internal consistency reliability (Cronbach's Alpha and Composite Reliability), convergent validity (Average Variance Extracted, AVE), and discriminant validity (Henseler et al., 2015; Hair et al., 2022) using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. Second, the structural model was evaluated to test the proposed hypotheses by estimating path coefficients (β), t-values, p-values, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2) and mediation effects using the bootstrapping technique with 5,000 resample trials (Hair et al., 2022).

This analytical procedure not only provides a rigorous evaluation of the measurement properties of the constructs but also the structural relationships hypothesized by the Cognitive–Motivational–Relational (CMR) theoretical framework.

5. Data Analysis and Findings

5.1 Measurement Model Assessment

Measurement model was first examined for the reliability and validity of the constructs prior to examining the proposed structural relationships. According to Hair et al. (2022), the reliability of the indicators, the internal consistency reliability, convergent validity, and discriminant validity were analyzed.

Internal Consistency Reliability and Convergent Validity

Table 2 shows the result of reliability and convergent validity. The reliability of the indicators was satisfactory with all loadings being greater than 0.70. A few indicators had loadings slightly lower than 0.70 but were still above the recommended value of 0.60 and thus kept in the measurement model as the composite reliability and Average Variance Extracted (AVE) values met the recommended standards (Hair et al., 2022). The Composite Reliability (CR) ranged from 0.778 to 0.862, which is above the recommended 0.70, indicating good internal consistency of the items that measure each concept (Hair et al., 2022). Likewise, the AVE for all constructs ranged between 0.539 and 0.675, which is greater than the recommended value of 0.50 (Fornell & Larcker, 1981), thus suggesting that each construct accounts for more than 50% of the variance in its indicators. In general, the findings in this study show that measurement scales have satisfactory reliability and convergent validity.

Table 2. Internal Consistency Reliability and Convergent Validity

Construct	Items	Loadings	Composite Reliability (CR)	AVE
Delivery Efficiency (DE)	DE1	0.863	0.862	0.675
	DE2	0.806		
	DE3	0.795		
E-Loyalty (EL)	EL1	0.739	0.861	0.609
	EL2	0.766		
	EL3	0.846		
	EL4	0.765		
E-Satisfaction (ES)	ES1	0.863	0.854	0.662
	ES2	0.828		
	ES3	0.746		
E-Trust (ET)	ET1	0.757	0.825	0.541
	ET2	0.714		
	ET3	0.732		
	ET4	0.738		
Website Design (WD)	WD1	0.683	0.778	0.539
	WD3	0.753		
	WD4	0.764		

Discriminant Validity

Discriminant validity was assessed using the Fornell–Larcker criterion. According to Fornell and Larcker (1981), the square root of each construct's AVE should exceed its correlations with all other constructs.

As presented in Table 3, the diagonal values representing the square roots of AVE were consistently greater than the corresponding inter-construct correlations. These results confirm that each construct measures a distinct theoretical concept and that no significant overlap exists among the latent variables.

Therefore, discriminant validity was successfully established.

Table 3. Fornell–Larcker Criterion

Construct	DE	WD	EL	ES	ET
Delivery Efficiency (DE)	0.822				

Website Design (WD)	0.490	0.734			
E-Loyalty (EL)	0.456	0.539	0.780		
E-Satisfaction (ES)	0.590	0.515	0.543	0.813	
E-Trust (ET)	0.463	0.544	0.604	0.379	0.735

5.2 Structural Model Assessment

Once the aforementioned measurement model was validated as suitable, the structural model was tested to assess the hypothesized interrelationships among the latent constructs. The coefficient of determination (R^2), path coefficients (β), bootstrapped t-values, and p-values were examined and mediation effects were evaluated in accordance with the recommendations of Hair et al. (2022). The model was considered as having good explanatory power. Coefficient of determination (R^2) showed that their respective predictor variables accounted for 41.5% and 36.5% of the variance in E-Satisfaction and E-Loyalty, respectively. In addition, the values of all Q^2 are greater than zero, meaning that the model has good predictive relevance (Hair et al., 2022).

Hypothesis Testing

The bootstrapping was done by resampling 5,000 times to assess the significance of the proposed hypotheses. The findings indicate that Delivery Efficiency is significant and positively related to E-Satisfaction ($\beta = 0.445$, $t = 6.311$, $p < 0.001$) thus supporting the hypothesis H1. The results indicate that there is significant positive effect on customers' satisfaction with online fashion retailer if delivery service is timely, accurate and reliable. Likewise, Website Design has a strong positive impact on E-Satisfaction ($\beta = 0.297$, $t = 4.485$, $p < 0.001$) and thus, testing H2.

Customers who find websites attractive, easy to navigate and user-friendly, tend to have a higher satisfaction level with their online shopping experiences. The relationship between E-Satisfaction and E-Trust is also statistically significant ($\beta = 0.379$, $t = 5.895$, $p < 0.001$) and it lent support to the hypothesis H4. This finding suggests customers who are satisfied with their experience build trust in the reliability and trustworthiness of online retailers. Furthermore, E-Trust exerts the strongest influence on E-Loyalty ($\beta = 0.604$, $t = 10.287$, $p < 0.001$), confirming H5. This discovery shows that trust is the most crucial factor in consumers' willingness to shop from the same online brand in the future. In general, the structural model has good empirical results with the proposed theoretical relationship.

Table 5. Structural Model Results

Hypothesis	Relationship	Std. Beta	T Value	P Value	Decision
H1	DE $\rightarrow$ ES	0.445	6.311	0.000	Supported
H2	WD $\rightarrow$ ES	0.297	4.485	0.000	Supported

H3 (Implied)	ES → ET	0.379	5.895	0.000	Supported
H4	ET → EL	0.604	10.287	0.000	Supported

Mediation Analysis

The bootstrapping procedure suggested by Hair et al. (2022) was used to check the mediating effects of E-Satisfaction and E-Trust. The proposed sequential mediation model was confirmed by a statistically significant indirect effect of E-Satisfaction on E-Loyalty through E-Trust ($\beta = 0.229$, $t = 4.262$, $p < 0.001$). This discovery shows that customers' satisfaction is more likely to lead to loyalty as it builds trust than as it directly causes it. The results of this study support the Cognitive–Motivational – Relational (CMR) theory (Lazarus, 1991a) that posits that cognitive assessments lead to emotional reactions that then effect relational judgments which in turn effect behavioral outcomes. The first service quality attributes that consumers assess in the present study are related to delivery efficiency and the design of the website, and these lead to satisfaction. The satisfaction further builds trust, which in turn inculcates customer loyalty. Hence, the mediation analysis extends the support for the assumed psychological pathway in the development of e-loyalty in the context of Pakistan's online fashion retail industry.

Table 6. Mediation Analysis

Hypothesis	Relationship	Std. Beta	T Value	P Value	Decision
H7	ES → ET → EL	0.229	4.262	0.000	Supported

6. Discussion

In the current study, the psychological mechanisms which mediate the effect of delivery efficiency and website design on customer loyalty has been explored using the Cognitive–Motivational–Relational (CMR) Theory in the context of online fashion retail business in Pakistan. The results obtained from this empirical study confirmed the theoretical model and showed that consumers' cognitive service quality evaluation of online service leads to emotional reactions that build trust and long-term loyalty. In summary, the results support the sequence of the cognitive, emotional, and relational processes in the CMR theory, suggesting that customer loyalty is not a direct result of any single service experience, but a product of a chain of events.

6.1 Delivery Efficiency as a Primary Driver of E-Satisfaction

The findings suggest that delivery efficiency has a positive and significant impact on e-satisfaction which supports H1. The four dimensions of service quality explored showed delivery efficiency to be the most important determinant of customer satisfaction. This discovery indicates that the speed of delivery, order precision, tracking of orders and dependable logistics are all key elements consumers take into account when assessing their online shopping experience.

The result is in line with the previous findings which have shown that efficient logistics plays a significant role in enhancing customer satisfaction and service evaluations in general (Ltifi & Gharbi, 2015; Cui et al., 2024). Likewise, Lemanowicz and Sitarska (2022) found that when purchasing items online, consumers' confidence in the online retailer is heightened when the delivery process is transparent, and uncertainty is minimized.

In the CMR theory, delivery efficiency is a cognitive stimulus evaluated by the consumer based on the extent to which it meets his purchase goals (Lazarus, 1991a). If products are delivered in accordance with the goals of the transactions, the consumer feels that the transaction is goal congruent, and positive emotions, such as satisfaction, will arise. The results thus contribute to the theoretical assumption that cognitive appraisals, in this case favorable, mediate emotional responses to a situation (Lazarus, 1991b). This correlation with delivery efficiency could also be representative of the nascent nature of the Pakistani e-commerce scene.

While consumers in more developed online retail markets often face problems such as delays, unreliable logistics and transportation issues, these are common concerns in Pakistan. Therefore, delivery is a critical service differentiator which significantly improves customer satisfaction.

6.2 Website Design Enhances Customer Satisfaction and Trust

Similarly, the results show that website design is positively related to both e-satisfaction and e-trust, thus further supporting H2 and H3. Users who found online shopping platforms aesthetically pleasing, navigable, informative and technically dependable reported higher satisfaction and online retailers' confidence. Users who had positive perception of the eye-catching, intuitive, informative and technically reliable online shopping platforms reported higher satisfaction and online retailers' confidence.

The results support previous research by Wolfinbarger and Gilly (2003), Cyr and Bonanni (2005) and Shukla (2014) which suggested that website quality is an integral part of electronic service quality. Likewise, Espírito Santo and Trigo (2020) found that a professional website design improves consumers' trust, which lowers the perceived uncertainty and transaction risks. In the CMR context, the website design is an environmental cue, which is cognitively evaluated by the consumers, before they put relational meaning to their shopping experiences.

Professional website user interfaces evoke positive emotions and build trust in the retailer as the indication of their professional competence, credibility and reliability (Lazarus, 1991a; Gill et al., 2021). The results, thus, further support the significance of website quality not only as a functional but also as a psychological factor in online consumer behavior. The satisfaction with the e-services as a basis for development of trust. The results indicated that e-satisfaction had a significant positive relationship with e-trust, which supported H4.

The implication of this discovery is that when a consumer has had positive experiences with a retailer, it enables him or her to trust in the retailer's future actions and reliability. This finding is in line with the literature on relationship marketing that states satisfaction is a requisition for the development of trust (Horppu et al., 2008; Nsairi & Khadraoui, 2013).

When customers have successful purchases over and over again they begin to have increased confidence in the retailer's honesty, ability, reliability, etc. Lazarus (1991b) suggests that satisfaction is an emotional response to positive cognitive appraisals, while trust is a relational response given to the cognitive response. So overtime, positive emotions gradually turn into lasting relational confidence. The results hence offer empirical support for the proposed sequential relationship within CMR theory, that emotional responses help in the formation of long-term psychological relationships.

6.3 E-Satisfaction as a Foundation for Trust Development

For all the structural relationships analyzed, the relationship between e-trust and e-loyalty was found to be significant and positive confirming the hypothesis H5. The discovery underscores the crucial role trust plays in shaping consumers' likelihood of staying with the same e-retailer. This is consistent with the findings of previous research, which showed that trust is the most important factor in helping to achieve customer retention and promote repeat buying in online retailing (Gefen, 2002; Harris & Goode, 2004; Pavlou, 2003).

When people shop online, they have to place a lot of trust in the seller and the product, since they're not sure how safe it is to make payments online and don't know how good the product is or if the store is reliable. In the context of the CMR, trust is the relationship product of the positive cognitive appraisal and emotional experience.

After consumers feel that a retailer is trustworthy, they are more likely to adopt long-term relationships if other options are available. Hence, the results highlight that customer loyalty is not only about aesthetically pleasing websites or quick logistics, but that these service aspects must ultimately lead to an increase of consumers' trust in the retailer.

6.4 E-Trust as the Strongest Predictor of E-Loyalty

The mediation analysis also showed that the relationship between service quality attributes and e-loyalty is mediated by e-satisfaction and e-trust, respectively, to support the proposed theoretical mechanism. This discovery is a strong empirical support for the Cognitive–Motivational–Relational (CMR) framework.

The first cognitive evaluation of service quality attributes by consumers is related to delivery efficiency and website design. Such assessments evoke emotional reactions that are captured in customer satisfaction, and that then give rise to relational trust, and eventually to loyalty behaviors.

The observed sequential mediation is in line with the prior research which has emphasized that the development of customer loyalty is a complex process involving multiple psychological mechanisms rather than just service evaluations (Horppu et al., 2008; Shankar & Jebarajakirthy, 2019). The present research is thus a contribution to the existing e-commerce literature that is able to show that customer loyalty is a psychological effect, built up through successive cognitive, emotional and relational evaluations.

6.5 Sequential Mediation of E-Satisfaction and E-Trust

In addition to confirming the proposed theory relationships, the study adds to the understanding of online consumer behavior in the context of the rapidly growing digital economy in Pakistan. While the study of customer loyalty in developed economies has been widely studied, there are relatively few studies on customer loyalty in emerging markets.

The institutional context in Pakistan is very peculiar and includes the following features: rapidly changing digital infrastructure, high reliance on Cash-on-Delivery (COD) payments, relatively low institutional trust and growing smartphone penetration. In such cases, consumers are more inclined to consider your reliability, security of the transaction, and the speed and quality of delivery when assessing their online shopping experience.

Therefore, it is concluded from the present study that operational reliability and website quality are two most important features which should be prioritized by the online fashion retailers in Pakistan to develop customer confidence and retention in them for their long-term use. The results thus expand the scope of applicability of the CMR theory beyond the west to emerging market e-commerce contexts, and offer localized insights into the psychological drivers of online customer loyalty.

7. Implications

7.1 Theoretical Implications

It is important to note that this research adds several significant contributions to the existing literature of online consumer behavior, relationship marketing and electronic commerce.

First of all, this study has been expanded to the online fashion retail environment according to the Cognitive–Motivational–Relational (CMR) Theory. While CMR theory has been widely used in psychology to account for emotional reactions, its use in the field of electronic commerce is still limited (Lazarus, 1991a, 1991b). This study confirmed that delivery efficiency and website design can affect consumers' e-loyalty in a sequential manner through cognitive, emotional, and relational steps, thus verifying the applicability of CMR theory to explain the online consumer behavior.

In particular, the results confirm Lazarus' (1991a) hypothesis that behavioral consequences of an event come before cognitive appraisal and emotional assessment of the event than they are direct responses to environmental stimuli. Kawaf and Tagg (2012) have also found that the cognitive and emotional evaluations of consumers have a significant impact on their online purchase decision-making process. Second, the present study adds to the body of research on e-loyalty since it explains how online service quality impacts on customers' future behavioral intentions psychologically.

In the past, the direct linkages of site quality, customer satisfaction, customer trust, and customer loyalty have been primarily investigated (Anderson & Srinivasan, 2003; Harris & Goode, 2004; Horppu et al., 2008). The present study contributes to the literature by showing that e-satisfaction and e-trust act as two sequential mediators between the service quality attributes and e-loyalty.

This finding aligns with the current studies that propose emotional and relational experiences as key processes of online retailers' strategies for sustainable customer loyalty (Shankar & Jebarajakirthy, 2019; Dávila Espuela et al., 2023). Third, the study enhances the literature on online service quality by linking efficiency of delivery and website design in one theoretical framework. The effect of the logistics performance and website quality on the emotional evaluation and behavioral intentions of consumers has been examined in previous studies separately (Wolfenbarger & Gilly, 2003; Cyr & Bonanni, 2005; Ltifi & Gharbi, 2015); however, the current research shows that these two operational and technological dimensions work together to create consumers' emotional evaluation and behavioral intentions. The results offer a fuller understanding of how online retailers can leverage service quality as a means to build long-term customer loyalty.

Lastly, this study is a part of the scarce empirical studies that have been made in emerging economies especially in Pakistan. Most of the research studies on e-loyalty have been done in the developed countries where electronic payment systems and institutional trust are relatively developed and digital infrastructure is relatively established (Gefen, 2002; Pavlou, 2003).

This study demonstrates the cross-cultural validity of CMR theory, offers context-specific evidence for the customer loyalty formation process in the dynamic context of e-commerce in Pakistan, and also establishes context-specific empirical evidence regarding customer loyalty formation in developing digital markets (Jabeen et al., 2024; Saira et al., 2025).

7.2 Managerial Implications

The results of this research have some practical applications for online fashion retailers, e-commerce managers, and digital marketers who wish to improve customer loyalty in the ever-competitive online environment. One of the first steps is for retailers to realize that delivery efficiency is not just an operational issue; it's a strategic competitive advantage.

Organizations must prioritize investing in robust logistics infrastructure, last-mile delivery optimization, shipment tracking, and order fulfillment to enhance efficiency, as it is a key factor in achieving e-satisfaction. Efficient logistics have been found to have a significant positive impact on customer satisfaction, decrease uncertainty of transactions and increase repeat purchases (Ltifi & Gharbi, 2015; Cui et al., 2024; Lemanowicz & Sitarska, 2022).

Secondly, online retailers need to continually enhance the quality and usability of their websites. The website should be user-friendly, visually appealing, responsive, informative about products, include secure payment methods and load quickly. The Website design that is professionally created makes consumers think of the retailer's credibility, helps in satisfying them and builds trust (Wolfenbarger & Gilly, 2003; Cyr & Bonanni, 2005; Shukla, 2014). As a result, the enhancement of website quality will likely enhance the experience for customers and long-term loyalty. Third, managers should make trust-building strategies a long-term goal in their CRM initiatives. Clear return policies, secure payment processing, privacy safeguards, honest customer reviews, and customer service can help build trust.

Given that trust had the highest direct impact on e-loyalty in the current study, organizations need to invest enough resources in the programs they implement that lower consumers' perceived risk and build their confidence in online transactions (Gefen, 2002; Pavlou, 2003; Harris & Goode, 2004). Fourth, retailers need to have an integrated customer experience strategy and not have to manage the website as well as logistics performance separately from customer service. The results suggest that customer loyalty is a result of a series of interacting psychological activities that take place over time, with cognitive assessments affecting emotional responses, which in turn affect subsequent behavioral intentions. Hence, the digital platform management, logistics operations and the customer relationship management should be coordinated to provide consistent and satisfactory experience of shopping at all customer touchpoints (Lazarus, 1991a; Shankar & Jebarajakirthy, 2019).

Lastly, the results are especially significant in the context of emerging digital economies like Pakistan's. With the prevalence of Cash-on-Delivery (COD) and comparatively less institutional trust and continued improvement in digital infrastructure, online retailers should not miss any chance at improving the reliability of their operations, security of transactions, and customer relationship management. Consumer trust and perceived uncertainty can be deceptive; by mitigating uncertainty and boosting consumer confidence, businesses can improve their customer retention rates and gain sustainable competitive edge in growing e-commerce markets (Dávila Espuela et al., 2023; Jabeen et al., 2024).

The results indicated that the long-term customer loyalty can be developed by technological improvement only or by promotional activities alone. Instead, a sustainable loyalty strategy needs to be integrated—combining efficient performance, a well-designed website, customer satisfaction, and trust initiatives. This finding follows the relationship marketing concepts that suggest that long-term customer relationships develop over time through a series of favorable cognitive evaluations, emotional experiences and relational commitment (Morgan & Hunt, 1994; Harris & Goode, 2004; Lazarus, 1991a).

8. Conclusion

In the context of e-retailing in Pakistan, this study aimed to investigate the effect of delivery efficiency and website design on e-loyalty with the mediation of e-satisfaction and e-trust, using the Cognitive–Motivational–Relational (CMR) Theory. The results show that customer loyalty does not directly result from service quality attributes but is created in a sequential order as customers evaluate the service quality cognitively, respond emotionally and act relationally (Lazarus, 1991a, 1991b).

In particular, delivery efficiency and website design were among the factors that greatly increased e-satisfaction, and website design was also significantly related to e-trust. Furthermore, e-satisfaction was found to enhance e-trust and e-trust itself was the strongest predictor of e-loyalty, which once again underscores the importance of e-trust in maintaining long-term customer relations. The study adds to the literature by adding a new field of electronic commerce to the list of existing work in the CMR theory and offers empirical evidence from Pakistan, an emerging e-commerce market where research on online customer loyalty is still in its nascent stages.

It also provides a complete framework that combines the operational and technological service quality dimensions to describe the psychological mechanisms that lead to customer loyalty. In terms of management, the results indicate that online retailers need to focus on reliability, ease of use, security and transparency in their customer relationship policies to improve customer satisfaction, customer trust and their willingness to return to the site for repeat purchases (Gefen, 2002; Harris & Goode, 2004).

Although these contributions have been made, the study has a cross-sectional design, is conducted in one country only, and is limited to the online fashion retail sector. Longitudinal and cross-cultural designs should be used in future studies, and other factors like perceived risk, artificial intelligence services, customer engagement and electronic word of mouth should be added to the e-loyalty development in digital commerce.

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