



Trust the Shield: Unveiling the Warranty's Power in Building Customer Loyalty through Complaint Resolution

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ARTICLE DETAILS	ABSTRACT
<p>History: Accepted 30 April 2023 Available Online June 2023</p> <hr/> <p>Keywords: Customer Loyalty, Warranty, Complaint Resolution, Customer Trust, SEM</p> <hr/> <p>JEL Classification: O32, O39</p> <hr/> <p>DOI: 10.47067/reads.v9i2.487</p>	<p><i>The Customer loyalty goes beyond mere satisfaction; it embodies a profound commitment to a product's success, rooted in the unwavering belief that opting for a warranty-backed offering is the ultimate choice. This study delves into the intricate dynamics of customer loyalty among battery manufacturers, scrutinizing the impact of product warranty and complaint resolution while considering the mediating role of trust and the moderating influence of brand image. To shed light on this subject, we harnessed data from a robust sample of 410 customers who purchased batteries from outlets in Southern Punjab, Pakistan. Our data collection was accomplished through meticulously crafted questionnaires, employing adopted scales to ensure comprehensive coverage. Statistical Package for the Social Sciences (SPSS) version 20 and Analysis of Moment Structures (AMOS) software version 20 were our analytical allies, enabling rigorous testing of our research model. Exploratory factor analysis and confirmatory factor analysis contributed statistical evidence to support our hypotheses. Results unveiled the pivotal roles of product warranty and complaint resolution in predicting customer loyalty, with trust acting as a crucial mediator and brand image as a potential moderator. The positive and significant relationship between product warranty, complaint resolution, and customer loyalty echoes the power of these factors in nurturing lasting customer devotion. Interestingly, the direct influence of brand image on customer loyalty also proved significant, albeit with an unexpected twist. While the overall impact remains positive, the indirect effect appears to wield a counterintuitive negative influence. As our findings come to light, management executives stand to gain invaluable insights into fine-tuning their policies, ensuring a customer-centric approach that fosters unwavering loyalty. Armed with this knowledge, businesses can redesign their management strategies to cultivate deeper connections with their clientele.</i></p>

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1. Introduction

Marketing's ultimate goal lies in cultivating enduring bonds between consumers and brands, with trust reigning as the pivotal element in this relationship (Elliott, Arnott, & Yannopoulou, 2007; Snoj, Pisnik Korda, & Mumel, 2004). In the contemporary era, relationship marketing has emerged as a potent and successful tool, where selling alone is no longer the sole objective for companies. Customers now seek after-sales services and support, making the need to diversify offerings imperative in highly competitive markets where exceptional services stand as differentiators (Bian, Yan, Zhang, & Xu, 2015). Retaining existing customers has become even more critical than finding new market niches. Unique service features that facilitate seamless communication between customers and service providers hold utmost importance (Bian et al., 2015), necessitating specialized staff to tackle such challenges. Extraordinary customer service emerges as a strategic weapon for customer success, while product evaluation reveals the positive impact of brand personality on customer perception (Sahin & Baloglu, 2011).

Within marketing strategies, customer services play a vital role. When customers are given choices, they consistently demand higher levels of satisfaction, making customer service a crucial aspect of any successful strategy (Chang & Ahn, 2005). Well-trained employees equipped to provide exceptional customer service become the key element in gaining customer satisfaction and loyalty (CL) (Guchait, Namasivayam, & Lei, 2011). Clients receiving excellent treatment tend to respond positively to service providers, leading to fewer complaints, increased loyalty, collaboration, willingness to pay higher prices, and recognition of superior service quality (Guchait et al., 2011).

Brand associations contribute significantly to defining brand image, and their linkage with brand image in long-term memory plays a vital role (Maehle & Supphellen, 2013). The process of building trust serves as a fundamental aspect in social sciences, and this study explores a multi-trust lab where every player counts on each other at different levels. Trust-building progresses through mutual confidence at each stage, without players knowing the identity of others. The approach emphasizes the process of trust-building, with limited room for social networks and peers. For the battery industry in Pakistan, product warranty has gained immense importance due to batteries' extensive use in households and vehicles. Warranty serves as protection for both manufacturers and customers, guaranteeing that the product will function as intended (Flight, D'Souza, & Allaway, 2011). In a fiercely competitive landscape, the successful marketing strategy must rely on creating strong brand associations and leveraging existing brand awareness (Müge Arslan & Korkut Altuna, 2010).

To gauge customer satisfaction and loyalty, companies must focus on improving the quality of their products and services (Batt, 2002). Employee satisfaction plays a crucial role, as content and motivated employees provide better services, positively impacting customer satisfaction and experience (Uhlrich et al., 1991). The proposed framework in this study aims to comprehensively assess the factors affecting customer loyalty in the battery industry, focusing on product warranty, complaint resolution, trust as a mediator, and brand image as a moderator.

This research endeavors to answer several critical questions:

- What is the impact of product warranty on customer loyalty with trust as a mediating factor?
- How does complaint resolution influence customer loyalty, mediated by trust?
- What is the moderating effect of brand image on the relationship between complaint resolution and customer loyalty?
- What is the extent of trust's impact on customer loyalty?

By exploring these relationships, this study seeks to contribute significantly to understanding the factors that influence customer loyalty in the battery industry, offering valuable insights for businesses to enhance their strategies and customer retention efforts.

2. Literature Review

2.1 Customer Loyalty

After experiencing a product, users' expectations may be influenced by advertising, product ownership, and perceived product quality. However, personal contact with the product does not significantly affect the image of product quality. In face-to-face service delivery, the service becomes a personal and emotional experience. The close interaction between service providers or employees and customers in the service encounter leads to higher customer satisfaction and loyalty towards the organization. A study by Burke et al. (2005) suggests that customer placement in decision polls indicates that positive and negative scaling should be quite different from satisfaction. When losses occur, they are felt more strongly than equivalent gains. Customers evaluate product or service performance and compare it with their expectations. Wallin Andreassen & Lindestad (1998) found that CSR affects customer loyalty in a competitive business environment, where customer expectations are increasing.

There has been limited research on the relationship between brand credibility and consumer trust in making purchasing decisions. Wang & Yang (2010) found that brand credibility may increase consumers' consideration of brand reputation, although their study only included reliability and expertise, neglecting aspects like warmth and understanding. Thus, this study aims to investigate the effect of the three components of brand credibility on consumer trust when making purchasing decisions (Wang & Yang, 2010). In service industries, loyalty is considered an important factor in strategy development (Nyadzayo & Khajehzadeh, 2016). Dissatisfied customers not only leave the organization but may also switch to other products, affecting the brand image and trust. Implementing measures to make customers responsive and satisfied should be a major concern for service providers to attract and retain customers (Abu-Elsamen et al., 2011).

Customer loyalty is crucial for the survival and growth of companies, particularly in the current competitive landscape with intense price fluctuations and changing customer behaviors (Rahi, 2016). Loyalty marketing is not just an application; it should be considered a business strategy and a state of mind that requires proper development and implementation to embed loyalty strategies within the product (Duffy, 1998). Understanding customer needs and ensuring customer loyalty can help businesses in customer retention efforts. Long-term customer loyalty is more impacted by perceived value providers and the cost of change, rather than new customers (Wang & Wu, 2012).

Product quality is related to product performance and influences customer requirements, purchase decisions, and perceptions of product quality. Visual product presentation is also affected by social value and marketing integration (Mohd Suki, 2016). Companies need to focus on providing a valuable product, satisfying customer needs, and aligning with customer preferences (Nyadzayo & Khajehzadeh, 2016).

In conclusion, the relationship between customer loyalty and various marketing operations needs to be thoroughly understood to effectively manage customer communication and increase loyalty (Oly Ndubisi, 2007). Developing strategies that enhance customer satisfaction and loyalty is essential in the modern market environment (Gee et al., 2008). Providing a positive customer experience through loyalty marketing can lead to greater customer loyalty and satisfaction (McMullan & Gilmore, 2008).

Loyal customers recommend products, engage in repeat purchases, and protect the brand's reputation (Kurniawan et al., 2016). The concept of customer loyalty has evolved to become an essential business strategy rather than just a program (Duffy, 1998).

2.2 Product warranty

In today's competitive market, product warranty has become vital for manufacturers to maintain a competitive edge. Understanding the long-term implications of product guarantees is crucial for appreciating their importance. Policy development and assurance methods have evolved over time (Loomba, 1998). Consumers often lack the means to assess product quality, making warranty coverage a key indicator of reliability. Longer warranties indicate better quality and service, influencing customer choices based on pricing and warranty duration (Bian et al., 2015).

Brand loyalty lies at the heart of marketing and sales strategies, serving as a valuable asset (Mascarenhas, Leventhal, Kesavan, & Bernacchi, 2006). Dissatisfied customers can result in negative outcomes for organizations (Burke, Graham, & Smith, 2005). Warranty policies play a significant role in the consumer market (Cooper & Ross, 1985). There are two patterns to consider: buyer actions affecting product performance and the invisibility of product quality to buyers.

Warranty management holds appeal for researchers and management, aiming to estimate warranty costs and develop mathematical models for different projects (Manna, Pal, & Kulandaiyan, 2004). Reliable data collection is essential for improving product quality and customer satisfaction. Warranty data, cost-effective and efficiently gathered through service networks, offers valuable insights (Karim, Chukova, & Suzuki, 2005).

Several factors contribute to product failure and warranty requirements (Buczowski, Chukova, Hartmann, & Kulkarni, 2005). Analyzing gender and age factors is critical in warranty literature (Karim et al., 2005). Lifetime warranties represent a unique case, assuming defective products can be repaired. The cost of warranties has been extensively studied, determining optimal warranty periods and costs (Young Yun, 1997).

Providing product warranties benefits customers by reducing purchase risk, increasing the likelihood of product purchases (Soo J. Tan, Lee, & Lim, 2001). Allocating resources effectively is essential in this context (Buczowski et al., 2005). Understanding the causes of new product failure is crucial in improving new product acceptance (Yenipazarli, 2014). Improving communication and relationships with customers in marketing increases customer loyalty (Kurniawan, Sucherly, & Surachman, 2016).

Analyzing warranty conditions and prediction relies on the Poisson model (Karim et al., 2005). Strategic product warranty importance becomes evident in the competitive market. Understanding the business cycle is essential, as product warranties protect customers in case of product defects during the warranty period (Karim et al., 2005).

H1: Product warranty positively impacts customer loyalty

H1a: Trust mediates the relationship between product warranty and customer loyalty

2.3 Complaint Resolution

Managing customer relations is a key challenge in handling complaints and finding effective solutions (Gruber et al., 2010). A guarantee offers insurance to buyers, with the supplier providing free or low-cost repairs, replacements, or maintenance during the warranty period. Widely used warranties

include basic manufacturer warranties and optional warranties from manufacturers, sellers (e.g., Best Buy), or third parties (e.g., Square Trade). Extended warranties come at an additional cost to the buyer. Interactions arise when two distributors purchase and sell products from the same manufacturer (Bian et al., 2015).

The concept of the learning curve plays a crucial role in production. New products often undergo a learning process to achieve full reliability and functionality. Start-up companies follow the learning curve as they transfer knowledge and experience across their operations, including purchasing, product development, production, and manufacturing (Yenipazarli, 2014). Discontented consumers may seek resolution through third-party agencies (Fisher et al., 1999). Consumer-based research highlights that consumers tend to have an egocentric bias when evaluating business interactions (Fisher et al., 1999). Industrial inventory in Canada is medically used, and non-suggestion, passive/inactive, and permanent variables play a role (Gruber, Henneberg, et al., 2010).

Effective complaint management can create business opportunities and improve relations. Addressing complaints shows that customers are still interested in continuing the relationship, offering a chance to resolve issues and prevent potential losses (Gruber et al., 2010). Strategic complaint management is essential, though most studies focus on Western contexts rather than Asian situations (Ndubisi & Ling, 2005). Evidence shows that responding responsibly to complaints can lead to positive outcomes, such as increased customer loyalty (Fisher et al., 1999). When problems occur in an otherwise close business relationship, handling complaints becomes a critical management challenge (Gruber, Henneberg, et al., 2010).

Understanding and resolving customer complaints are integral to strategic planning. However, customer service and claims management are often seen as operational entities rather than profit sources (Stauss, 2002). Complaint management's strategic importance is often overlooked, leading to missed opportunities for creating highly satisfied customers (Stauss & Schoeler, 2004). Some studies suggest that face-to-face or phone calls are preferred over external channels like email, leading to greater satisfaction with interpersonal complaint communication (Robertson, 2012).

When consumers choose not to report their problems to the organization, they cannot be addressed. Complaints can take various forms, such as verbal complaints, letters, or third-party actions (Heung and Lam, 2003). Dissatisfied consumers may share their complaints with third-party organizations, which then forward them to the relevant companies (Fisher et al., 1999). The handling of complaints can be cost-intensive, involving human resources, administration, communication, and compensation costs (Stauss & Schoeler, 2004).

Organizational complaints play a crucial role in resolving customer issues and creating a smooth customer experience (Robertson, 2012). Aggressive public relations activities can lead to conflicts among consumers and affect the company's reputation (Hsieh & Li, 2008). Research has shown that complainants are satisfied when they feel the complaint process is fair (Cowan & Anthony, 2008). Various antecedents, including individual and behavioral components of purchasing managers, situational elements, and organizational structural variables, impact complaints (Gruber, Henneberg, et al., 2010). Early identification and understanding of complaints can prevent dissatisfaction (Broadbridge & Marshall, 1995).

Complaint management shows significant improvement (possibly meeting professional market requirements), but changes in the process may lead to fewer complaints without clear reasons (Cowan

& Anthony, 2008). Some researchers focus on the treatment unit, like assessing the environmental life cycle, and agree that social outcomes depend on organizational behavior. The production chain involves organizations communicating with suppliers and partners over time (Macombe et al., 2011). The value of social life cycle analysis lies in understanding and protecting "human well-being" (Macombe et al., 2011).

Effective complaint management contributes to customer loyalty. Some organizations lack awareness of this issue, while others have an integrated approach but still face losses (Stauss & Schoeler, 2004). The importance of service experience lies in the unique interaction between clients and service providers, which should be guided by customer choices. Successful customer service is a strategic tool for attracting customers (Abu-Elsamen et al., 2011).

H2: Complaint resolution positively affects customer loyalty

H2a: Trust mediates the relationship between complaint resolution and customer loyalty

2.4 Brand Image

Brand Image refers to how individuals perceive themselves in relation to a particular brand (Parker, 2009). It involves two main dimensions: "real self/actual" and "self-ideal" (Parker, 2009). Consumers now play a more active role, engaging with brands and their messages (Rindell & Strandvik, 2010). Brand familiarity can be gauged by the number of experiences associated with the product, accumulated by consumers through product use and advertising (Keller, 1993).

Studies reveal that well-known brands tend to attract more customers (Müge Arslan & Korkut Altuna, 2010). Brand equity is a multidimensional concept, including brand loyalty and perception (Lee, Lee, & Wu, 2011). A strong brand image fosters positive customer perceptions, trust, and loyalty (Keller, 2008).

Customer perception of a brand can lead to brand loyalty and positive relationships (Esch et al., 2006). Building and maintaining a brand image is essential for long-term success and competitive advantage (Park, Jaworski, & MacInnis, 1986; Aaker, 1996).

Marketers use various strategies like advertising and customer experience to shape brand image (O'Reilly, 2005). Understanding customers' brand associations helps in enhancing the brand image (Keller, 1993). The brand image significantly affects brand loyalty and customer satisfaction (Chiou & Droge, 2006). Brands play a pivotal role in consumers' decision-making process and brand image influences these choices (Campbell, 1993).

Branding creates a unique identity for products and services, influencing customer behavior (Aaker, 1996). Brand image can be improved through advertising, promotion, and customer management (Keller, 1993). Brand familiarity and positive associations lead to customer loyalty (Parker, 2009).

In summary, the brand image is a vital aspect of marketing, impacting customer perceptions and loyalty. It is crucial for businesses to cultivate a positive and strong brand image through effective branding strategies and customer experiences.

The poems of fire emphasize the distinction between brand owners and the commercial identity of others. For instance, a Sony consumer may differ from those of other brands, threatening the return on investment. All brands, including seller accounts, job behavior, CEO interviews, and communication campaigns, are cultural brands (O'Reilly, 2005).

Dealing with complaints effectively addresses the minimum organizational problem, but it can also resolve other issues. Lack of knowledge in complaint management leads to ineffective processes, potentially causing synchronization problems. Additionally, handling and reviewing complaints can be challenging for professionals (Cowan & Anthony, 2008). Prioritizing customer complaint resolution will enhance the brand image of Broadway Tourism and art marketing, which may be less extensive compared to marketing various companies and cultures. Marketing management problems are linked to general development issues. From a sociological perspective, art marketing falls under the sociology of culture and encompasses the sociology of art. Art marketing often adopts a typical approach to branding in various cases. Recent international art management publications have not prominently featured articles with the title 'brand' in their titles or abstracts (O'Reilly, 2005).

H3: Brand image moderates the effect of complaint resolution on customer loyalty with trust as a mediator.

H3a: Brand image moderates the effect of product warranty on customer loyalty with trust as a mediator.

2.5 Trust

Social theories offer insights into everyday life aspects, combining experimental designs and theoretical ideas to understand life experiences better (Martínez & Bosque, 2013). The literature on consumer confidence and food labeling is vast, involving numerous interdisciplinary fields, such as consumer research, public relations, scientific research, public health research, nutrition, and marketing (Tonkin et al., 2015).

Trust is crucial in interpersonal relationships and involves expectations of others' actions, morals, and benevolence. Building trust is a key element of leadership success (Fairholm & Fairholm, 2000). Trust is essential in service industries focusing on personalization, choice, and process orientation (Guenzi & Georges, 2010).

Customer loyalty is deeply related to trust and reliability, resulting in repeat purchases. CSR is important for hotel companies to build customer loyalty and long-term benefits (Martínez & Bosque, 2013). Building trust requires a leader capable of handling challenging tasks and is foundational in management philosophy (Fairholm & Fairholm, 2000).

To investigate consumer trust and brand purchase behavior, this study examines various direct and indirect dealings, including trust issues, direct dealing, and some indirect aspects (Hongyoun Hahn & Kim, 2009). Customer satisfaction is essential for building trust, especially in e-commerce, while trust is crucial for long-term relationships in any business (Shao Yeh & Li, 2009).

CSR activities are criticized, but they remain important for building trust and relationships with customers (Mombeuil & Fotiadis, 2017). Screen interface design significantly impacts customer trust and communication in online shopping experiences (Luo et al., 2006).

In conclusion, trust plays a critical role in various aspects of life, impacting customer behavior, relationships, and business success. Building trust requires understanding human behavior, effective leadership, and attention to customer satisfaction. In public relations, consumers view the brand as a representation of customer care and honesty. Their opinions and expectations about public relations efforts depend on the brand's reputation and how well it aligns with their expectations (Hsieh & Li, 2008).

H4: Trust significantly impacts customer loyalty.

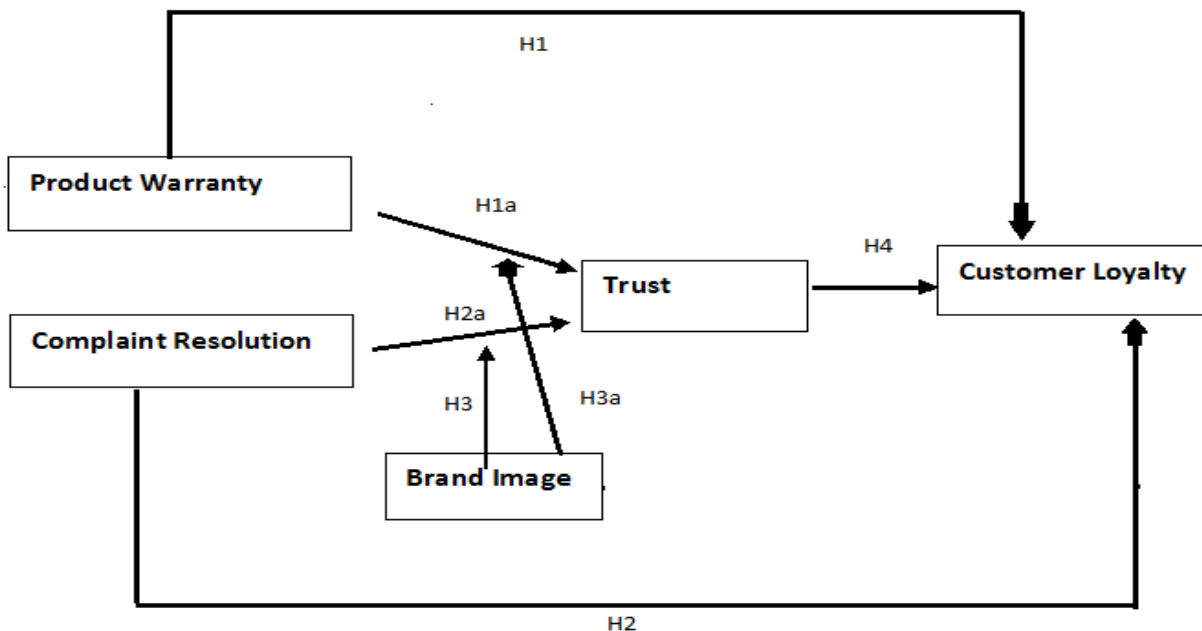


Fig. 1: Conceptual framework of the study

4. Research Methodology

The research methodology encompasses a set of methods specifically chosen to address the research objectives effectively and efficiently. As outlined by Rajasekar (2013), the research methodology serves as a guide to illustrate how the research objectives will be achieved, including the utilization of all available resources and the application of various methods to address the identified research problems. By employing well-defined research methods, this study aims to obtain in-depth knowledge of the variables under investigation, enabling a comprehensive understanding of their characteristics and interrelationships.

4.1 Participants and Procedures

The study’s target population included customers of batteries in the South Punjab market, which encompassed the cities of Multan, DG Khan, and Bahawalpur.

The targeted respondents were customers from the aforementioned area. The sampling procedure adopted for this research was purposive sampling, also known as judgment, selective, or subjective sampling. This sampling technique relied on the researcher's own judgment to select participants from the population for the study. Purposive sampling is a non-probability method where the elements selected for the sample were chosen based on the researcher's judgment. Researchers believed that this approach could yield a representative sample and save time and resources. Manual selection of interviewees was done during the initial contact (Adams, Khan, Raeside, & White, 2007).

In this sampling, it was essential to ensure that the sample group represented specific features of the chosen population. Factors such as age, education, population of the city, and income level were considered when selecting the sample.

Data collection was conducted through a questionnaire, which was used to identify customer loyalty. The questionnaire was administered to customers visiting the dealer networks of various battery manufacturing companies, including Exide, AGS, OSKA, Millat, Phoenix, Bridge Power, Force,

and Daewoo. A survey was conducted among 500 people from the South Punjab region (Multan, DG Khan, and Bahawalpur). The sample was chosen through quota sampling based on the population in each district.

Data was collected from customers either in person or via telephone. Respondents were asked if they could complete the questionnaire on-site. They were assured that the data

4.2 Data Collection Instrument and Measurement Scales

4.2.1 Trust

Consumer trust is defined as the belief that the product or service provider can be relied upon to act in a way that serves the long-term interests of consumers (Martínez & Bosque, 2013). The role of individual personal relationships is crucial in building trust, leveraging social networks and mutual communication reputation. If trust-building is not sufficient, it is essential to address this aspect (Ho & Weigelt, 2005).

The measurement scale used in this study is based on the work of (Hunt, 1994) and (Sirdeshmukh et al., 2002). Respondents indicate their responses on a five-point Likert scale, with 1 indicating "strongly agree" and 5 indicating "strongly disagree."

4.2.2 Product Warranty

Product warranty refers to a written agreement between the manufacturer (seller) and the consumer (buyer) that requires the manufacturer to cover any failures that may occur within the warranty period, thereby safeguarding the interests of the customer (Karim et al., 2005). While existing literature often focuses on ensuring single components or articles, practically, many complex items today are covered by warranties (Manna et al., 2004).

The measurement scale adopted for this study is based on the work of (Boulding and Kirmani, 1993). Respondents provide their responses on a five-point Likert scale.

4.2.3 Brand Image

Consumer familiarity with the brand is directly proportional to their knowledge about it. Utilizing an existing brand name for a product can lead to greater customer loyalty (Müge Arslan & Korkut Altuna, 2010). Positive relationships between individual views of retail brands and affiliated companies are emphasized. The company's strength and brand are at the heart of its organization from a corporate perspective (Rindell & Strandvik, 2010).

4.2.4 Customer Loyalty

Loyalty can be conceptualized in terms of both service loyalty and brand loyalty. Product quality, including performance, packaging, design, features, and warranty conditions, influences customer loyalty. Additionally, the social value and integrated marketing communications also impact customer loyalty (Mohd Suki, 2016).

The measurement scale adopted for this study is based on the work of (Yim et al., 2008), (Donnelly, 2009), and (Kocoglu and Kirmaci, 2012). Respondents rate their responses on a five-point Likert scale.

4.2.5 Analysis and Findings

In this study, the data analysis involved a comprehensive approach utilizing various statistical tools. The scale-based data collected from the participants was processed and analyzed using SPSS version 20, a widely recognized Statistical Package for Social Sciences. This ensured the reliability and accuracy of our data analysis. Moreover, to validate and confirm the research outcomes, both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. These analyses helped us gain a deeper understanding of the underlying structures and patterns in the data.

One of the essential techniques used in our research is Structural Equation Modeling (SEM), which combines AMOS (Analysis of Moment Structures). SEM is a powerful algorithm for General Linear Model (GLM) and offers significant advantages over traditional linear modeling software. It allows researchers to handle large datasets efficiently and assess the reliability and validity of the research model (Lei & Wu, 2007).

The application of SEM in this study involved evaluating two key components: the measurement and structural models. We examined the relationships between variables, estimated model parameters, and mapped the structural relationships within our research model through SEM pathways. This enabled us to estimate and validate the level of agreement between different variables, ensuring the soundness of our research findings.

In summary, this research employed a comprehensive data analysis approach, leveraging SPSS and SEM with AMOS. By conducting EFA and CFA, we confirmed the validity of our research results. The use of SEM allowed us to assess and test the proposed hypotheses effectively. Additionally, we ensured our data's reliability by applying Cronbach alpha and other statistical techniques. These rigorous analyses provide a strong foundation for drawing meaningful conclusions and contributing to the existing body of knowledge in our field.

4.3 Sample Demographics and Missing Value Testing

This section provides an overview of the data interpretation for demographic variables, including gender, age, physical status, and educational background. Additionally, it covers the handling of missing data in the study. Data validation and processing of missing values were conducted using SPSS-20 to ensure accuracy and reliability. Initially, 600 questionnaires were distributed across various areas in Southern Punjab, and 460 of them were successfully retrieved. Among these, 30 questionnaires were excluded due to missing values associated with variables or items, leaving 410 questionnaires for the final analysis.

Descriptive analysis was performed in the second phase to present a comprehensive overview of the data. This involved calculating means, standard deviations, and frequency distributions for the input data. Any missing values in the questionnaires were directly deleted, resulting in a data sheet without any missing entries.

In terms of demographic factors, the study explored gender, experience, education, city, and company affiliations. The demographic summary shows that among the 410 respondents, 98% were males and 2% were females.

In conclusion, the data analysis process included thorough validation and handling of missing values to ensure the accuracy and integrity of the study. The demographic factors were examined and

presented in a descriptive manner, shedding light on important insights that will contribute to the overall findings of the research.

4.4 Measurement of Normality

Before proceeding with the structural equality examination, data collection is of paramount importance, as highlighted by Hall and Wang (2005). It is essential to adhere to basic principles such as checking for normal distribution, multi-collinearity, and the presence of missing values and outliers (Hall and Wang, 2005).

In the current study, with a sample size of over 200, it can be concluded that the results are not due to unusual investigations, as supported by the examination of kurtosis and skewness, which indicate normal data distribution. Additionally, the average representation of respondents' answers indicates a general agreement with the statements (Freund, 2000).

Overall, it is imperative to rigorously assess data normality, multi-collinearity, and other related factors before delving into the examination of structural equality in the study.

TABLE 1: KMO AND BARTLETT’S STATISTICS FOR EFA

KMO and Bartlett’s Test	Customer Loyalty	Complaint Resolution	Product Warranty	Brand Image	Trust
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.798	.837	.713	.865	.824
Approx. Chi-Square	654.946	879.564	401.335	882.517	601.802
Bartlett's Test of Sphericity df	10	28	3	36	10
Sig.	.000	.000	.000	.000	.000

4.5 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a statistical technique used in the field of research and data analysis to assess and validate the measurement model underlying a set of observed variables. It is a form of structural equation modeling (SEM) that specifically tests a predefined theory or model, where the relationships between observed variables and latent constructs are hypothesized based on existing theories or prior research. Unlike Exploratory Factor Analysis (EFA), which aims to discover underlying factors without any preconceived assumptions, CFA involves testing specific hypotheses and determining the fit of the proposed model to the observed data. CFA is essential in research for several reasons. Firstly, it allows researchers to evaluate the construct validity of their measurement scales by testing whether the observed variables adequately represent the underlying latent constructs they intend to measure. This helps ensure that the chosen variables are appropriate and meaningful in capturing the constructs of interest. Secondly, CFA provides a means to assess the goodness of fit of the proposed model to the observed data, indicating how well the model aligns with the actual data. A good fit indicates that the proposed model accurately represents the relationships between the variables, while a poor fit suggests potential modifications or adjustments are needed. Moreover, CFA aids in identifying any potential measurement errors or collinearity issues among the observed variables. By confirming the factor structure and relationships between variables, researchers can have greater confidence in the reliability and validity of their measurement instruments, leading to more accurate and robust conclusions in their research. In summary, Confirmatory Factor Analysis is an invaluable tool in research as it helps to validate measurement models, assess construct validity, and ensure the

accuracy and integrity of data. It provides a systematic approach for researchers to test their hypotheses and make informed decisions based on the fit of their proposed models with the observed data.

4.6 CFA of Complaint Resolution, Brand Image, Trust, Prodcut Warranty and Customer Loyalty

In this study, Complaint Resolution is considered as an independent variable with a single dimension comprising eight items. Through factor loading analysis, one item with a lower factor loading (CR1) was removed to enhance the construct's reliability, resulting in a Cronbach's alpha value of 0.807. The detailed statistics are reported in Table 2.

TABLE 2: CONFIRMATORY FACTOR ANALYSIS OF COMPLAINT RESOLUTION

Quest. Item	Item	Final	
		Standardized Loading	C.R
CR2	Time after complaint is raised	.548	7.427
CR3	The feedback from customers	.509	7.420
CR4	Accessibility of 24×7	.591	6.383
CR5	The staff is well trained	.601	7.000
CR6	Aa central complaint handling department	.699	7.516
CR7	Rrigid and inflexible grievance resolution mechanism	.683	7.175
CR8	Separate complaint handling staff	.736	7.440

	CMIN/DF(χ^2/df)	RMSEA	GFI	TLI	CFI
Initial	7.573	.127	.905	.786	.847
Model Fit	2.668	.064	.972	.956	.967

TABLE 3:CONFIRMATORY FACTOR ANALYSIS OF BRAND IMAGE

Quest. Item	Item wordings In-Group Bias	Final			
		Standardized Loading	C.R		
BR2	Bbetter characteristics than the competitors	.661	6.547		
BR3	Competitors are usually cheaper	.694	6.485		
BR4	Brand is nice	.648	6.529		
BR5	Personality that distinguishes itself	.636	6.337		
BR6	Bbrand that doesn't disappoint	.611	6.508		
BR7	Bbest brands in the sector	.634	6.534		
BR8	Consolidated in the market	.545	6.032		
BR9	The products have a high quality	.099	1.774		
	CMIN/DF (χ^2/df)	RMSEA	GFI	TLI	CFI
Initial	2.750	.065	.962	.956	.955

Brand Image serves as a mediator in this research and is also based on a unidimensional model. After conducting Exploratory Factor Analysis (EFA), nine items were initially considered, but one was subsequently removed due to a low factor loading. In the subsequent Confirmatory Factor Analysis (CFA), only four items demonstrated significant regression weights, leading to the retention of these items in the Brand Image construct. The reliability of Brand Image was calculated as 0.78. The detailed statistics are reported in Table 3. Trust, as a Moderator in this study, is unidimensional and initially comprised five items. EFA was applied to assess factor loadings, and all five items exhibited favorable factor loadings above 0.50, justifying their inclusion. Similarly, in the first-order CFA, all items demonstrated sufficient standardized regression weights, resulting in no item elimination and a reliability coefficient of 0.802 for Trust. The detailed statistics are reported in Table 4.

Product Warranty is explored as an independent variable in the present research, initially consisting of four items. One item was removed due to a lower factor loading, while the remaining items demonstrated satisfactory standardized regression weights, leading to a Product Warranty reliability value of 0.807. The detailed statistics are reported in Table 5. Lastly, Customer Loyalty is treated as the dependent variable, represented by a single dimension encompassing five items. Through EFA, all items were found to be suitable for retention, and in the first-order CFA, all items displayed adequate standardized regression weights, culminating in a reliability coefficient of 0.835 for Customer Loyalty. The detailed statistics are reported in Table 6.

Table 4: Confirmatory Factor Analysis of Trust

Quest. Item	Item wordings	Final			
		Standardized Loading	C.R		
TR1	Services make me feel a sense of security	.710	13.20		
TR2	Ttrust the quality	.668	12.931		
TR3	Hiring services is a quality assurance	.820	12.890		
TR4	Interested in its customers.	.932	9.176		
TR5	Honest with its customers	.756	11.428		
	CMIN/DF (χ^2/df)	RMSEA	GFI	TLI	CFI
Initial	2.932	.069	.985	.968	.985

Table 5: Confirmatory Factor Analysis of Customer Loyalty

Quest. Item	Item wordings	Final			
		Standardized Loading	C.R		
CL1	Nno intention to switch over	.699	13.32		
CL2	Intention to recommend	.615	12.206		
CL3	Prefer this company	.711	10.526		
CL4	Use the services	.613	9.206		
CL5	Prefer new services	.668	9.849		
	CMIN/DF(χ^2/df)	RMSEA	GFI	TLI	CFI
Initial	10.308	.151	.951	.857	.928
Model Fit	3.778	.082	.989	.957	.987

4.7 Path Analysis and Hypothesis Testing

4.7.1 Direct Effects Coefficients

The statistical analysis indicates that the correlation between the independent variables and Customer Loyalty is less than 0.05, meeting the criterion for statistical significance. Specifically, Product Warranty (PW) exhibited a significant impact on Customer Loyalty (CL) with a regression coefficient (β) of 0.115 and a p-value (ρ) less than 0.05. Similarly, Complaint Resolution demonstrated a considerable influence on Customer Loyalty (CL) with a regression coefficient (β) of 0.448 and a p-value (ρ) lower than 0.05.

These results provide empirical evidence to support the significance of Product Warranty and Complaint Resolution as determinants of Customer Loyalty in our study. The strong positive associations between these independent variables and Customer Loyalty highlight their potential value in enhancing customer satisfaction and fostering loyalty towards the brand or service.

Overall, our research underscores the importance of considering Product Warranty and Complaint Resolution strategies to positively influence Customer Loyalty. These findings contribute to a better understanding of the factors that drive customer loyalty in the context of our study and may assist businesses and organizations in developing effective customer-centric approaches for long-term success.

4.7.2 Indirect Effects Coefficients

In the presented table, the analysis values provide insights into the significance of the results, indicating the impact of the variables under study. Specifically, we have focused on independent variables, namely Product Warranty and Complaint Resolution, as well as the dependent variable, Customer Loyalty, while also considering Trust as a crucial mediator.

The significance level (ρ) is a key indicator to determine the statistical significance of the relationships between variables. In our study, all the ρ values are less than 0.05, indicating that the observed results are statistically significant. This suggests that both Product Warranty and Complaint Resolution have substantial effects on Customer Loyalty when mediated through Trust.

Upon analyzing the table, we observed that the ρ value for the relationship between Complaint Resolution and Customer Loyalty, via Trust, is 0.000, with a corresponding regression coefficient (β) of -0.520. This indicates a highly significant relationship, demonstrating that the impact of Complaint Resolution on Customer Loyalty, mediated through Trust, holds considerable importance.

Similarly, our findings show that there is a significant association between Product Warranty and Customer Loyalty, mediated through Trust, as evidenced by the ρ value of 0.004 and a corresponding regression coefficient (β) of 0.1574.

This comprehensive analysis sheds light on the intricate relationships among the variables considered in our research and provides valuable insights for businesses and organizations aiming to enhance Customer Loyalty through effective utilization of Product Warranty and Complaint Resolution strategies, with Trust serving as a key mediator.

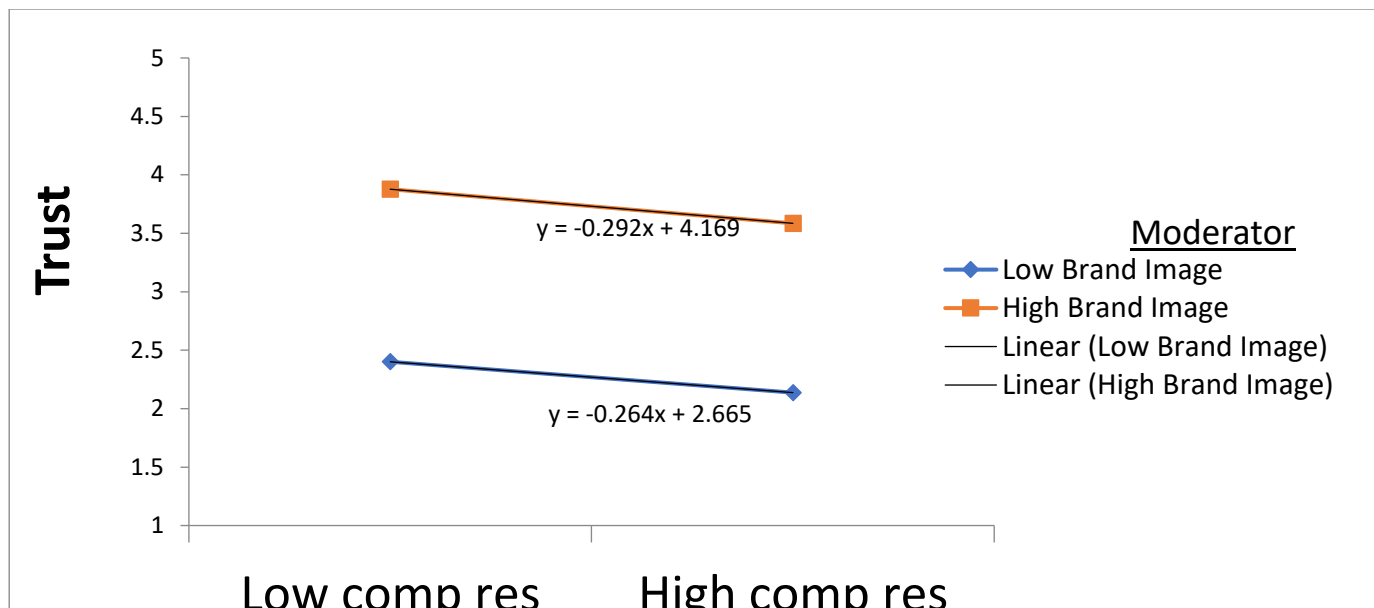


FIG. 2: SIMPLE SLOPES OF TRUST FOR BRAND IMAGE AND COMPLAINT RESOLUTION

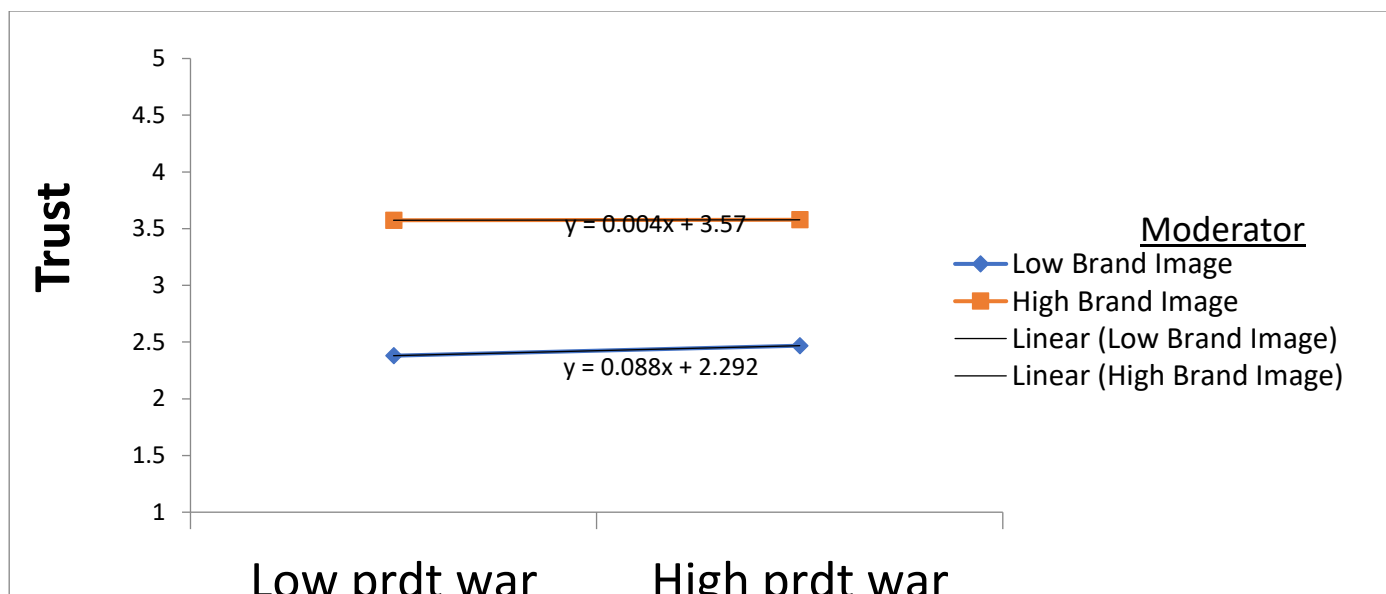


FIG. 3: SIMPLE SLOPES OF TRUST FOR BRAND IMAGE AND PRODUCT WARRANTY

TABLE 6: COEFFICIENTS OF DIRECT EFFECTS

Predictor (X)	Outcome(Y)	B	SE	T	ρ	Hyp.	Result
Product Warranty	Trust	0.0226	0.0392	0.5758	0.5631	H1a	NS
Complaint Resolution	Trust	-.1390	.0662	-2.0992	0.364	H2a	NS
Trust	Customer Loyalty	0.2470	0.318	7.7636	0.0000	H4	Supported
Product warranty	Customer Loyalty	0.1158	0.0326	3.5584	0.0004	H1	Supported
Complaint Resolution	Customer Loyalty	0.4481	0.0294	15.2510	0.0000	H2	Supported

TABLE7: COEFFICIENTS OF INDIRECT EFFECTS

Predictor (X)	Mediator (M)	Outcomes(Y)	B	Boot SE	LLCI	ULCI	Hyp.	Result
Complaint Resolution	Trust	Customer Loyalty	.1574	.0317	.0970	0.2228	H2a	Supported
Product Warranty	Trust	Customer Loyalty	.520	.0187	.0197	.0941	H1a	Supported

TABLE 8: COEFFICIENTS OF CONDITIONAL INDIRECT EFFECTS

Mediator (M)	Moderator	Effect	Boot SE	LLCI	ULCI	Hyp.	Result
Trust	-0.5185	-.0335	0.217	-0.785	0.0060	H3	NS
Trust	0.0000	-.0343	0.192	-.0757	0.0005		
Trust	0.5185	-0.352	0.214	-0818	0.0033		

4.7.3 Results of Hypotheses

Based on the test results, we have found a significant relationship between complaint resolution and customer loyalty, thus confirming the validity of our hypothesis. The ρ value obtained from the test is .000, and the β value is .4481, indicating a positive association between complaint resolution, trust, and customer loyalty. This aligns with previous literature, as identifying and resolving complaints is crucial in improving service quality and fostering loyalty (Wallin Andreassen & Lindestad, 1998).

Moving on to Hypothesis 1, our analysis supports the significant relationship between product warranty and customer loyalty, as indicated by the ρ value of .004 and a β value of .1158. This result is consistent with prior research in the service sector, which highlights the role of product warranties as valuable tools to enhance trust and customer loyalty (Gee et al., 2008).

On the other hand, Hypothesis 2a is not supported, as there is no significant relationship between product warranty and customer loyalty. The ρ value obtained is .364, with a β value of .1574, signifying an insignificant path between these variables. Contrary to some previous findings, our results indicate that warranty information might not be as influential as brand information in driving customer loyalty (Innis & Unnava, 1991).

In conclusion, our research highlights the importance of complaint resolution in building customer loyalty, while also underscoring the significance of product warranties in certain contexts. The results provide valuable insights for organizations seeking to strengthen customer loyalty through effective strategies in service and product offerings.

5. Discussion of Results and Conclusion

This study aims to delve into the intricate values and analysis of customer loyalty. Its primary objective is to explore the relationships among the independent variables, namely Product Warranty, Complaint Resolution, and Customer Loyalty, while also considering the mediating role of Trust and the moderating impact of Brand Image.

In this section, a comprehensive introduction sets the stage by illuminating the significance of studying the relationships between these variables. Social trust theory (Elliott et al., 2007) underpins the understanding of how people's trust in an organization influences their loyalty, particularly in the battery manufacturing industry. Recognizing the positive link between Product Warranty, Complaint Resolution, and Customer Loyalty is essential for enhancing customer loyalty.

The literature review begins with individual variables, followed by an exploration of relevant studies on the relationships between them. It is during this process that a research gap is identified.

This integrated framework draws on a wealth of literature and encompasses various analyses, presenting a comprehensive view of the relationships between the variables. The study aims to unravel the unknown aspects and shed light on key research questions posed in Chapter 1, ultimately contributing to a refined conceptual framework that is both theoretical and empirically tested. By merging these insights, we strive to advance our understanding of the factors that shape customer loyalty and inform strategic decision-making in the battery manufacturing industry.

6. Academic Implications

Customer loyalty is a marvel that holds paramount importance for numerous organizations, as it serves as a key indicator of their customer base's satisfaction, aids in refining strategies, and ultimately leads to increased loyalty. As espoused by the social trust theory, the sentiment of assurance forms an integral part of the psychological contract, and insights from psychological theories offer profound comprehension of the underlying principles in the realm of social trust theory (Elliott et al., 2007).

To gain a deeper understanding of the intricate social dynamics at play, organizations have taken proactive measures to communicate and comprehend the myriad factors that influence customer loyalty. The battery production industry, witnessing a surge in demand due to advancements in the automotive sector and rapid growth in Pakistan, necessitates a thorough comprehension of the reasons behind customer disloyalty. This study endeavors to bridge this knowledge gap, empowering organizations to better understand customer needs and endeavor to fulfill them optimally. Moreover, it sheds light on the novel implication that Social Trust Theory brings from the social perspective, highlighting that customers offer loyalty in exchange for superior product warranty and efficient complaint resolution, thereby fostering customer loyalty.

Another noteworthy aspect of this study is its theoretical framework, which offers a novel approach yet to be fully explored, particularly concerning the variables at hand and their application in the specific industry. This lays the groundwork for future studies, potentially leading to more intricate and sophisticated models. The study introduces an innovative methodology that delves into customer loyalty, considering the mediating effect of trust, thereby deciphering the relationship between product warranty, complaint resolution, and customer loyalty to discern its impact on customer loyalty, be it positive or negative.

7. Managerial Implications

This study offers invaluable insights and actionable guidelines for management and managers, drawing from the reciprocal relationship between organizations and customers elucidated by the Social Trust Theory. The findings of this research shed light on crucial administrative aspects that warrant attention, emphasizing the significance of loyalty.

One significant implication of this study lies in the imperative for management to harness the

potential of product warranty and complaint resolution, as these factors have a direct impact on customer loyalty. The battery industry, in particular, stands to benefit from a keen observation of the predictors that drive customer loyalty.

The research underscores the pivotal role of customer loyalty as a key performance indicator in the battery manufacturing domain. Therefore, a strategic focus on product warranty and effective complaint resolution presents an ideal approach to ensure seamless customer satisfaction.

This study magnifies the importance of prioritizing customer complaint resolution and service handling within organizations. The provision of such services to customers proves instrumental in fostering enhanced loyalty. While brand image is undoubtedly important, it is essential to recognize that failing to fulfill promises made to customers can detrimentally affect their loyalty.

Moreover, the length of warranty plays a pivotal role in bolstering customer confidence, as a longer warranty instills greater peace of mind. However, it is equally vital to acknowledge that the significance of efficient complaint resolution outweighs that of product warranty, calling for a dedicated focus on improving complaint resolution processes.

In conclusion, this study brings a comprehensive perspective to organizational practices, underscoring the significance of product warranty, complaint resolution, and brand image in fostering customer loyalty. By taking into account these essential factors, organizations can enhance their customer relationship management and build long-lasting loyalty.

8. Limitations and Future Research Directions

It is important to consider additional variables in future research to gain a deeper understanding of customer behavior. For instance, factors such as management style, quality of life, and employee benefits could influence the study outcomes. Conducting long-term research with a specific focus on these variables can provide valuable insights.

The current research process has been conducted diligently, but further improvements can be made to enhance the sample model and research quality. Exploring different logical models with new variables or conducting similar studies in different locations or populations can lead to more robust findings. Moreover, adjusting the research framework for other populations or contexts may yield different outcomes.

For customers who purchase products with warranties and exhibit loyal behavior, their product needs and satisfaction are the main focus of this research. This framework can be applied and analyzed from various perspectives with different populations. Additionally, the model can be expanded to incorporate new variables such as brand awareness, product quality, and product life after the warranty period, to better understand their impact on customer loyalty over time.

The research specifically applies to customers who make purchases from company retail outlets in urban areas of South Punjab, primarily buying local manufacturer products. Future studies could consider including imported products and exploring their impact on customer retention. Furthermore, delving into the maintenance aspects over a longer period can provide deeper insights into the factors influencing customer loyalty.

In conclusion, while this study has provided valuable insights into customer loyalty within the

specified region, there is room for further exploration and expansion of the research. By incorporating additional variables, adjusting the framework, and conducting long-term studies, a more comprehensive understanding of customer loyalty in diverse contexts can be achieved.

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