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Supply Chain Responsiveness And Its Influence On Customer Experience And Brand Equity In Omnichannel Markets

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ABSTRACT

The study looks at the direct and indirect effects of supply chain responsiveness on omnichannel retailing's customer experience (CE) and brand equity (BE). The authors suggest that customer experience (CE) acts as a mediator between supply chain customer responsiveness and brand equity (BE), according to the Resource Based View, Service-Dominant Logic, and Stimulus-Organism-Response theories. After employing purposive and stratified sampling, the authors undertook a quantitative cross-sectional study with 400 respondents of omnichannel retailing. With the use of structural equation modeling (SEM), the authors detailed the direct and indirect impact of the study. Customer experience (CE) and brand equity (BE) were both positively affected by supply chain responsiveness (SCR), according to the study. Brand equity (BE) was positively affected by customer experience (CE), which mediated the direct relationship between supply chain responsiveness (SCR) and BE. The authors recommend that the omnichannel retailing supply chain (SC) be responsive (agile, adaptable, and dependable) to fully enhance customer perceptions, satisfaction, and brand equity (BE). The study offers contributions to the theory by validating the mediating role of customer experience (CE) in omnichannel supply chain (SC) strategies and provides practitioners with insights on how to combine operational responsiveness with customer-centric brand equity initiatives

Keywords: Supply Chain Responsiveness; Customer Experience; Brand Equity; Omnichannel Retailing; Structural Equation Modeling; Mediation Analysis

INTRODUCTION:

The financial services industry is undergoing a As customer expectations continue to evolve, they have a clear impact on how businesses refine their supply chain (SC) construction and supply process management. The integration of several customer interaction points in omnichannel markets serves as a prime example of evolving customer expectations. Touchpoints are characterized by physical stores, digital and online channels, mobile applications, and social commerce, which all combine to create a singular customer experience (CE). Meeting customer expectations in omnichannel markets is predicated on supply chain (SC) and operational processes working in concert to provide cohesion, speed, and flexibility. In these roles, supply chains (SC) responsive to customer requirements emerging in the marketplace and are characterized by efficient and timely delivery, order fulfillment, and customer service recovery. Customers engaging with a company across multiple channels simultaneously present

unique challenges. In the event of service delays, insufficient inventory, or order fulfillment mistakes to e-commerce order fulfillment omnichannel, customer experience (CE) is negatively impacted, and the equity of the brand is compromised. (Hübner et al., 2020; Ivanov & Dolgui, 2021).

As with other business activities, supply chain responsiveness (SCR) has an ability to influence the operational productivity of a business. It also has an ability to influence customer-facing outcomes such as the perception of reliability, good service, and convenience. Recent research has shown that SC that are responsive, i.e., those that have short lead times, accurate deliveries, and personalized fulfillment options, are highly correlated with customer satisfaction (Yu et al., 2022; Esper et al., 2023). In the past, supply chain responsiveness (SCR) focused on operational efficiency. Nowadays, especially in omnichannel contexts, it also influences customer-facing outcomes such as the perception of reliability, good service, and convenience Response to customer needs and demands quickly and efficiently. This adds

operational efficiency along with coordination with SC participants upstream and downstream and encompasses agility, speed, visibility, and flexibility. The majority of studies focused on supply chain responsiveness (SCR) have concentrated on operational issues. Recently, the focus has changed to the impact on customer satisfaction, which has resulted in increased interest in the responsiveness of SC.

In omnichannel environments, CE incorporates the cognitive, emotional, and behavioral responses that result from multiple exchanges with a brand. Unlike the traditional single-channel approach, CE in omnichannel extends from the cross-channel integration and fluidity, as well as the consistency of services offered. Any disruption in the responsive SC that impacts the omnichannel journey, such as delayed deliveries or gaps in accurate inventory information, could negatively shape brand perceptions among customers. A growing body of literature shows that positive CE can improve brand-related outcomes such as brand trust, loyalty, and advocacy, all of which can positively grow the brand equity (BE) of a company (Lemon & Verhoef, 2016; Becker & Jaakkola, 2020). On the other hand, the omnichannel CE is growing as a field of interest, and despite the interest in the CE management and the impactful role SCR could play as a precursor to CE being a gap in the omnichannel research, it remains underdeveloped.

Brand equity (BE), one of the main intangible assets of a company, is the effect that a brand name has on customer, price, and profit company behaviors. In the omnichannel context, BE is increasingly determined by operational and service reliability as opposed to marketing communications. In responsive SC, BE is strengthened by the promises of the brand, the speed of service, and the availability and convenience of the products and service offered. Literature shows that reliable and consistent fulfillment across multiple SC channels increases level of brand associations, perceived quality of the product/service, and overall BE (Ailawadi & Farris, 2017; Keller 2020). The effect BE has on reputation in omnichannel environments, however, is not well documented, especially in complex environments.

An assortment of recent investigations has pointed to CE as a potential key mediator between SCR and BE. An attentive SC promotes CE by lowering friction at many touchpoints in the customer journey, which in turn increases consumer opinions and emotional connection to the brand. This is the fruition of value co-creation via service integration according to service-dominant logic along with customer equity theory. In the last few decades, research has started to identify the mediating effect of experience in the interface between marketing and operations, however, the empirical literature is still lacking focused studies on the omnichannel marketplace that integrate BE, CE, and responsiveness (Wieland et al., 2020; Cao & Li, 2021). Additionally, the impact of CE on BE, mediated by the indirect effects of SCR, deserves careful consideration. Earlier studies have concentrated on direct linkages, like the responsiveness-performance and experience-loyalty connections, while the routes through which operational capabilities influence experience, and in turn, BE, remain less explored. With more complex omnichannel systems and customer demands for speed and uniformity, it is essential to explore this indirect pathway for the advancement of theory and the improvement of managerial practices (Shou et al., 2021; Murfield et al., 2022).

Recent studies demonstrate that CE can mediate the relationship between SCR and BE. Using customer value theory and service-dominant logic, Becker and Jaakkola (2020) and Lemon and Verhoef (2016) describe the operational competence of an organization, such as responsiveness, as value creating through the reduction of service experience friction, integrated seamless, and uninterrupted cross-channel service delivery. According to Murfield et al. (2022) and Verhoef et al. (2017), the greater the SCR, the more customers feel convenience, and reliable service which, likely, positively affects CE, emotional bonding, and satisfaction. The service quality of an omnichannel customer experience SC is perceived to be the service quality of the SC itself (Liu et al., 2021; Pantano et al., 2020). Customers have an improved experience due to the provider's flexible delivery, real-time order tracking, and order fulfillment (Hu et al., 2023; Ivanov & Dolgui, 2021; Yu et al., 2022). The unexplored omnichannel SC phenomenon responsiveness and BE, CE as a mediator, is particularly intriguing (Cao & Li, 2021; Kim & Kim, 2024; Shou et al., 2021). The purpose of the current research is the examine CE as an outcome of SCR and as an outcome of BE in omnichannel environments (Grewal et al., 2020; Lemon et al., 2020; Verhoef et al., 2021).

Moreover, the omnichannel setting strengthens the motivation for the exploration of indirect connections of SCR, BE, and CE owing to the loyalty and sustained BE forming verticals of increasing the speed, transparency, and personalization of services (Huang & Rust, 2021; Ailawadi & Farris, 2017). There are services of operational literature that identify pathing, whereby the sequencing of operational improvements leads to enhanced experiential evaluations, which then reinforce brand trust and advocacy, which are two critical constituents of BE (Keller, 2020; Iglesias et al., 2020; Rust et al., 2021). Consider, for example, the contribution of the indirect effect of brand loyalty mediated by customer satisfaction and engagement that some researchers described in multi-channel retailing as being due to the visibility of stock coupled with dependable provision of responsive sustenance of (Gao & Su, 2017; Sicilia & Palazón, 2019; Kumar & Venkatesan, 2022). Analytics of customer journeys suggest that value and BE perception increases, especially in preference and purchase propensity, as the experience across several channels is smooth and demands low relational effort, particularly through multiple channels (Lemon & Verhoef, 2016; Bleier & Eisenbeiss, 2020; Parasuraman et al., 2022). In contrast to most other studies, where only one type of effect is considered, along with the value of omnichannel retail and SC literature, the current research enhances existing literature by considering dual effects (Esper et al., 2023; Lee et al., 2024; Zhang & Zhang, 2025).

The rest of the paper is structured as follows. The subsequent sections focus on the relevant literature and the study's theoretical framework to form hypotheses regarding SCR, CE, and BE. The subsequent section explains the research methods and describes the strategies for data collection, analysis, and measurement scaling. The subsequent sections present the empirical findings and mediation analysis. The final section of the paper discusses the findings, including the contributions to theory and practice, the implications, the limitations, and suggestions for future research.

1. Theoretical Framework of the study

Using three interdisciplinary frameworks i.e., "Resource-Based View (RBV) Theory, Service-Dominant (S-D) Logic, and Stimulus-Organism-Response (S-O-R) Theory." The research aims to demonstrate how responsiveness effects SC, CE, and BE in omnichannel markets. When used together, these models shed light on how SCR contributes to better CE and BE in intricate omnichannel settings, both directly and indirectly.

1.1 Resource-Based View (RBV) Theory

The "Resource-Based View (RBV)", first proposed by Barney (1991) and then expanded upon by Barney et al. (2021), places premium on creating resources that are rare, valuable, inimitable, and non-substitutable. Building VRIN resources is, thus, essential for long-term competitive advantage maintenance. In omnichannel SC retailing, the operational capability refers to the ability to capture and respond to shifting demand across different channels and functions. While some scholars suggest that in integrated digital economies, demand responsiveness, flexible logistics, real-time inventory visibility, and agile fulfillment are valuable intangible resources (Dubey et al., 2021; Wieland, 2021), responsive SC improve CE by allowing companies, from the RBV perspective, to create seamless and consistent experiences across digital and physical channels. In omnichannel retailing, such attributes as timely and accurate deliveries, order fulfillment speed, and channel integration reduce customer effort and uncertainty (Hübner et al., 2022), which are important experience elements. Additionally, RBV clarifies the relationship between BE and responsiveness in the SC. In the equation, the brand value, which is linked to the reliability, quality and trust, is equal to the brand which is the best in the SC. (Kumar et al. 2023). Therefore, from the perspective of RBV, the brand value achieved the goals of the study, wherein the responsiveness of the SC, as a distinct capability of the firm, improves CE and elevates BE.

1.2 Service-Dominant (S-D) Logic

The emphasis of "Service-Dominant (S-D) Logic" is on the shifts in the value streams from a goods model to a co-creation model, in which value is generated through the creation of exchange services and underscores the active role of the customers in defining the value outcome (Vargo & Lusch, 2017). In omnichannel markets, the CE evolves from the interactions of the retailers, technology, logistics partners, and customers at various touchpoints. In this context, SCR acts as a service-enabler that cultivates value co-creation through the experience of services in a timely, dependable, and personalized manner

(Kopalle et al., 2020). Responsive SC are capable of operationalizing shifts in business processes attributable to customer demand, thereby achieving the desired CE of convenience, transparency, and responsiveness. Research suggests that customers, when assessing omnichannel brands, value how different SC channels are integrated (Homburg et al., 2023). Moreover, in the context of "S-D Logic", CE articulates the operational BE, as the positive co-creation of experience, through synergy, fosters emotional connection and loyalty, which, in turn, cultivates positive brand association (Verhoef et al., 2021). In the context of S-D Logic, the author empirically supports the CE as a construct that mediates the direct relationship of SCR and BE; thus, as responsive SC yield experiential value, customers perceive and assign greater BE to the omnichannel retail brand.

1.3 Stimulus–Organism–Response (S–O–R) Theory

The "S-O-R (Stimulus-Organism-Response) theory" examines the influence of different elements of the external environment (stimuli) and how they target certain levels of cognition and emotion (organism) to produce behavior and attitude (responses) (Mehrabian and Russell, 1974). In omnichannel environments, stimuli, such as SCR in the form of quick delivery, accurate order completion, and seamless shifts between integrated purchasing channels, influence customer's internal evaluations: satisfaction, trust, and control, which are pillars of CE (Islam et al., 2022). Based on the "S-O-R theory", as customers move through the experience continuum, the overall experience (organism) will result in positive outcomes, such as a brand preference, loyalty, and advocacy, which contribute to building BE. In the omnichannel context, recent studies have noted the operational attributes of delivery speed and service consistency as influences on experiential emotions to extend BE (Pandey et al., 2024; Shi et al., 2023). In this context, the authors emphasize the indirect and mediating relationships of the study and demonstrate how SCR, in CE, builds BE.

1.4 Integrated Theoretical Perspective

This study adopts a unique perspective by integrating RBV, S-D logic, and S-O-R theory, which characterizes SCR as a strategic resource, a facilitator of value co-creation, and a signal of behavior. It underpins the proposed direct and indirect relationships among SCR, CE, and BE, outlining a theoretical framework to support empirical investigations in the context of omnichannel retailing.

2. Literature of Review and Hypothesis Development

2.1 Supply Chain Responsiveness in Omnichannel Markets

SCR is recognized as a critical dynamic capability and has been studied extensively because of the role it plays in assisting firms to deal with quickly and accurately shifting customer demand, shortening product life cycles, and growing uncertainty in the market (Pettit et al, 2019; Brandon-Jones et al, 2020). In omnichannel markets, responsiveness referred to the speed, flexibility, visibility,

and cross coordination of online and offline channels, which enabled retailers to align and integrate their inventory, fulfilment, and delivery (Hübner et al, 2020). Literature has shown that the demand for real-time information and agile logistics has been intensified in omnichannel environments because the customers demand for seamless channel transitions with no service interruptions (Wollenburg et al, 2018).

The most recent empirical studies state that in omnichannel retailing, SCR has been positively correlated with operational efficiency and service reliability (Cao & Li, 2021; Herhausen et al., 2022). It has been stated that responsive SC improve accuracy in order fulfillment, decreases delivery lead times, and decreases stock unavailability which strengthens the competitive position of the firm (Bag et al., 2021). Additionally, critical digital technologies, including Artificial Intelligence, the Internet of Things, and sophisticated analytics, have helped improve the sensing of demand and adaptive decision-making, thereby enhancing responsiveness (Dubey et al., 2020; Choi et al., 2023). However, most of the studies have concentrated on operational outcomes, leaving downstream marketing outcomes, such as CE and BE, underexplored.

2.2 Supply Chain Responsiveness and Customer Experience

CE has started to be seen as a more integrated concept and involves the cognitive, emotional, and behavioral responses of customers in relation to a range of touchpoints and throughout omnichannel journeys (Lemon & Verhoef, 2016; Becker & Jaakkola, 2020). Earlier studies leave no doubt that logistics performance and the responsiveness of a SC have shaped customer impressions of reliability, convenience, and trust, all of which are critical to the relationship (Esper et al., 2019). In an omnichannel environment, customers assessed the experience not only in terms of product value, but also in relation to delivery speed, order tracking, return options, and channel integration (Hübner et al., 2020).

Empirical research has shown that responsive SC lead to customer satisfaction, perceived service quality, and customer engagement by shortening waiting times and improving consistency in order fulfillment (Vakulenko et al., 2019; Murfield et al., 2020). Further research suggested that, in addition to and because of the impact of responsiveness on CE, from an emotional and relational perspective, it also enabled firms to tailor offerings and proactively address service deficiencies (Kabadayi et al., 2020; Thaichon et al., 2022). Even with these valuable insights, most of the literature reviews CE with regards to the quality of frontline service or the digital interface, not responsive SC. Thus, the literature on the interface of SC management with CE in omnichannel has been quite thin.

2.3 Customer Experience, Brand Equity, and the Mediating Role of Experience

Traditionally, BE has been viewed as a function of the customers' awareness of a brand, their perceived brand quality, the brand associations, and the brand loyalty (Keller, 2013). However, in omnichannel studies, this perspective was broadened to include experience and relationship equity (Rather et al., 2022). Positive CE has been shown to strengthen BE through enhancing brand trust, increasing emotional attachment, and the intention to make repeat purchases (Khan et al., 2021; Iglesias et al., 2020).

Some scholars have pointed out the possible connection between BE and SC due to reputation damage resulting from delivery and stock-out issues (Huang et al., 2021; Richey et al., 2022). In omnichannel retailing, the brand meaning dilution and customer loyalty weakening associated with inconsistent fulfillment across different channels has been noted (Frasquet et al., 2021). However, the number of studies that have focused on the CE as a mediator of the relationship between BE and SCR has been quite small. Although such models have been suggested (Jüttner & Maklan, 2019; Fawcett et al., 2022), there has been a lack of extensive empirical research supporting this in omnichannel contexts. This leads to the outcome that the extent to which CE is the missing link in the chain from SCR to BE has been unexplored.

2.4 Research Gap of the Study

Although literature keeps expanding in the fields of SCR, CE, and BE, a number of important gaps still exist. First, the studies that existed focused primarily on the operational and/or cost-efficient side of SCR, and rarely, if at all, discussed the strategic marketing implications in omnichannel environments (Brandon-Jones et al., 2020; Bag et al., 2021). While the direct impact of SCR on CE has been recognized conceptually, studies that integrate these constructs have been underexplored and contextually isolated.

Moving on, while CE had been appreciated as an important precursor of BE, most of the previous studies have concentrated on experience-related, promotional, and/or relationship marketing service quality, digital interface design, etc., overlooking SC related experiences like delivery speed, fulfilment accuracy, and responsiveness to return requests (Becker & Jaakkola, 2020; Khan et al., 2021). This has led to a lack of understanding of the extent to which upstream SC capabilities are converted to downstream brand value.

Third, the extent of complexity of integrated channel systems and the omnichannel retailing context have prevented much emphasis from being given to the role of CE in mediating the interaction between SCR and BE (Hübner et al., 2020; Frasquet et al., 2021). Few studies have also attempted to integrate direct and indirect impacts into a single model for assessment. Therefore, there was a need to fill a well-defined void in the literature by creating an empirical model that could account for all possible outcomes i.e., both immediate and delayed of SCR's influence on CE and BE via the medium of CE. A more complete understanding of how SCs operational responsiveness in the omnichannel marketplace contributes to the creation of experiential value and the elimination of BE will enhance the literature on SC management and marketing.
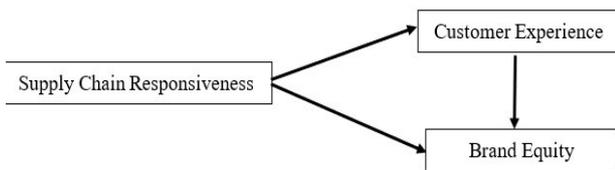
Figure 1: Research Model of the Study

Source: Author's Compilation

- **Direct Effect Hypotheses**

H1: Supply chain responsiveness has a significant positive effect on customer experience in omnichannel markets.

H2: Supply chain responsiveness has a significant positive effect on brand equity in omnichannel markets.

H3: Customer experience has a significant positive effect on brand equity in omnichannel markets.

- **Mediation Effect Hypotheses**

H4: Customer experience significantly mediates the relationship between supply chain responsiveness and brand equity in omnichannel markets.

3. Research Methodology

3.1 Research Design

The study examined the nature and extent of the direct and indirect links between SCR, CE, and BE in the omnichannel market scenario using a quantitative technique and a cross-sectional research design. The research design assisted in obtaining organized measurements for the size of the organizational constructs and how they are able to predict causal relationships from the data obtained at one single point in time (Creswell & Creswell, 2018). In most cases, the perception studies while evaluating the constructs of the matching fields, SC and marketing and most especially in the perception studies of the responsiveness and attitude of the Respondents to the Brand, are conducted in a quantifiable manner through the use of survey methods (Hair et al., 2021). Because of the easy adjustable and omnichannel service encounters and the case to service multiple CEs and services, the cross-sectional design serves best in customer service responsiveness to the dynamically determining of customer perception (Malhotra, 2020). Furthermore, this gives the researcher the advantage of employing sophisticated multivariate methods like structural equation modeling, which enables the researcher to capture direct, mediating and indirect relationships of the multiple variables in a single model (Kline, 2016). This design was in alignment with the advanced marketing research goals as a phenomenon of SC, particularly with the contemporary theories of omnichannel and SC, which represents the design, resource pioneering and theory (Sekaran & Bougie, 2019).

3.2 Sample of the Study

The study employed a combination of purposive and stratified sampling, as the respondents needed to have appropriate experience with omnichannel retail platforms. This combination was optimal for collecting expert consumer feedback on the SC, CE, and BE. Previous research notes the use of purposive sampling in studies on omnichannel and consumer experience, particularly to allow the principal investigator to narrow her focus and to select participants with appropriate experience and interaction with various retail channels (Etikan et al., 2016; Palinkas et al., 2015). In order to improve representativeness of respondents across various consumer segments, stratification was used based on respondents' channel usage frequency (i.e., online-only, offline-only, and true omnichannel users), which is known to reduce sampling bias and enhance generalizability in behavioral studies (Hair et al., 2022). The sample size required for the study was determined based on Cochran's formula for estimation of sample size in survey studies. The formula is most appropriate where the study population is large and/or the researcher does not know the study population size, which was consistent with the present study's aim of capturing a large and varied investor population. The formula used was:

$$n = \frac{Z^2 p(1-p)}{e^2} = \frac{(1.96)^2 (0.5)(1-0.5)}{(0.05)^2} = 385$$

The sample size of 400 was selected so that the study's findings could be deemed reliable and valid, even though 385 was believed to be adequate. Through LinkedIn and email, 600 individuals with appropriate expertise with omnichannel retail systems were sent Google Forms questions. A rate of response of 72.0% was achieved when 432 out of 600 surveys were filled out. No response or completion was found for 32 of the responses, so they were removed. So, in the end, we had 400 responders, which was more than enough for our structural equation modeling and mediation analyses. Previous studies have shown that sample sizes of 300 or more are ideal to achieve sufficient statistical power to establish model stability and provide reliable estimates of complex models with latent variables and indirect effects (Kline, 2016; Hair et al., 2021). Furthermore, due to the diversity in customer journey and experience evaluation, omnichannel studies have also been suggested to use larger sample sizes (Hübner et al., 2020). Therefore, the study's objectives were best achieved given the appropriateness of the selected sampling technique and sample size.

Table 1 shows the demographics for survey participants with relevant experience in omnichannel retail platforms. This is useful in understanding SCR and its relationship with CE and BE. In terms of age, all participants are of working age and are likely to be digitally adept as well. 35.3% of them are aged 26 to 35, and 31% are aged 18 to 25, which indicates that they would be well acquainted with omnichannel retail environments. Concerning gender, there is some representation of all groups; 48.5% are male, 44.3% are female and 7.2% do not identify with either of the binary genders. In the case of educational background, 36.3% of the participants are graduates, while 29.5% are postgraduates, which implies the respondents must be in a good position to evaluate the service quality, service responsiveness and BE. With respect to occupation, the largest group respondents are employed (33%), self-employed (26%), and students (25.3%), which reflects differing rates of consumption and expectations of omnichannel retailers. Regarding

economic demographics, the participants spanned 4 income categories. The highest number of participants (57%) belonged to the income class (₹25,001–₹75,000), indicating their having a moderate level of purchasing power which is important for spacing service dollar with delivery speed, product availability and service reliability. Pertaining to area of residence, the greater number of urban (46%) and semi-urban (36.8%) respondents is suggestive of a wider exposure to developed omnichannel systems and SCR. The frequency of omnichannel shopping shows that respondents with shopping frequency of often and very often (50.2%) is statistically significant, which implies that they have experience with and are familiar with order fulfillment, delivery time and cross-channel integration. The significant preference for the use of both online and offline channels equally (70%) further strengthens the need for assessing the impact of SCR since integrated channel responsiveness directly influences CE and BE for these respondents.

Table 1: Demographic Profile of the Respondents

S No.	Demographic Profile		N	Percent
1	Age	18-25 years	124	31
		26-35 years	141	35.3
		36-45 years	82	20.5
		Above 45 years	53	13.3
2	Gender	Female	177	44.3
		Male	194	48.5
		Others	29	7.2
3	Educational Qualification	High School	75	18.8
		Graduate	145	36.3
		Postgraduate	118	29.5
		Doctorate	36	9
		Others	26	6.5
4	Occupation	Student	101	25.3
		Self-Employed	104	26
		Employed	132	33
		Homemaker	26	6.5
		Retired	12	3
		Others	25	6.3
5	Monthly Income	Nil	20	5
		Less than ₹25,000	53	13.3
		₹25,001–₹50,000	116	29
		₹50,001–₹75,000	112	28
		₹75,001–₹1,00,000	61	15.3
		Above ₹1,00,000	38	9.5
6	Location of Residence	Rural	69	17.3
		Semi-Urban	147	36.8
		Urban	184	46

7	Frequency of Omnichannel Shopping	Rarely	58	14.5
		Occasionally	141	35.3
		Frequently	113	28.2
		Very Frequently	88	22
8	Preferred Channel for Shopping	Offline	82	20.5
		Online	38	9.5
		Both Equally	280	70

Source: Researcher's Compilation

3.3 Data Collection Procedure

The study gathered data from all primary stakeholders in omnichannel retailing to achieve empirical validity and a better understanding of the phenomena. The primary data collection was done using a structured questionnaire aimed at a purposive sample of customers who had an omnichannel retail experience and had engaged with the retailer's online and offline channels. Questionnaires were provided in both electronic and physical formats to facilitate reach and ease of completion. Instructions for respondents were given to guide them in completing the questionnaires. The respondents were provided with the confidentiality of their responses as well as the data collection purpose, to encourage them to be as truthful as they could without bias. The collection of data started and ended in a duration of six weeks to give enough time to participants from all different demographics and locations to answer the questions, and this way the sample becomes more representative. The set response was monitored and, in case of a follow-up to ensure premium and complete responses, a set of completed questionnaires were entered to facilitate later coded and organized responses for data analysis. The described collection procedure ensured the respondents' genuine perceptions of customers about the SCR, experiential, and BE perceptions in the omnichannel marketplace.

3.4 Instrument Development

A structured questionnaire was used to study how respondents perceive SCR, CE, and BE, and measure the associated variables in an omnichannel context. The study employed a self-administered, structured questionnaire, and in this case, SCR, CE, and BE in omnichannel contexts. The questionnaire was divided into four parts. The first was demographic, which collected the respondents' age, sex, highest educational level, occupation, monthly income, marital status, municipality of residence, omnichannel shopping frequency, primary shopping channel, and years of experience in omnichannel shopping. The second part examined SCR which used the retailer's SC as a basis, and included ten items from different studies pertaining to the dimensions of timeliness, flexibility, reliability, and efficiency in the management of orders, of inventory, of status communication, of urgent requests, of customer assistance, and of return and exchange policies. CE was

examined in the third part, which had eight items focused on factors such as omnichannel interactivity and the user experience, as well as the convenience, confidence, satisfaction, personalization, and issue resolution. The last section captured BE through eight metrics which measured brand awareness, perceived quality, trust, emotional attachment, preference of service, brand consistency, and the recommendation of the brand. For the sake of standardization, as well as ease of analysis, a five-point Likert scale was used, wherein "1 signified Strongly Disagree, and 5 signified Strongly Agree."

3.5 Data Analysis Approach

The analytical framework examined both direct and indirect relationships for each construct as well as a cross-sectional survey design method to obtain primary data from customer and SC managers of various Omnichannel retail firms. At the initial stage of the study, the data was screened and cleaned. This was to evaluate the precision, normality, and consistency of the responses. Descriptive statistics and the major characteristics of the variables were used to summarize and construct a profile of the respondents. The scales' reliability was tested through "composite reliability and Cronbach's alpha." CFA was used to measure and ensure both convergent and discriminant validity. SEM was carried out using "SPPS version 25 and AMOS" to test the modelled relationships since it can analyze direct, indirect, and mediating relationships simultaneously. The Path Coefficient was used to evaluate SCR. The Bootstrapping method was used to measure the indirect effect of CE to analyze the significance of the mediating effect. Moderation or control variables such as demographic variables or shopping frequency were included to address possible confounding effects. This systematic and robust approach made it possible to understand operational SC capabilities and how they improve CE and build BE in omnichannel markets.

4. Data Analysis and Results

4.1 Reliability of Questionnaire

The "Cronbach's Alpha" coefficient for the 26 items correlated to the constructs of SCR, CE, and BE, in the omnichannel markets, which, as seen in Table 2, was 0.900. This illustrates the consistency of the questionnaire being tested. As a rule of thumb, scores of "Cronbach's Alpha" that are greater than 0.70 are considered to be a reliable measure and anything over 0.80 indicates good

reliability. Anything above 0.90 indicates the items measuring the construct are consistent (Nunnally & Bernstein, 1994; Hair et al., 2019). In this case study, the high "Cronbach's Alpha" coefficient indicates how survey items are related and how they do not vary when measuring a given construct. Meaning that the scale items represent the ideal measure to what they intend to measure. Irrefutably, the structured questionnaire served in this study to measure the constructs of SCR, CE, and BE in omnichannel markets is reliable. Thus, the findings from the analysis of the questionnaire's data are valid.

Table 2: Reliability of Study Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
.900	26

Source: SPSS output generated

4.2 Descriptive Statistics and Data Normality

Table 3 shows approximate means for each construct: SCR, CE, and BE, which illustrates that each indication reflects positive perceptions in omnichannel markets, as means values are above the midpoint on the five-point scale for each construct. In the case of SCR, means values for each item are 3.52 and 3.77, reflecting for the majority the level of responsiveness on the attributes of speed, flexibility, and reliability. These attributes are vital for customer satisfaction in omnichannel markets. Positive customer perceptions are also on average recorded for CE attributes, wherein means are recorded as low as 3.29 and high as 3.76. Even better means values are recorded for BE, which denotes strong brand associations and positive perceptions on quality and loyalty. It can also be attributed to the SCR. Mean values for BE are between 3.75 and 4.05. These attributes also reflect positive perceptions. The standard deviation shows variability and mostly remains above 1, indicating (perhaps) no more than optimal variation. Furthermore, there is no evidence to substantiate that this data has been positively skewed and/or is normally distributed. Considering the previously mentioned conditions, the data appears to support the use of advanced multivariate methods, including regression, and structural equation modeling. This strengthens the findings, providing a dependable empirical basis for the study concerning the impact of SCR on CE, and CE on BE in an omnichannel context. This corroborates findings from other studies that have recognized responsive SC for achieving customer-centric outcomes (Christopher, 2016; Hübner et al., 2016).

Descriptive Statistics							
				Skewness		Kurtosis	
	N	Mean	Std. Deviation	Statistic	Std. Error	Statistic	Std. Error
Supply Chain Responsiveness (SCR)							
SCR1	400	3.7700	.99225	-.686	.122	.083	.243
SCR2	400	3.6500	1.05131	-.589	.122	-.433	.243
SCR3	400	3.6175	1.08819	-.474	.122	-.648	.243
SCR4	400	3.6225	1.09223	-.588	.122	-.480	.243
SCR5	400	3.5900	1.10224	-.580	.122	-.371	.243
SCR6	400	3.5250	1.06169	-.400	.122	-.513	.243
SCR7	400	3.5650	1.15287	-.564	.122	-.631	.243
SCR8	400	3.7275	.95421	-.440	.122	-.545	.243
SCR9	400	3.5200	1.12818	-.545	.122	-.477	.243
SCR10	400	3.7400	1.04409	-.725	.122	-.036	.243
Customer Experience (CE)							
CE1	400	3.4325	1.15489	-.350	.122	-.886	.243
CE2	400	3.6600	1.02079	-.744	.122	.166	.243
CE3	400	3.5475	1.11842	-.606	.122	-.444	.243
CE4	400	3.2925	1.25334	-.175	.122	-1.113	.243
CE5	400	3.6300	.95151	-.341	.122	-.642	.243
CE6	400	3.7550	.98611	-.817	.122	.502	.243
CE7	400	3.5075	1.06667	-.512	.122	-.512	.243
CE8	400	3.6875	1.07598	-.735	.122	-.085	.243
Brand Equity (BE)							
BE1	400	3.9425	1.05450	-.967	.122	.328	.243
BE2	400	3.8950	1.04485	-.835	.122	.103	.243
BE3	400	4.0475	1.06210	-1.104	.122	.562	.243
BE4	400	3.7625	1.11768	-.755	.122	-.164	.243
BE5	400	3.8175	1.06161	-.792	.122	.010	.243
BE6	400	3.7875	1.04406	-.708	.122	-.011	.243
BE7	400	3.7850	1.16066	-.743	.122	-.436	.243
BE8	400	3.7525	1.08591	-.617	.122	-.347	.243

Table 3: Descriptive Statistics and Data Normality of Constructs of the Study

Source: Researcher's Compilation

4.3 Multicollinearity Analysis

Table 4 presents the study's analyses pertaining to the primary variables SCR and BE. Both SCR and BE have high tolerance values (0.955). Furthermore, the corresponding VIF values show that there is no multicollinearity among the independent variables (1.047). Based on VIF and tolerance levels, established multicollinearity thresholds are satisfied as amounts greater than 0.10 and lower than 5, and in more conservative standards, lower than 3.3 are accepted (Kline, 2016, Hair et al. 2018). Thus, the results indicate that SCR and BE have no intercorrelation issues and may be included in structural regression models with no negative impact on the parameter estimates. The statistical standards also lend more credibility to the analysis when assessing the relationship between SCR, CE, and BE in omnichannel environments. It guarantees that the effects are real and not a result of the constructs blurring explanatory dimensions.

Table 4: Multicollinearity Analysis of the Study

Construct	Collinearity Statistics	
	Tolerance	VIF
SCR	.955	1.047
BE	.955	1.047

Source: Researcher's Compilation

4.4 Outer Loadings

The "Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity" (Table 5) give results that help the study determine the applicability of the factor analysis. A KMO measure of 0.893 is considered meritorious (Kaiser, 1974) and shows that the model is likely to yield useful factor(s) given that there are adequate observations and sufficiently correlated variables. KMO values that are greater than 0.80 demonstrate a meritorious sampling adequacy, and values greater than 0.60 mean that factor analysis is a possibility (Hair et al., 2019). For the results of "Bartlett's Test of Sphericity" ($\chi^2 = 5107.252$, df = 171, p < .001), the presence and significance of correlation on the matrix are acknowledged, subsequently removing the identity matrix case. The variables' generated matrix will be usable and is significantly correlated for factor analysis (Field, 2018). The correlation of the variables in question, confirms both tests. Overall, the results for both the "KMO and Bartlett's test" indicate that factor analysis and/or confirmatory analysis can be performed to understand the dimensions of SCR in relation to CE and BE in omnichannel markets.

Table 5: KMO and Bartlett's Test of the Study

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.893
Bartlett's Test of Sphericity	Approx. Chi-Square	5107.252
	df	171

Table 6: Rotated Component Matrix (Outer Loadings) of Constructs of the Study

Rotated Component Matrix^a	
	Component

	Sig.	.000

Source: SPSS output generated

Table 6 provides a rotated component matrix which shows a distinct and adequate factor structure for SCR, BE, and CE with regard to omnichannel markets. All items for the SCR construct, measuring SCR, load strongly onto one component. Average loadings between 0.688 and 0.882 suggest strong representativeness of the construct. This is well above the threshold of 0.60 for convergence in exploratory factor analysis and would load even above the recommended 0.70. This indicates strong convergent validity (Hair et al. 2019; Tabachnick & Fidell 2019). BE items also showed strong loadings in component 2, where values ranged between 0.797 and 0.910 and this came as supportive of internal consistency and construct reliability, also sufficient for the 0.70 factor loading requirement establishing a definitional case for the latent construct (Hair et al 2017). CE items loaded solely onto Component 3, showing loadings of 0.567 and 0.849. Though CE5 shows the lowest loading garnering the 0.567 mark, which for social science data is considered an acceptable threshold, especially in an exploratory study where loadings above 0.50 are deemed sufficient (Kline 2016). The lack of appreciable cross-loadings for the components is a demonstration of the discriminant validity of the proposed three constructs. This suggests that, in the context of omnichannel, SCR, CE, and BE are distinct but interrelated dimensions. The results, in general, confirm the model fit and support these constructs in assessing the impact of SCR on CE and BE, in line with the established standards of multivariate analysis (Hair et al., 2019).

	1	2	3
SCR5	.882		
SCR4	.871		
SCR3	.778		
SCR6	.775		

SCR7	.770		
SCR8	.756		
SCR2	.703		
SCR9	.688		
BE5		.910	
BE6		.899	
BE8		.886	
BE7		.852	
BE4		.847	
BE3		.797	
CE4			.849
CE1			.828
CE3			.801
CE2			.785
CE5			.567

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

Source: SPSS output generated

4.5 Item Removed

Table 7 provides an overview of the study's construct items including BE, CE and SCR. Item BE1 and BE2 of the BE construct, CE6, CE7, and CE8 of the CE construct and SCR1 and SCR10 of SCR construct were excluded due to low factor loadings. In the field of structural equation modeling and confirmatory factor analysis, the consensus is that single items loaded below the threshold of 0.50 do not adequately represent their corresponding constructs and contribute to construct validity. Retaining indicators that load below the construct validity threshold reduces the convergent validity of the model and increases measurement error. In turn, the lack of representation of the model is exacerbated and the predictor and criterion variables are not adequately estimated. Removing these indicators improves the reliability and validity of the constructs as empirical study of the impact of SCR on CE and BE in omnichannel markets is enhanced.

Table 7: Deleted and Removed Items from the Constructs of the Study

Construct	Indicator	Reason
Brand Equity	BE1	
	BE2	
Customer Experience	CE8	Value < .50
	CE7	
	CE6	
Supply Chain Responsiveness	SCR1	
	SCR10	

Source: Researcher's Compilation

4.6 Measurement Model

4.6.1 Construct Reliability and Validity:

Table 8 shows that the SCR, CE, and BE measurement model met the requirements for convergent validity and reliability in the setting of omnichannel markets. Standardized factor loadings for most items are greater than 0.60, indicating adequate reliability; a small number of items, like SCR9 and CE5, have slightly lower loadings, but this is still acceptable given the high overall construct reliability (Hair et al., 2019). SCR (α = 0.911), CE (α = 0.840), and BE (α = 0.938) demonstrate high levels of internal consistency, and "Cronbach's alpha"

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scores beyond the recommended criterion of 0.70 (Nunnally & Bernstein, 1994). According to Hair et al. (2017), construct reliability is indicated when scores for "Composite Reliability (CR)" are greater than 0.70. This means that the indicators are assessing the same underlying latent variables. Also, all three of the constructs' "Average Variance Extracted (AVE)" scores—0.742 for SCR, 0.716 for CE, and 0.848 for BE—are greater than the cutoff of 0.50, indicating strong "convergent validity" (Fornell & Larcker, 1981). The preceding provides strong evidence that the concept measurement is reliable and valid, and it also provides a good foundation for understanding how the SC's responsiveness affects CE and BE in an omnichannel setting

Table 8: Reliability and Validity of Constructs of the Study

S No.	Construct	Items	Standardized loadings	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
1	Supply Chain Responsiveness	SCR2	0.749	0.911	0.911	0.742
		SCR3	0.741			
		SCR4	0.912			
		SCR5	0.933			
		SCR6	0.784			
		SCR7	0.627			
		SCR8	0.639			
		SCR9	0.553			
2	Customer Experience	CE1	0.780	0.840	0.843	0.716
		CE2	0.732			
		CE3	0.764			
		CE4	0.800			
		CE5	0.503			
3	Brand Equity	BE3	0.764	0.938	0.939	0.848
		BE4	0.816			
		BE5	0.912			
		BE6	0.886			
		BE7	0.842			
		BE8	0.866			

Source: Researcher's Compilation

4.6.2   Discriminant Validity:

As shown in Table 9, the SCR, CE, and BE constructs were shown to have discriminant validity according to the Fornell-Larcker criterion. Elements on the diagonal show the average value expected (AVE) for SCR (0.862), CE (0.846), and BE (0.921), whereas elements off diagonal to the diagonal show the construct correlations. It is required that the square root of each construct's AVE be greater than the correlation between that construct and all other constructs in order to show discriminant validity, as stated in the principle (Fornell & Larcker, 1981; Hair et al., 2021). There is an average correlation of 0.138 between SCR, CE, and BE, and the individual correlations are0.144,0.145, and0.154, respectively. The diagonal elements for SCR, CE, and BE are greater than the correlation values. It shows that the constructs have greater intra-variance with their indicators than with other constructs. Hence, the measurement model shows discriminant validity for SCR, CE, and BE, even in omnichannel contexts, confirming the unique constructs for SCR, customer experience, and BE. Additionally, this increases the dependability of the measurement model in probing the structural connections pertaining to the role of SCR in CE and BE.

Table 9: Discriminant Validity of Constructs of the Study

	SCR	CE	BE
SCR	**0.862**		
CE	0.122	**0.846**	
BE	0.114	0.154	**0.921**

Source: Researcher's Compilation

4.6.3   Model Fit

The model from Table 10 looking at the connections between SCR, CE, and BE in omnichannel markets has illustrated a sufficient model fit. While a "CMIN/df" value of 2.335 is under the threshold of 5, it suggests that the model is parsimonious and there is an acceptable fit between the observed and estimated covariance matrices (Hair et al. 2019). The "GFI" value of 0.917 shows that the model has a good fit and a proportion of explained variance greater than the accepted level of 0.90. Furthermore, the "AGFI" index, which is 0.892, exceeds the accepted level of 0.80 which further confirms model fit is adequate when the degrees of freedom are taken into consideration (Jöreskog and Sörbom 1996). "RMSEA" value is 0.058 which according to (Hu and Bentler 1999) shows a close and reasonable fit of the model to the population under consideration, as it is below the threshold of 0.08 which suggests a poor fit. Taken together, the indices suggest that the fit of the model is

acceptable and reveals the inherent connections of the responsiveness of the SC and the CE and BE in omnichannel markets.

Table 10: The goodness of model Fit of the Study

The goodness of model Fitness Index	CMIN/Df	GFI	AGFI	RMSEA
Calculated Value	2.335	0.917	0.892	0.058
Required Value	*Less than 5*	*More than 0.90*	*More than 0.80*	*Less than 0.08*

Source: Researcher's Compilation
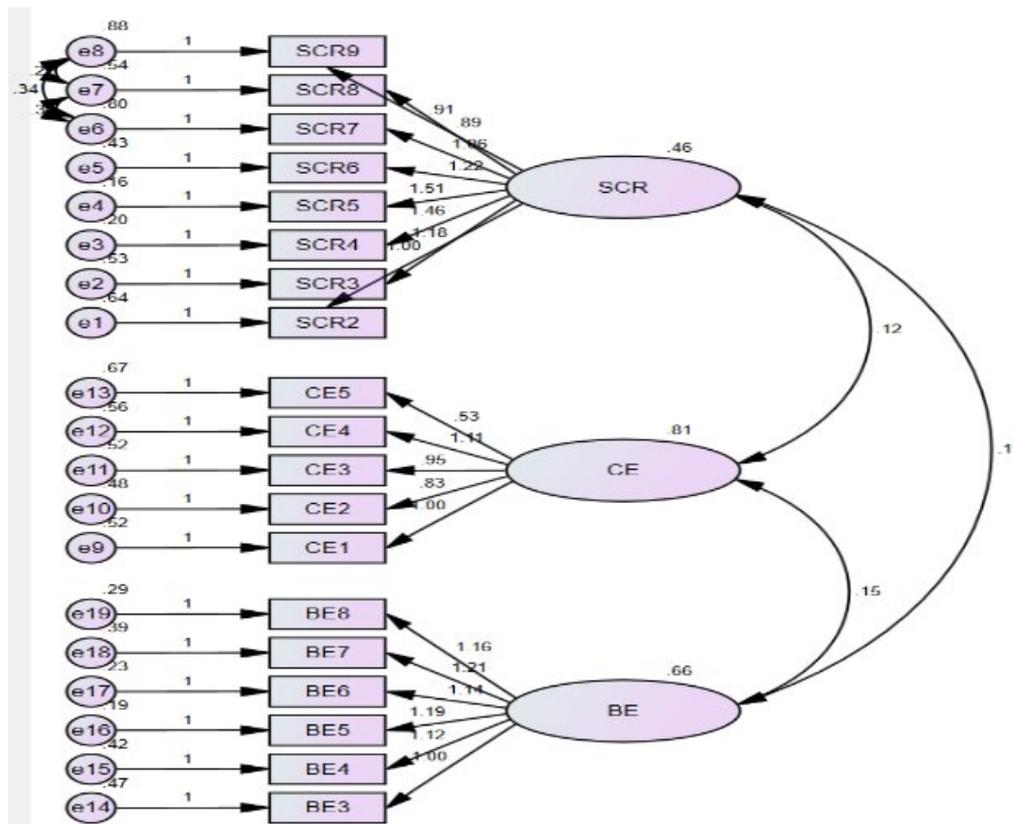
Source: AMOS output generated

Figure 2: Measurement Model of the Study

4.7 Hypothesis Testing (Regression Analysis)

- **H1: Supply Chain Responsiveness → Customer Experience**

The regression analysis confirms that consumer experience in omnichannel markets positively correlates with SCR. The positive effect shown in the regression analysis is in the standardised estimate (β = 0.414) where customers experience improvement in their CE with the responsiveness attributes (e.g. quicker delivery, improved coordination) integration across channels, and real-time inventory visibility. Given that the association is statistically significant, as confirmed by the t-value (4.869) and p-value (0.004 < 0.05), it cannot be attributed to random chance. Hence, we accept H0 and affirm H1. In omnichannel markets, SCR improves the customer experience the most.

- **H2: Supply Chain Responsiveness → Brand Equity**

The analysis shows a strong and statistically significant positive relationship between the SCR and the equity of the brand. The measure of responsiveness, in this case, speaks to brand value, customer trust, and the customer's brand associations. The effect size is large, and in this case, the normalized estimate is β = 0.564. This value is justified by the large t value (5.817), and the p value is significant (0.000 < 0.01)'; thus, the relationship is statistically significant. Hence, the null hypothesis is rejected, and the second hypothesis is accepted. The effective and flexible operational strategies of the chain within the distribution channels positively influence the brand's value in the marketplace.
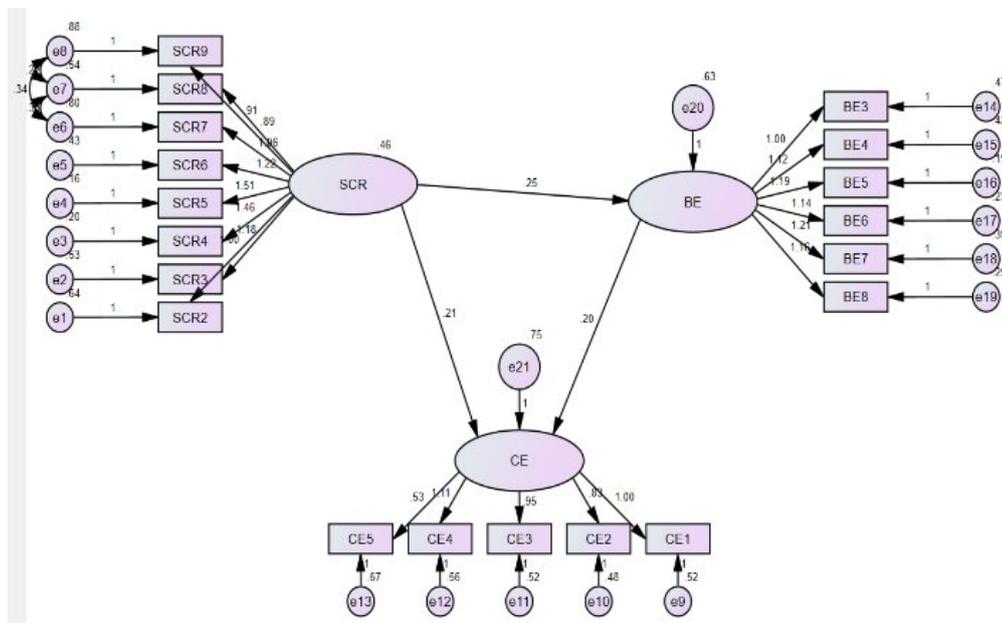
- **H3: Customer Experience → Brand Equity**

A favorable impact of CE on BE is shown by the regression analysis. With a β value of 0.497, a strong positive influence is shown. As a result, CE improves the company's BE via omnichannel engagements and service quality. Both the t-test (4.169) and the p-test (0.002 <

0.05) confirm that this link is statistically significant. Hence, H3 is supported and the null hypothesis is rejected. Therefore, it is clear that CE is essential to BE in omnichannel contexts

Table 11: Hypothesis Testing (Regression Analysis)

S No.	Hypothesis testing	Standardized Estimates	t-value	p-value	Results	
H1	Supply Chain Responsiveness à Customer Experience	0.414	4.869	0.004	Supported	
H2	Supply Chain Responsiveness à Brand Equity	0.564	5.817	0.000	Supported	
H3	Customer Experience à Brand Equity	0.497	4.169	0.002	Supported	

Source: Researcher's Compilation

Source: AMOS output generated

Figure 3: Structural Model of the Study

4.8 Mediation Analysis

- **H4: Customer Experience → Customer Experience → Brand Equity**

The analysis of results in Table 12 shows that CE chiefly mediates the effect of the SCR and BE in omnichannel markets. The mediating effect of CE shows the value of a confident and positive effect as a result of increased SCR and better CE. This will mean that new changes to the SC such as quicker delivery, accurate order fulfillment, and flexible service would lead to improved CE, and in turn, reinforced BE. The obtained t-value of 2.725 is significant and supportive of the positive effect, while the mediating effect of the CE is confirmed and reinforced by a p-value of 0.01 which is significant at the 5% level. As CE is confirmed to be the critical intermediary factor in improving a brand perception, brand loyalty, and overall brand value stemming from responsive SC practices, H4 stands supported.

Table 12: Hypothesis Testing (Mediation Analysis)

S No.	Hypothesis testing	Standardized Estimates	t-value	p-value	Results	

H4	Supply chain responsiveness à customer experience à Brand Equity	0.284	2.725	0.01	Supported	

Source: Researcher's Compilation
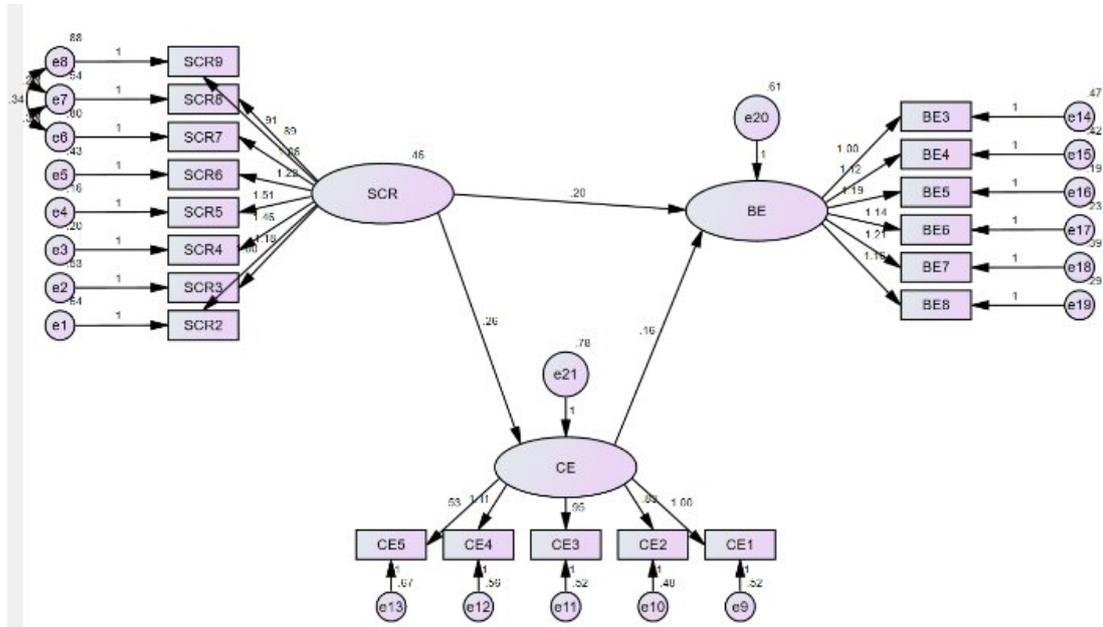
Source: AMOS output generated

Figure 4: Mediation Model of the Study

5. Discussion

The results attained during the research, denotes that the relationships of the variables between SCR, CE, and BE especially in the context of omnichannel markets, are duly supported and defined. The first hypothesis examined whether or not the CE was positively affected by the responsiveness of the SC. The results verified that this was true and also confirmed the extent to which factors such as the speed of delivery, precise order completion, and the smooth integration of online and offline systems, positively impacts the experiential perceptions of customers. Consistent with earlier research (Esper et al., 2023; Hübner et al., 2020; Murfield et al., 2022), this also shows that speed, flexibility, and real-time visibility of logistics are crucial elements that affect client happiness and the perceived quality of services in omnichannel contexts. Consistent with this conclusion is research informed by service-dominant logic, which states that responsive business operations reduce friction at different touchpoints, leading to increased convenience, trust, and emotional engagement (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016). Vakulenko et al. (2019) and Sicilia and Palazón (2019) found no direct or weak correlation among logistics responsiveness and CE; however, other studies that focused on digital interface quality rather than underlying SC processes did find a correlation. Whatever the case may be, the results

presented here lend credence to the idea that operational responsiveness is key in omnichannel settings, particularly when designing an effective CE.

The second hypothesis focused on the direct role of chain responsiveness on BE, which was clearly supported by the results. The notable positive association indicates that BE may value more reliability and service delivery and consistency than just promotional brand attributes. The finding aligns with the BE theory in consumer perspective which attributes quality and trust as the primary components of BE (Keller, 2020). Likewise, studies have shown that brand associations and loyalty in omnichannel settings get reinforced by reliability in fulfillment and consistency in the channel (Ailawadi & Farris, 2017; Iglesias et al., 2020; Kumar et al., 2023). On the other hand, some studies in branding have argued that operational aspects have only an indirect impact on BE, and that impact comes via marketing communication and satisfaction of customers (Keller, 2013). The research attempts to show that contrary to the above perspective, chain responsiveness in itself is a brand-building potential, in strategic sense, in the omnichannel context.

The third hypothesis was centered around the belief that CE invariably drives BE, which the results proved to hold true. Particularly, brand trust, emotional attachment, and loyalty were positively escalated with seamless experience execution across multiple channels and efficient problem solving within CE. Such results are

undeniably true within the realm of BE CE serving as one of the precursors in a digitally integrated and service predominant environment as has been proven by scholars (Iglesias et al, 2020, Khan et al, 2021, Rather et al, 2022). The stimulus organism response model has also been proven by many researchers which posits that a positive CE invokes a positive brand response which spans advocacy and the likelihood of repurchase (Islam et al, 2022, Shi et al, 2023). The only exception in the realm of research is the argument that product range and price competitiveness may in some instances outweigh most other experiential elements to BE within the low involvement category (Gao & Su, 2017). All in all, the result from the research demonstrates that in the context of omnichannel retailing, service integration and consistent experience are the primary attributes of BE.

Lastly, the fourth hypothesis which is the role of CE as a mediator in the relationship between SCR, and BE received some empirical support. The findings show that, CE drives SCR and BE, BE is also impacted to a significant extent by CE. This furthers the developing stream of literature that argues for experience as the primary conduit through which operational capabilities translate to marketing outcomes (Cao & Li, 2021; Shou et al., 2021). It is also consistent with the service-dominant logic, where value is cocreated through experience and interaction of responsive service systems (Vargo & Lusch, 2017). Previous conceptual studies proposed the mediation, but in omnichannel contexts, there is no empirical evidence (Jüttner & Maklan, 2019; Fawcett et al., 2022). Therefore, this study claims for the first time that CE is an facilitating mechanism through which SCR influences BE.

6. Theoretical and Managerial Implications

This research has theoretically covered the roles of omnichannel retailing, SC management, CE, and BE. Firstly, the study validates the empirically SCR impact as refining the strategic driver to CE and BE, further refining the Resource-Based View theory (RBV) within digitally integrated retailing (Barney et al, 2021; Dubey et al, 2021). It posits operational capabilities such as, prompt order fulfilment, modified SCR and up to date inventory management as a competitive resource(s) to the firm, beyond a cost efficiency perspective. The study substantiates S-D Logic and S-O-R theory by confirming the positive effect of CE on BE and CE as a mediator between SCR and BE. This also supports the impact of experiential processes and value co-creation in omnichannel markets (Verhoef et al., 2021; Islam et al., 2022). This settles the requirement in the literature that gaps SCR with operational boundaries and the primary role of a driver of downstream marketing; thus, sharpening the theoretical linkage of the dual facets of operations to customer facing metrics (Shou et al., 2021; Kim & Kim, 2024).

The research offers a positive set of insights from a managerial perspective for those focused on omnichannel retailing. The value of CE and BE suggests that management needs to consider the value of nimble SC and the agility to invest in and manage advanced logistics analytics, AI demand forecasting, and seamless inventory friction (Yu et al., 2022; Hu et al., 2023). The more streamlined a SC, the less customer friction there will be in engagement across a multitude of channels, and the more customer satisfaction, loyalty, and positive BE there will be over time. Additionally, the CE as a mediator means that while operational improvements in responsiveness are needed, they are far from the end goal; organizations must offer integrated, well-designed experiences for customers across all digital and physical contact points (Lemon and Verhoef, 2016; Becker and Jaakkola, 2020). This suggests to managers the aligned importance of designing SC strategies in support of marketing objectives, where operational brilliance and brand stewardship intersect to create and protect a lasting competitive advantage in increasingly volatile omnichannel ecosystems.

7. Conclusion, Suggestions and Limitations

The study empirically validates the extent to which responsiveness in a SC affects the CE and the resulting BE in the context of omnichannel environments. The evidence confirmed all stated hypotheses with regards to response SC. Such SC with CE improvement through timely deliveries, accurate orders, cross-channel flexibility, and order fulfillment. Improved CE is a critical outcome of response SC, resulting in enhanced BE, improved brand loyalty, greater brand trust, and increased favorable brand associations. In addition, experience as an intermediary demonstrated the mediation effect and the resultant BE as a downstream value outcome of operational SC capabilities from the BE perspective. The analysis of results aligns the three conceptual, Resource-Based View, Service-Dominant Logic, and S-O-R frameworks. The results substantiated all stated hypotheses regarding the operational capability of the SC, and the responsiveness of the SC as a value generating process and as an outcome generator in more intricate omnichannel environments. The study captures the CE as a differentiating variable, thereby offering a competitive advantage to the firm. The study confirmed all stated hypotheses regarding the operational capability of the SC as a key differentiator.

In regard to the findings, omnichannel businesses should prioritize the adoption of SC technologies that increase visibility, flexibility, and speed, including real-time inventory tracking, AI demand forecasting, and adaptive logistics. Managers should implement cross-channel integration strategies to achieve service parity across all service touchpoints. In addition, the frameworks for evaluating and improving CE should be formalized, as it relates to the operational capabilities and customer-based BE. Companies may also analyze customer journeys to identify and improve points of service delivery in order to support BE through consistent and customized experiences.

The studies of perception at a given time do not consider the potential time-based changes in SC performance and customer expectations. While the study participants belonged to diverse backgrounds, they were limited to customers with some degree of familiarity with omnichannel retailing, which could restrict the findings to a wider population. Because of the self-reporting bias

of Experience and Perception, the results may be skewed. For a more comprehensive understanding of the constructs of SCR and BE in the omnichannel context, future research should consider longitudinal design studies, global sampling, and examine the use of technology and service personalization as possible mediators and/or moderators...

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