

Marketing Innovation in E-Commerce: A Study of Its Effects on Customer Retention and Conversion Rates

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ABSTRACT

This research delves into the dynamic interplay between marketing innovation and its impact on customer retention and conversion rates within the e-commerce landscape, focusing on the moderating influence of customer satisfaction. The central objective is to offer tangible insights into how marketing innovation strategies shape these pivotal metrics. Employing rigorous quantitative methods, the study meticulously collected data on contemporary marketing innovations in e-commerce. The analytical framework rested on Structural Equation Modelling (SEM) coupled with AMOS. A dataset comprising 275 samples served as the canvas for scrutinizing the nuanced relationships between marketing innovation, customer satisfaction, customer retention, and conversion rates. The Structural Equation Models (SEM) exhibited compelling fits for both Marketing Innovations and Customer Retention ($p < 0.05$) and Marketing Innovations and Conversion Rates ($p < 0.05$). Notably, the study uncovered that customer satisfaction is an augmenting force, intensifying these effects.

These findings underscore the profound significance of pioneering marketing strategies and customer satisfaction in fortifying overall e-commerce performance. In summation, the research unequivocally validates the substantial role of marketing innovations in significantly enhancing customer retention and conversion rates in e-commerce, with the added amplification through the moderating impact of customer satisfaction.

Keywords: Marketing innovation, e-commerce, customer retention, conversion rates, customer satisfaction, structural equation modelling (SEM).

1. INTRODUCTION

In the ever-evolving realm of e-commerce, the dynamic interplay between technology, consumer behaviour, and marketing strategies is reshaping the landscape at an unprecedented pace. E-commerce has grown from a niche market to a global economic powerhouse, with consumers increasingly favouring the convenience and accessibility it offers (Hardilawati et al., 2019). As a result of this, businesses that operate in this digital area are faced not only with enormous potential but also with challenging challenges. This study dives further into the assessment of marketing innovation within the realm of e-commerce, focusing on how it influences two crucial key performance indicators (KPIs): conversion rates and customer retention. Online business development over the last several decades has been nothing short of amazing. People can acquire goods and services more quickly and efficiently due to the rise of e-commerce, which has eliminated geographical barriers and allowed consumers to research, evaluate, and shop for a greater variety of products from the comfort of their homes or while they are traveling (Jeong et al., 2022). Online marketplaces have become virtual bazaars where shoppers can explore a virtually endless array of offerings. This transformation has extended beyond retail, encompassing industries like travel, entertainment, and even professional services. It has revolutionized not only the way we shop but also how businesses engage with their customers (Kurniawati et al., 2020).

1.1 The Imperative of Marketing Innovation

Within this ever-changing e-commerce environment, marketing innovation has emerged as an essential factor in determining a company's competitive advantage. It is the strategic adaption of marketing practices, fuelled by creative thinking and technology integration, aiming to captivate audiences, improve customer experiences, and drive revenue development. The term "marketing innovation" refers to a range of practices, from using cutting-edge technology to creating innovative marketing techniques. These practices have one goal in common: to forge a relationship between companies and their customers that is more meaningful and stable over time (Wu, 2021).

1.2 The Essence of Customer Retention

In the field of e-commerce, which is notoriously cutthroat in terms of competition, maintaining loyal customers is a guiding light for ensuring a company's continued viability and expansion. Although gaining new consumers is critical to a company's success, maintaining their clients is just as important, if not more so. Existing customers often take less commitment to keep, spend more over time, and frequently become brand evangelists, generating organic growth via referrals (Lee & Falahat, 2019). The capacity of a company to cultivate long-lasting connections with its clients is critical to the success of the customer retention efforts of that company. It comprises the efforts to guarantee that consumers will return regularly to make purchases and continue to connect with the brand. To accomplish this goal, which is a challenging task, companies must go beyond just conducting transactions and instead work towards developing emotional relationships with their customers, trust, and loyalty. The following are some of how innovative marketing techniques impact the retention of existing customers:

- **Personalization and Customization:** Companies can give consumers customized product ideas and content tailored to their individual interests and preferences because they can use the power of data analytics and AI. Because of the high level of personalization that is provided, customers may receive the feeling that they are appreciated and understood, which has the potential to result in enhanced customer loyalty (Lee & Falahat, 2019).
- **Proactive Communication:** When businesses use innovative marketing strategies, they can proactively engage with customers, fixing problems they are experiencing in real-time and demonstrating a dedication to guaranteeing the customers' wellbeing. When a consumer receives this sort of reaction and attention from a company, it can significantly increase the trust and loyalty the client has for the company.
- **Enhanced Customer Experiences:** The use of technologies such as virtual reality (VR) and augmented reality (AR) may provide customers with shopping experiences that are immersive and engaging, which may enhance the possibility that customers will return in the future to make more purchases. These technologies can reduce the uncertainty consumers experience while making purchase decisions and enhance their confidence.
- **Data-Driven Loyalty Programs:** The use of advanced data analytics allows for the construction of customer loyalty programs tailored to individual customers' actions and preferences, which boosts the efficacy of the programs and encourages customers to make more purchases (Wang et al., 2018).

1.3 The Essence of Conversion Rates

In e-commerce, conversion rates are a key measure deserving careful consideration. They function as a metric for evaluating the effectiveness of a website or platform in converting visitors into consumers who make purchases and may provide valuable insights into its performance in this regard. In order to provide more clarification, conversion rates refer to the quantification of the percentage of individuals visiting a website that engages in desired actions as intended by the website owner. These actions may include but are not limited to finalizing a purchase, subscribing to a newsletter, or completing a form. The relevance of conversion rates to the overall success of an online business is influenced by several aspects, which include the following:

- **Revenue Generation:** A higher conversion rate leads to more sales, which has an immediate and direct impact on e-commerce businesses' revenue flow. Growing one's proportion of successful conversions might increase one's cash benefits (Cheng et al., 2023).
- **Cost Efficiency:** It is usual for there to be significant expenses related to marketing and advertising while attempting to recruit new customers. This is because marketing and advertising are necessary. Increasing conversion rates means getting more value out of the already their traffic, which in turn makes the money spent on marketing more effective. (Mangiaracina et al., 2019).
- **Competitive Edge:** Businesses with excellent conversion rates than their rivals may outperform their competitors and capture a larger market share despite operating in a highly competitive environment.
- **Customer Engagement:** The conversion rate of a website or platform is directly determined by the views of its visitors on how attractive and user-friendly the website or platform is perceived by its users. That supports the idea that the quality of the experience offered to consumers is of an exceptionally high degree (Zokir Toshtemirovich, 2020).

In conclusion, the use of new marketing methods is one of the most crucial things that contribute to the success of an online retail organization. Utilizing contemporary technology, personalization strategies, Omni channel approaches, content marketing, and data-driven insights are some of how businesses have the potential to boost client retention and conversion rates significantly. This study explores the strategies and technologies that provide the most significant gains on these essential KPIs. As a result, it will give essential insights for businesses working hard to succeed in the cutthroat e-commerce industry (Zhu & Tarndamrong, 2023)

2. RELATED WORK

(Di Fatta et al., 2018) used exploratory regression analysis and Qualitative Comparative Analysis (QCA) to identify factors that influence conversion rates. The findings of this research are derived from 1184 observations that were gathered from a total of six websites that were owned by SMEs. The results of the research indicate that the most successful way to raise conversion rates is to adopt a laser-focused strategy on the quality of the product or its marketing rather than a plan that integrates all of these aspects into a single strategy. (Purnomo, 2023) provided insightful recommendations for enhancing the effectiveness of website techniques SMEs use to increase conversion rates. (Yang & Lin, 2022) conducted research and developed efficient methods for digital marketing to raise the percentage of completed ecommerce transactions. The study's findings suggest that digital marketing strategies play an essential part in the process of boosting the number of sales conversions that occur on ecommerce platforms. By doing theoretic and empirical studies of consumer psychology and behaviour, the authors set a reference for the sustained expansion of international online commerce. The findings have potential applications for improving customer desire to buy and encouraging the growth of international e-commerce networks over the long run.

(Fedushko & Ustyianovych, 2022) examined the effectiveness of this approach on the collection of e-commerce records that identified the crucial components related to the degrees of consumer consciousness and fidelity. In this study, engineering, descriptive statistics, & exploratory data analysis are the main methods used to accomplish its objective and attain its purpose. (Pollák et al., 2021) It is a case study that centered on the topic of client retention. This case study aims to determine the factors that customers cite as their primary motivations for leaving a specific company. The results indicated a significant connection between providing excellent service to customers and keeping existing customers happy. According to the survey findings, organizations must prioritize customer loyalty to maintain and expand their existing consumer pool (Ascarza et al., 2021).

(Rojhe et al., 2021) Studied the factors that lead to and result in client loyalty in a business-to-consumer (B2C) online setting. Identify the eight factors that might affect Customization, personal interaction, care, community, convenience, cultivation, choice, and character are the "8Cs" of e-loyalty. Resources are being developed to quantify them. The 8Cs are individualization, interaction between contacts, nurturing, community, ease of use, selection, and personality. Based on information gathered from 1,211 internet users, e-loyalty is influenced by all of these criteria, except for ease. The findings also suggest that e-loyalty influences two outcomes associated with customers: the likelihood of customers paying a higher price and the marketing of a product through word of mouth.

(Muchardie et al., 2019) To evaluate how psychographic characteristics impact consumer happiness and loyalty in online commerce. In addition, the goal was to develop a customer segmentation model for use in e-commerce that would include psychographic and demographic characteristics. According to the research findings, it has been concluded that the mechanism of customer satisfaction is responsible for the effect of several separate elements on the retention of existing customers. Because of this, the study has shown that three separate customer groups exist inside the realm of e-commerce. These categories are The money-dietary shopper, the functional shopper, and the credibility-matters shopper.

(Singhal, 2021) It has been discovered that CRM, or customer relationship management, has a substantial role in expanding market share, raising productivity, improving staff morale, and increasing in-depth customer knowledge, as well as the level of satisfaction experienced by customers. Companies will also possess clear details on their clients, such as who their customers are, their demands, and what will make them more delighted to foster customer loyalty. This information will ensure that customers remain loyal to the company.

(Dastane, 2020) This research examined how Malaysian e-commerce consumers' intentions to make online purchases were impacted by digital marketing. Additionally, the role that CRM (customer relationship management) plays as a mediator between online purchase intention and digital marketing was investigated since earlier studies had not defined the mediating effect. The instrument's normality and reliability were evaluated using IBM SPSS 22, and then used IBM SPSS AMOS 24 for confirmatory factor analysis & structural equation modelling. Based on the results of the research, digital marketing techniques are critical in the endeavour to enhance sales conversions on e-commerce platforms.

(Et.al, 2021) investigates the association between B2C e-commerce: quality of eservices, customer experience, engagement, & loyalty. Customer service, security/privacy, fulfilment/reliability, and website design are the significant variables influencing the e-service environment for loyalty. This work presents a theoretical model for investigating these aspects. 250 respondents who have transacted with a B2C e-commerce websites that were surveyed in the preceding half-year. Partial

least squares analysis was used to verify the research model approach. The findings show that consumer experiences with B2C e-commerce are influenced by e-service quality, customer involvement, and loyalty. Consumer loyalty was unaffected by the other factors, e-service quality, and customer participation.

(Nayak et al., 2023) to explore the digital innovations used by public and banks in the private sector in India for online business methods. This research relies on existing material in academic publications, monthly reports from various banks, email newsletters, and online financial portals.

2.1 Aim of the study

This research aims to conduct an in-depth analysis of the influence that marketing innovations have had on the rate at which consumers are retained within the e-commerce industry. More specifically, the study will investigate the tactics and technologies that contribute to customers' continued engagement and loyalty over the long term. In addition, it intends to investigate how the marketing as mentioned above innovations affect conversion rates. Specifically, it will analyze the part that innovative strategies and cutting-edge technology play in transforming website visitors into paying customers and, as a result, boosting overall income. Furthermore, the study aims to provide a comprehensive comprehension of the relationship between customer retention and conversion rates, elucidating whether effective customer retention strategies directly translate into higher conversion rates, thereby providing crucial insights for businesses navigating the competitive e-commerce landscape.

Objectives:

1. To Analyse the Impact of Marketing Innovations on Customer Retention.
2. To Examine the Influence of Marketing Innovations on Conversion Rates.
3. To examine the moderating effect of customer satisfaction on the relationship between marketing innovation and both customer retention and conversion rates in e-commerce.

2.2 THEORETICAL FRAMEWORK & HYPOTHESIS DEVELOPMENT

In this setting, deploying marketing innovations has arisen as a strategic requirement for organizations involved in e-commerce. The term "marketing innovations" refers to various practices, including incorporating cutting-edge technology like artificial intelligence and personalized recommendation systems, as well as creating appealing content marketing and narrative methods. These developments aim to improve the customer experience by customizing marketing efforts to each individual's tastes, fostering more meaningful and exciting consumer interactions, and tailoring marketing strategies to specific demographics.

Previous research has illuminate the ways in which marketing innovations might boost customer involvement and customer satisfaction. It is necessary, however, to explore if these advancements also translate into concrete increases in consumer retention rates within the ecommerce industry. In light of the information presented so far, the hypothesis that will guide this investigation may be stated as follows:

“Hypothesis1: The implementation of marketing innovations in e-commerce positively influences customer retention rates.”

The e-commerce industry has seen tremendous expansion, which has brought about the emergence of new issues. One of these challenges is optimizing conversion rates, which are essential metrics that evaluate the proportion of website users who complete desired activities, such as making purchases. E-commerce businesses have reacted by adopting marketing innovations, which include a variety of methods such as personalized suggestions, data analytics, and AI-driven technology. That is in response to the fact that customers have become more demanding. These advancements are intended to improve the quality of the online shopping experience as a whole, decrease the friction that customers face along their trips, and eventually raise the percentage of successful transactions.

However, although there is extensive recognition of the potential advantages of marketing innovations in e-commerce, more empirical studies need to explore their influence on conversion rates, even though there is widespread recognition of the possible benefits of marketing innovations, in order to fill this void, we put up the following hypothesis:

“Hypothesis2: Marketing innovations in e-commerce have a positive impact on conversion rates, leading to higher percentages of successful transactions.”

The level of satisfaction that a company's customers feel with their purchases plays a critical part in determining the level of success and longevity that an online business can achieve. Because customers have access to an almost infinite number of alternatives, companies work hard to win over new customers and maintain relationships with those they already have. E-commerce businesses should also strive to increase their conversion rates, which refers to the proportion of site users that carry out the required activities (such as completing a purchase) since this is an ongoing objective. Enhancing consumer experiences, encouraging brand loyalty, and optimizing conversion rates are all important goals of marketing innovation,

defined as integrating modern technology and new methods. Marketing innovation plays an essential role in all three of these goals. Customer satisfaction is a complex concept that reflects the total happiness of customers with their interactions and transactions. This may affect how much marketing innovation influences customer retention and conversion rates.

It is necessary to have a thorough grasp of the moderating influence that customer satisfaction plays since it is one of the most critical factors. Although dissatisfied customers could exhibit a different reaction, it is more likely that delighted customers would respond more favourably to marketing innovations, leading to more excellent customer retention and higher conversion rates. The third hypothesis (H3) for this inquiry is constructed as follows, taking into mind the facts presented earlier in this sentence:

“Hypothesis3: Customer satisfaction moderates the relationship between marketing innovation and both customer retention and conversion rates in e-commerce.”

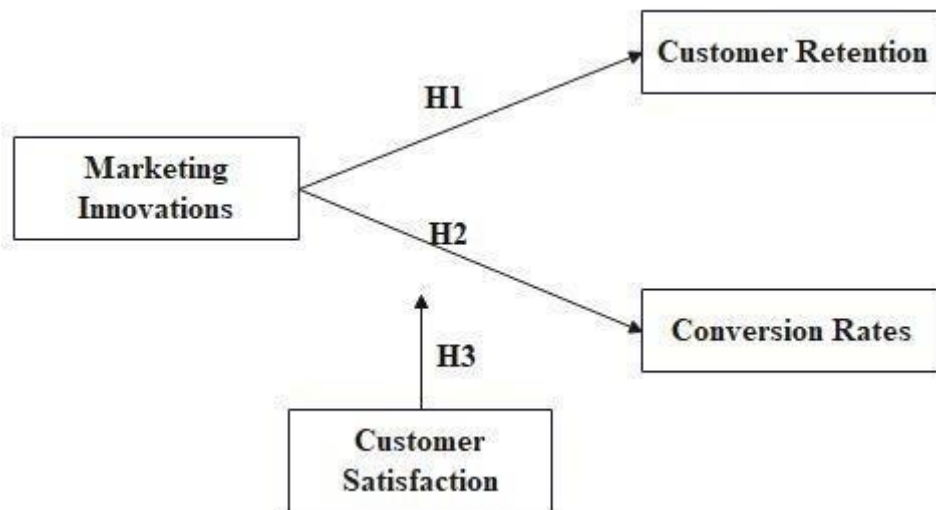


Figure 1 CONCEPTUAL FRAMEWORK

3. METHODOLOGY

The primary aim of this study is to examine the impact advertising innovation has on ecommerce and precisely how this influence manifests itself in terms of conversion rate and customer retention rates, with a particular emphasis on how levels of customer satisfaction influence both of these variables. This study uses quantitative methods to obtain the essential data to achieve its primary goal of gathering information on current advancements in online retail information marketing. We investigated the effect of marketing innovation on the client retention rate and the conversion rate in online commerce by combining the AMOS and the Structural Equation Modelling (SEM) software.

3.1 Research design

The components of this study's research design include several procedures and strategies that have been created to logically integrate numerous research components to offer a proper answer to the research problem that has been carried out up to this point. These procedures and strategies have been designed to integrate various research components for this study logically.

The goal of this chapter is to provide information on the methods that were used in the research study that was carried out. The study's design guides all aspects of the research process, including the collection and analysis of data and the conduct of research.

3.2 Sampling Technique

For this study, 275 replies from respondents were gathered, and the whole questionnaire was archived for use in a subsequent study. In order to collect the necessary information for this

investigation, a structured questionnaire of one's design was developed and used in conjunction with a random sampling approach.

3.3 Random Sampling

The selection of samples from a population using a technique known as random sampling ensures that every possible participant has the same number of chances of being chosen. Selecting a sample at random from a larger pool of potential candidates can provide results that are highly representative of the whole population. One of the simpler techniques for gathering data from a whole population is random sampling. While using random sampling, a useful guideline for thumb is

that if a sample is only selected once, the results may not be reliable.

$$P = \frac{1}{N} (N-1)(N-2) \dots (N-n+1) = \frac{(N-1)!}{(N-n)!}$$

P denotes probability, n denotes sample size, and N denotes population.

Now, $P = n/N$ will be the outcome if $1-(N-n)/N$ is cancelled. Additionally, it is important to allow for multiple sample selections: $P = 1 - (1 - (1/N))^n$.

3.4 Data Collection

One of the most critical components of doing any research is gathering a collection of relevant information. Collecting information may be done in various ways, the two most prevalent of which are primary and secondary data collection. Both secondary data, which may be available on websites, and primary data, which will be acquired via a questionnaire, can be found in journals, articles, magazines, research papers, and annual reports.

3.4.1 Tools for data collection

The information is gathered from the surveys as a questionnaire, either sent to the respondent or collected using online platforms such as Google Forms or Survey Form.

Interview schedule

The instrument known as the Interview Schedule will be used to collect primary data in the field. It is the pre-draft question that will be asked during the structured interview approach that will be used.

3.4.2 Inclusion Criterion & Exclusion Criterion

- Males and females, who have knowledge on marketing innovation in E-commerce with age limit (18- above 42) irrespective of their personal details were willing to participate in the research.
- Males and females needed to understand marketing innovation in E-commerce, as well as those unwilling to engage in the research and those not present at the location throughout the data collecting time.

Independent Variables:

- Marketing Innovation
- Customer Retention
- Conversion Rates

Moderating Variable

The moderating variable in this study will be "Customer Satisfaction." It will be measured through a set of Likert scale questions exploring the primary examination of the impact of modern marketing strategies in E-Commerce.

3.5 Data Analysis Techniques

Structural equation modelling, also known as SEM, is going to be used to analyse the data, and the hypothesized linkages between female empowerment efforts, gender-based economic inequalities, and gender equality in rural regions will also be examined. With the use of the SEM, it will be able to investigate both the direct and the indirect impacts.

3.6 Structural Equation Modelling

he basis for the multivariate, hypothesis-driven approach known as structural equation modelling (SEM) is a structure-based model that gives a theory on the interaction of multiple variables. This model is known as the structural equation model (SEM). Regarding these factors, the blood oxygen level-dependent (BOLD) durations of several brain species locations are measured using functional magnetic resonance imaging (fMRI), and the linkages between the physically tenable zones serve as the foundation for the hypothesised causal links. This so-called route coefficient provides an example of how much which the variance of one variable, y_i , is dependent on the variance of another variable, y_j , under the assumption that all other effects on y_j remain same. This coefficient is analogous to a partial regression coefficient in the sense that it displays the degree to which the variation of y_i is dependent on the variance of y_j . The letters. $y^i \rightarrow y^j$

The equation provides a summary of the conventional SEM statistical model.

$$y = \Lambda y + u$$

where y is a $n \times s$ matrix of n area-specific time series with s scans each and u is a $n \times s$ matrix of components with the simulation system is driven by zero mean Gaussian errors. (the "innovations"; see equation). Λ may be thought of as a matrix of with route coefficients of size

$n \times n$ (with zeroes for missing connections). It is possible to estimate parameters by reducing

$$\Lambda^T \Lambda$$

the distinction between the covariance matrices of the model and the observed model. By translating equation, Σ may be calculated for any given combination of parameters.

$$\begin{aligned} y &= -(IA u)-1 \\ \Sigma &= yy^T \\ &= -(IA uu I)-1T(-A)-1r \end{aligned}$$

Remember to act in a manner consistent with the identity matrix. The first line of the equation offers a generative model for how the system's connectional structure leads to system function: The interregional connection matrix function is used to produce the observed time series y using the Gaussian innovations u . $(I - A)^{-1}$

3.6.1 Model Fit Assessment

Model fit indices such as chi-square (χ^2), To assess how well the data match the proposed SEM model, we will look at the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), a Standardised Root Mean Squares Residual (SRMR), & the Root Mean Square error of approximations (RMSEA).

4. RESULTS & ANALYSIS

In order to conduct a thorough evaluation of the influence of marketing innovation in the area of online shopping, specifically concentrating on its effects on customer retention and conversion rates, the use of Structural Equation Modelling (SEM) with the assistance of AMOS software was employed. Additionally, the potential moderating function of customer satisfaction was considered throughout the analysis.

Table 1 Demographic Variable Analysis

Gender		
	Frequency	Percent
Male	132	48
Female	143	52
Total	275	100
Mean	1.520	
Age		
18 - 24 Years	67	24.4
25 - 32 Years	56	20.4
33 - 42 Years	79	28.7
Above 42 Years	73	26.5
Total	275	100.0

Mean	2.574	
Education		
Under Graduate	110	40.0
Graduate	106	38.5
Post Graduate	59	21.5
Total	275	100.0
Mean	1.814	

Age, education, and gender are the three demographic factors that are shown in the table, which contains information on 275 individuals.

The gender breakdown of the sample is well balanced, with 48% of respondents identifying as male and 52% as female. The ratio of men to females in the sample provides evidence that there is, on the whole, a fairly equal representation of both sexes in the population. When looking at the data from the perspective of age, it is broken down into four different categories. Individuals in the sample in the age range of 33 to 42 represented 28.7% of the overall population of the sample, making this age range the one with the largest representation out of all the age groups. According to the collected data, a sizeable percentage of the participants fall within the parameters of this particular age bracket. The sample comprises of people who fall into two different age groups: those between the ages of 18 and 24 and those older than 42. These two groups account for a total of 26.5% and 24.4% of the sample, respectively. According to the findings, respondents in the age bracket of 25 to 32 years old make up around 20.4% of the overall population that participated in the survey. The sample consists of people of all different ages, as seen by its age distribution, which is evidence of the sample's variety. It would seem that there is not much of a disparity in the distribution amongst the various age groups.

There are three separate categories that have been established to categorise the degree of education attained by a population of people. A sizeable fraction of the participants, namely forty percent of the total population, are in possession of a bachelor's degree or above. A graduate degree is held by a significant proportion of the sample, exactly 38.5% of the total population. In addition, a somewhat lower number of individuals, 21.5 percent, has successfully completed postgraduate courses. There are 275 individuals in the sample overall, and the mean value has been found as 1.814.

H1: To Analyse the Impact of Marketing Innovations on Customer Retention:

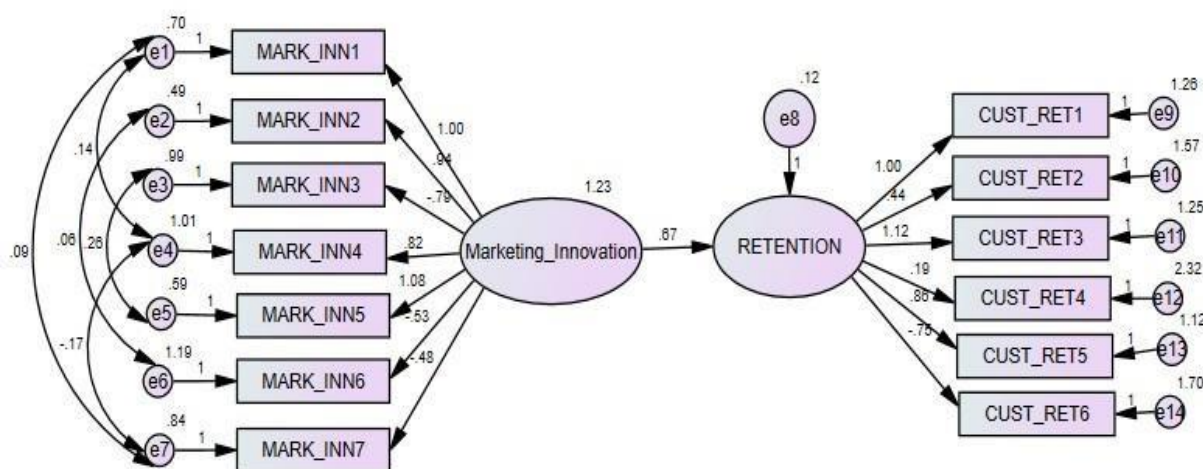


Figure 2 Regression Weights: (Group number 1 - Default model)

Table 2 Regression Weights: (Group number 1 - Default model)

PATH			Unstandardized Coefficient	S.E.	C.R.	Standardized	P
RETENTION	<---	Marketing Innovation	.667	.073	9.100	.906	***
CUST_RET1	<---	RETENTION	1.000			.590	
CUST_RET2	<---	RETENTION	.443	.110	-4.028	.277	***
CUST_RET3	<---	RETENTION	1.123	.140	8.000	.635	***
CUST_RET4	<---	RETENTION	.188	.125	1.509	.102	.031
CUST_RET5	<---	RETENTION	.862	.119	7.266	.554	***
CUST_RET6	<---	RETENTION	-.751	.128	-5.889	-.427	***
MARK_INN1	<---	Marketing Innovation	1.000				
MARK_INN2	<---	Marketing Innovation	.945	.062	15.293	.830	***
PATH			Unstandardized Coefficient	S.E.	C.R.	Standardized	P
MARK_INN3	<---	Marketing Innovation	-.791	.071	-11.197	-.661	***
MARK_INN4	<---	Marketing Innovation	.817	.064	12.747	.671	***
MARK_INN5	<---	Marketing Innovation	1.084	.071	15.281	.842	***

MARK_INN6	<---	Marketing Innovation	-.53	.068	-7.781	-.474	***
MARK_INN7	<---	Marketing Innovation	-.484	.060	-8.057	-.502	***

Table 2 provides an example of a hypothetical structural equation model that illustrates the dependency between two variables, namely Marketing Innovations and Customer Staying Put. Whichever model it is, the independent variable that is being considered is Marketing Innovations, and the variable that is being considered to be dependent is Customer Retention. since fits indices, as shown in Table 3, provide the appearance that the model is a good match for the data, since many of the model's variables have p-values that are less than 0.05 and are regarded as statistically significant as a result. The whole model's fit was evaluated using seven distinct fit indices, and the results indicated a positive and statistically significant association between marketing innovation in e-commerce and customer retention. Because of this, we are able to state that marketing innovation in e-commerce favourably influences the retention of customers. The statement gives the impression that employing marketing innovation tactics in the realm of e-commerce would most likely result in greater rates of client retention.

Table 3 Model Fit Summary

Variable	Value
Chi-square value(χ^2)	139.847
Degrees of freedom (df)	55
CMIN/DF	2.543
P value	0.091
GFI	0.928
RFI	0.953
NFI	0.946
IFI	0.974
CFI	0.969
RMR	0.069
RMSEA	0.072

The quality of fit was acceptable representation of the sample data (χ^2 - 139.847), NFI (Normed Fit Index) = 0.946, IFI (Incremental Fit Index) - 0.974, GFI (Goodness of Fit) - 0.928, RFI (Relative Fit Index) - 0.953, & CFI (Comparative Fit Index) - 0.969, significantly bigger than the 0.90, indicate that the quality of fit was adequate to represent the sample data. The values of the RMSEA (Root Mean Square Error of Approximation) – 0.072 and RMR (Root Mean Square Residuals) =

0.069 are also below the threshold value of 0.080. Data showed that the model was well-fitting, with RMSEA - 0.072, RMR - 0.069, GFI - 0.928, & CFI of .969.

H2: To Examine the Influence of Marketing Innovations on Conversion Rates:

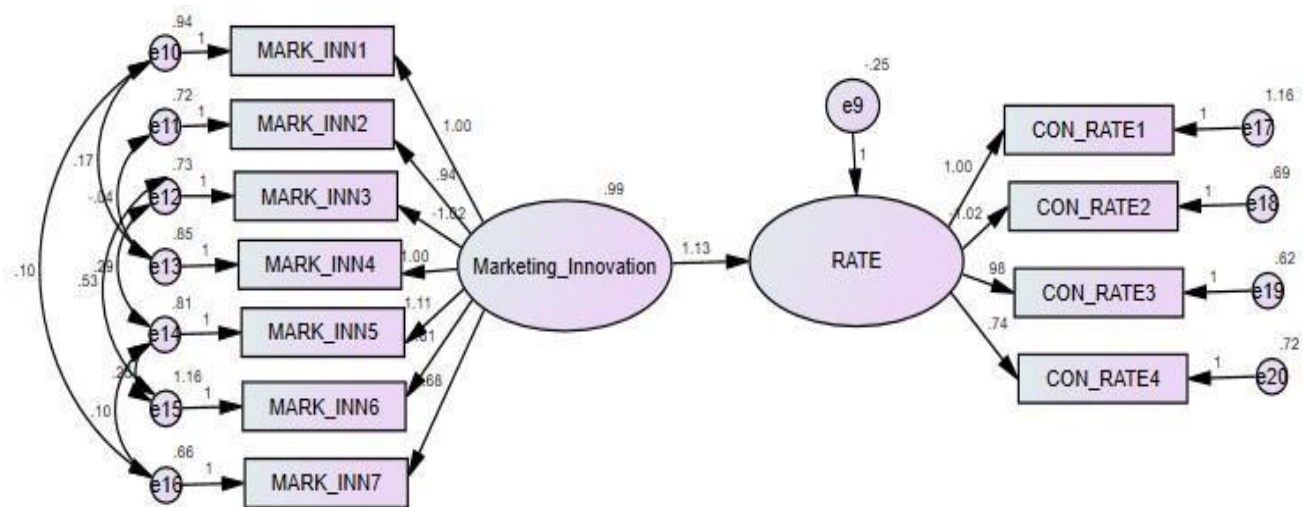


Figure 3 Regression Weights: (Group number 1 - Default model) Table 4 Regression Weights: (Group number 1 - Default model)

Table 4 Regression Weights: (Group number 1 - Default model)

PATH			Un-standardized Coefficient	S.E.	C.R.	Standardized	P
Conversion Rates	<---	Marketing Innovations	1.134	.089	-12.737	1.126	***
MARK_INN1	<---	Marketing Innovations	1.000				
MARK_INN2	<---	Marketing Innovations	.938	.074	12.687	.598	***
MARK_INN3	<---	Marketing Innovations	-1.021	.078	-13.128	-.801	***
MARK_INN4	<---	Marketing Innovations	.998	.071	13.969	.738	***

MARK_INN5	<---	Marketing Innovations	1.108	.083	13.300	.671	***
MARK_INN6	<---	Marketing Innovations	-.614	.073	-8.385	-.461	***
MARK_INN7	<---	Marketing Innovations	-.679	.066	-10.288	-.702	***
CON_RATE1	<---	Conversion Rates	1.000			.750	
CON_RATE2	<---	Conversion Rates	1.024	.075	-13.594	.857	***
CON_RATE3	<---	Conversion Rates	.983	.072	-13.677	.718	***
CON_RATE4	<---	Conversion Rates	-.739	.063	-11.777	.722	***

Table 4 presents a hypothetical structural equation model that illustrates the dependency between two variables, namely Marketing Innovations and Conversion Rates. In this particular model, the independent variable that is being considered is Marketing Innovations, and the variable that is being considered to be the dependent variable is Conversion Rates. since can be seen in Table 5, the fit indices provide evidence that The data and the model fit well since several of the model's components have p-values that are 0.05 and are thus regarded as statistically significant. All in all,seven distinct fit indices were used in the analysis of the model's overall compatibility, which revealed a favourable and statistically significant connection between innovative marketing strategies for online retailers and conversion rates. Because of this, we can safely assume that marketing innovation in e-commerce has a beneficial influence on conversion rates. Businesses are able to increase their consumer base, improve the customer experience, and develop better customer connections when they employ cutting-edge marketing methods.

Table 5 Model Fit Summary

Variable	Value
Chi-square value(χ^2)	162.325
Degrees of freedom (df)	49
CMIN/DF	3.312
P value	0.071

GFI	0.932
RFI	0.921
NFI	0.933
IFI	0.967
CFI	0.951
RMR	0.079
RMSEA	0.063

The quality of fit was acceptable representation of the sample data ($\chi^2 = 162.325$), The results are much bigger than the 0.90, with the NFI (Normed Fit Index) = 0.933, IFI (Incremental Fit Index) – 0.967, GFI (Goodness of Fit) – 0.932, RFI (Relative Fit Index) – 0.921, and CFI (Comparative Fit Index) – 0.951. The values of RMSEA (Root Mean Square Error of Approximation) - 0.063 and RMR (Root Mean Square Residuals) = 0.079 are also below the crucial threshold of 0.080. A satisfactory match for the model was found in the results, which included an RMSEA of 0.063, an RMR of 0.079, a GFI of 0.932, & a CFI of 0.951.

H3: Customer satisfaction moderates the relationship between marketing innovation and both customer retention and conversion rates in e-commerce.

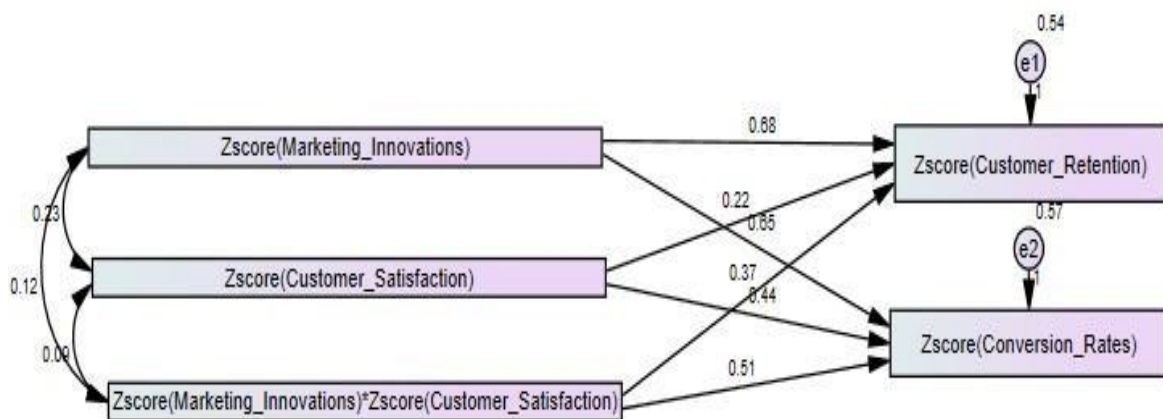


Figure 4 Regression Weights: (Group number 1 - Default model)

Table 6 Regression Weights: (Group number 1 - Default model)

PATHS			Estimate	S.E.	C.R.	P
ZCustomer Retention	<---	ZMarketing Innovations	.678	.045	15.153	***
ZCustomer Retention	<---	ZCustomer Satisfaction	.222	.045	.487	.026

ZCustomer Retention	<---	Interaction	.369	.045	1.527	.012
ZConversion Rates	<---	ZMarketing Innovations	.653	.046	14.228	***
ZConversion Rates	<---	ZCustomer Satisfaction	.441	.046	.021	.004
ZConversion Rates	<---	Interaction	.515	.047	.329	.042

Table 6 presents the Utilising a structural equation model (SEM), researchers looked at the relationship between Marketing Innovations and both Customer Retention Rates and Conversion Rates, with Customer Satisfaction serving as a moderator. Because it is so thorough, this analysis makes it possible to test all of the essential routes while also taking into account measurement mistakes and feedback directly inside the model.

The conclusion that can be drawn from the route analysis is that the estimated coefficient of 0.698 points to a positive and statistically significant link between marketing innovations and client retention. This result supports the hypothesised relationship between the two. The results show that there is a positive relationship between the adoption of new marketing techniques and the preservation of existing clientele. To be more specific, there is a direct correlation between an increase of one standard deviation in marketing innovations and an increase of 0.698 standard deviations in the percentage of retained customers. According to the estimation of the coefficient, which is 0.222, there is a correlation that can be interpreted as being both positive and statistically significant between satisfied customers and repeat business.

The positive and statistically significant connection between marketing innovations & conversion rates is shown by the determined coefficient of 0.653, indicating that the two variables may have a positive link. According to the findings, there is a favourable connection can be made between new marketing strategies and increased conversion rates. According to the estimation of the coefficient, which is 0.441, there is a correlation that can be interpreted as

being both positive as well as statistically significant between customer satisfaction & conversion rates.

Table 7 Regression Weights

PATHS			Estimate	S.E.	C.R.	P
ZCustomer Retention	<---	Interaction	.369	.045	1.527	.012
ZConversion Rates	<---	Interaction	.515	.047	.329	.042

The above table As moderators, we evaluated the level of consumer satisfaction. The findings show that the interaction term between customer satisfaction and retention has a positive, substantial impact on Marketing Innovations ($\beta = 0.369$, $P = 0.012$ i.e. $P < 0.005$), interaction term of Conversion Rates and Customer satisfaction has a positive and notable effect on Marketing Innovations ($\beta = .515$, $P = .042$ i.e. $P < 0.05$).

In conclusion, these results have a wide range of significant consequences for businesses involved in online trade. They emphasize the need to devote resources to marketing innovations and prioritize customers' happiness as critical methods to increase client retention and achieve excellent conversion rates. According to the research findings, improved success in e-commerce may be achieved by combining novel marketing approaches with an intense focus on fulfilling consumers' needs and wants.

The fit indices of the model indicate that it is determined as significant at $p > 0.05$ and, as Table 8 illustrates, provides a superb match with the data. To measure the consistency among the proposed model including the available data, The model fit was evaluated with respect to many global fit indices, such as 'r'. Considering the results in the aforementioned table, there is an association between Market Innovations and both Customer Retention & Conversion Rates is evident, especially when considering the moderating effects of Practicality.

Table 8 Model Fit Summary

Variable	Value
Chi-square value(χ^2)	8.526
Degrees of freedom (df)	2
CMIN/DF	4.263
P value	0.074
GFI	0.988
RFI	0.899
NFI	0.980
IFI	0.984
CFI	0.984
RMR	0.063
RMSEA	0.052

The quality of fit was acceptable representation of the sample data ($\chi^2 = 8.526$), The results are much bigger than the 0.90, with the NFI (Normed Fit Index) = 0.980, IFI (Incremental Fit Index) – 0.984, GFI (Goodness of Fit) – 0.988, RFI (Relative Fit Index) – 0.902, and CFI (Comparative Fit Index) – 0.984. The values of RMSEA (Root Mean Square Error of Approximation) – 0.061 and RMR (Root Mean Square Residuals) = 0.063 are also less than the threshold value of 0.052. A satisfactory match for the model was shown by the results, which included an RMSEA of 0.061, an RMR of 0.063, a GFI - 0.988, and a CFI of 0.984.

5. CONCLUSION

The research findings reveal that marketing innovations significantly and favourably influence two essential aspects of e-commerce: client retention and conversion rates. According to the statement, e-commerce platforms may enjoy appreciable benefits if they are willing to embrace and use innovative marketing strategies. These include keeping a more significant share of their current client base and enhancing the conversion rate of prospective consumers into active purchasers. Additionally, these are some goals they have set for themselves. Equally important in this equation is ensuring that the client's needs are met and given the attention they deserve. According to the findings of the study, raising the bar for customer happiness is crucial in order to enhance customer retention and increase conversion rates. The level of happiness and pleasure of a customer has a considerable impact on both the customer's loyalty and the desired activities of the consumer, such as making purchases.

A good match to the data was demonstrated by all fit indices for the Marketing Innovations and Customer Retention model, including components that were statistically significant ($p < 0.05$). This emphasises how marketing innovations and customer retention have a good and meaningful link. In the same way, all fit indices for the model evaluating marketing innovations and conversion rates showed a strong fit to the data, with significant variables ($p < 0.05$). This demonstrates the effectiveness of new marketing techniques in growing client bases and improving the entire customer experience, which eventually results in greater conversion rates. It also reveals a positive and substantial association between marketing innovations and conversion rates. Additionally, the model with significant components ($p > 0.05$) and a strong fit also included Practicality as a moderator. This suggests that there is a relationship between Marketing Innovations and Conversion Rates as well as Customer Retention, especially when Practicality is taken into account as a moderating factor. For ecommerce companies, the practical ramifications of these results are thus important. The business emphasises how crucial it is to fund marketing

innovations and give customer happiness top priority in its strategy. By fusing cutting-edge marketing strategies with a commitment to raising consumer pleasure, e-commerce platforms may boost performance metrics and encourage higher customer interaction. A more successful and competitive ecommerce ecosystem is the result of the comprehensive strategy, which also positively affects consumer loyalty and grows the client base.

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