

Personalized marketing, online customer experience, and consumer retention in e-Commerce businesses: Basis for customer engagement plan

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Abstract

This study investigated the relationships among personalized marketing, online customer experience, and consumer retention in e-commerce businesses in Shaanxi Province, China. Employing a descriptive correlational research design, the study targeted 384 e-commerce consumers as respondents, given their direct engagement with personalized marketing campaigns and online customer services. The research aimed to assess the effectiveness of personalized marketing strategies, evaluate consumers' online experience, and determine factors influencing customer retention. Results revealed that personalized marketing strategies—including customer data utilization, customized content and communication, and customer engagement and interaction—were generally perceived as effective, with weighted means ranging from 2.95 to 2.97. Online customer experience, measured across website or app usability and design, interactivity and personalization, and trust and security, yielded a composite mean of 2.96, indicating that consumers agreed that these dimensions positively contribute to their online experiences. Consumer retention was also positively evaluated, with service quality and post-purchase experience, personalized retention strategies, and consumer loyalty and satisfaction recording composite means between 2.97 and 2.99, suggesting that these factors likely influence repeat purchases and loyalty. Correlation analyses, however, indicated that most dimensions of personalized marketing did not significantly relate to online customer experience metrics. Specifically, customer data utilization and customized content and communication showed no significant correlations with usability, interactivity, or trust and security. Customer engagement and interaction demonstrated a significant negative relationship only with interactivity and personalization ($\rho = -0.138$, $p = 0.007$), suggesting that excessive engagement efforts may diminish the perceived quality of personalization. These findings imply that while personalized marketing strategies are effective in practice, their influence on overall online customer experience may be limited unless aligned with user-friendly design, meaningful interactivity, and trust-enhancing features. The study provides a plan for integrating personalized marketing with optimized digital experiences to strengthen customer retention in e-commerce settings.

Keywords: customer engagement, customer experience, consumer retention, e-commerce, online, personalized marketing, user experience

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1. Introduction

In today's fast-changing digital marketplace, consumer experience and digital marketing are increasingly becoming important tools in helping establish lasting connections with consumers. Businesses realize that more consumers shop through the internet, and thus must utilize data-driven approaches to develop customized marketing campaigns and experiences. Data-driven marketing approaches help improve the experience and loyalty of consumers in the increasingly competitive business environment. In this case, businesses seeking to succeed in the digital era need a good grasp of consumer behavior. Narrowing down this broad focus, personalized marketing has emerged as a key development within digital marketing strategies. By personalizing the content, products, and ways of communicating based on detailed information regarding every individual client, including his or her preferences and shopping behavior, firms can enhance their clients' virtual experiences. The emphasis on personalization as part of the marketing strategy is very much linked to the enhancement of the clients' virtual experience through effective website usability and interaction.

Nevertheless, even though the effects of personalized marketing and the experience of customers when they go online have received extensive coverage in different settings, there is still limited evidence that addresses these effects with regards to customer loyalty in regional settings, such as the province of Shaanxi. This gap arises since literature tends to ignore unique features of particular regions. Moreover, while it has been established that personalization enhances consumer engagement and satisfaction, few studies delve into how these aspects translate into sustained customer loyalty, particularly in regional Chinese markets like Shaanxi. The existing models are unable to integrate customer satisfaction, loyalty, and adaptation of digital marketing strategies tailored to the unique e-commerce landscape in China.

The research aimed at filling these critical gaps through investigating the influence of customer experience and personalized marketing on consumer loyalty within the online retail sector in Shaanxi province. The study concentrated on the following goals among others such as determining the way through which personalized marketing affects customer satisfaction and repeat purchase behavior within the regional e-commerce market. Secondly, evaluated the effect of customer experience online on customer loyalty, including factors such as website performance, customer care, and online interaction. Finally, the study also explored the effect of the integration between personalized marketing and online customer experiences that lead to retaining customers in the region. This research aimed at offering some key findings regarding how regional e-commerce firms can develop sustainable relations with their customers. Apart from that, these findings were useful to local policy makers as well as businesses that wanted to achieve digital transformation and economic development in the province of Shaanxi.

Objectives of the Study - This study aimed to disclose the actual performance and examined the relationships among personalized marketing, online customer experience, and consumer retention in E-commerce in Shaanxi province, China. Specifically, it described personalized marketing in terms of customer data utilization, customized content and communication, and customer engagement and interaction; assessed the level of online customer experience concerning website or apps usability and design, interactivity and personalization, and trust and security; determined the degree of consumer retention in terms of loyalty and satisfaction, consumer engagement initiative, and service quality and post-purchase experience; tested the relationships among personalized marketing, online customer experience, and consumer retention; and proposed customer engagement plan for enhancing consumer retention in e-commerce businesses through personalized marketing and online customer experience in Shaanxi Province, China.

2. Method

Research Design - This study employed descriptive correlational research. Descriptive correlational research is a research design that attempts to describe associations between two or more variables without manipulating them. It tries to establish the extent and direction of associations between variables but does not establish causality (Creswell et. al.,2018). This research method is widely used in the field of social sciences, business studies, and economics, as well as education. There arises a need for studying trends and relationship among the variables in practical situations. This is achieved using various techniques like Pearson's Correlation that help understand the degree and significance of these relationships. The use of descriptive correlational research in this study is quite appropriate since it involve describing and analyzing the relationship between personalized marketing, online customer experience, and consumer retention for e-commerce firms operating within Shaanxi province. Considering that the research survey observed and not manipulated variables in the e-commerce industry, descriptive correlational research gave the researcher the chance to systematically analyze trends and activities that correlate in the e-commerce sector.

The descriptive correlational design was adopted in this research in to investigate the systematic relationships among personalized marketing, online customer experience, and consumer retention within the context of e-commerce businesses in the Shaanxi Province. In the descriptive section, the respondents were analyzed in terms of their sex, age, educational attainment, and monthly income. All this information was provided through various descriptive statistics like mean, standard deviation, and frequency distribution. Correlation analysis was done via Pearson's Correlation to test the level of relationship existing between online customer experience and customized marketing and customer retention. The study provided practical data on the issue of customer experience as well as the effect of modern marketing techniques on consumer loyalty and retention. A suggestion was given for the improvement of online marketing strategy and customer relations plan.

Research Locale - Shaanxi Province was selected for examination because it possessed a rapidly emerging e-commerce market and a favorable position between China's top economic hubs. The province had been experiencing magnificent digitalization with increasing internet penetration and more internet users. Also, Shaanxi's market saturation with current and potential new e-commerce companies provided a perfect spot to study the effects of web customer experience and targeted marketing on loyalty. The government in Shaanxi was encouraging digital economy companies. As a result, it provided a good location to study how companies use targeted marketing to attract and retain customers as far as possible. Carrying out the research in Shaanxi provided regional analysis relevant to other similar emerging e-commerce marketplaces in China.

Respondents of the Study - The sample population used was consumers of e-commerce within the Shaanxi Province because they were the stakeholders who would directly experience the personalized marketing initiatives and the customer experience online. The success of the marketing strategies was dependent on the views and purchasing trends of the target market. To determine if custom marketing and customer experience in the Internet environment influence loyalty, satisfaction, and website usage, real data from consumers was used. The research was done among consumers from Shaanxi to ensure that the results would enable adjustment of marketing strategies.

Until now, no clear data regarding the exact number of online consumers in Shaanxi Province can be easily accessed. Nonetheless, the province's e-commerce market has rapidly developed in recent years. For instance, the capital city of Shaanxi, Xi'an, that has about 12 million people in its population, has had significant changes with respect to the increasing demand for foreign food products, and therefore there will be an increase in e-commerce activity. In three years, the number of foreign fruits imported to Shaanxi has multiplied by three, from 40,000 tons to 130,000 tons, meaning that there is an increase in e-commerce (USDA Foreign Agricultural Service, 2020). In addition, per capita disposable income of urban households in Shaanxi is RMB 40,713, meaning that there is rising purchasing power, which probably contributes to increased online spending (HKTDC Research, 2022). Although such evidence shows increased online consumers, it may be difficult to come up with the exact figures without

getting further data or research from consumer behavior studies.

Since the overall number of consumers online in Shaanxi Province is unknown, the best method for calculating the sample size was Cochran's sample size estimation formula. This method is widely used when the population is unknown or too large. It used a margin of error, confidence level, and an estimate of the target population proportion. Using the equation, the sample size obtained was 384. A total of 384 respondents were chosen among the branches of e-commerce companies in Shaanxi Province, China. A total of 96 respondents (25.00%) were taken from Branch A, 96 respondents (25.00%) from Branch B, 96 respondents (25.00%) from Branch C, and 96 respondents (25.00%) from Branch D. This ensured that equal representation was made among the consumers in each of the selected branches. Purposive sampling technique was used in choosing the participants of the study. This helped locate individuals who were directly participating in online shopping to get information from individuals who were interested in the topic.

Purposive sampling was applied to recruit the respondents. It helped identify respondents actively involved in online purchases so that the study could gain insights from concerned respondents. The survey captured active online respondents in Shaanxi Province and frequent buyers through e-commerce websites, and screen questions to ensure respondents fulfill the inclusion requirements, e.g., have placed an online purchase at least once in the last three months. This study included participants who were active online shoppers from Shaanxi Province and had a background in purchasing online. The participants were; (1) 18 years old or older, (2) had made online purchases at least three times, and (3) from Shaanxi Province. It ensured that the inclusion of participants had relevant background in e-commerce. Furthermore, their response provided information regarding personalized marketing, online customer experience, and consumer retention. Exclusion criteria included respondents who were not within Shaanxi Province, failed to purchase products online for at least three times, and those who worked for e-commerce companies directly within marketing, customer service, or management departments, so as not to introduce response biases. The requirements maintained the research on general Internet consumers, not subject matter experts with prior experience or business perceptions.

Data Gathering Instrument - The following instruments were used: Respondents Profile Questionnaire. This was designed to pick up core demographic information, including sex, age, highest level of education, and monthly income. These indicators formed a simple profile of the respondents and facilitated useful analysis of the impact of demographic factors on attitudes toward customized marketing, internet customer experience, and customer retention in e-commerce.

Personalized Marketing Questionnaire. The researcher developed an investigation tool to assess the effectiveness of tailored marketing strategies in e-commerce businesses in Shaanxi Province. It consisted of three basic dimensions: Customer Data Utilization, Personalized Content and Communication, and Customer Engagement and Interaction. Each dimension had five statements that will be rated by the respondents on a four-point Likert scale (4 – Very Effective, 3 – Effective, 2 – Ineffective, 1 – Very Ineffective). This survey aimed to determine how companies use customer data, send personal content, and activate consumers to improve retention. The questions were crafted following supporting literature and online business practices so that they may be meaningful and relevant. The tool went through face validation using online marketing and electronic commerce experts to secure validity. This further underwent pilot testing on reliability via Cronbach's Alpha to ensure internal consistency before implementing full-scale data gathering.

Customer Online Experience Questionnaire. This self-developed measurement tool measured consumers' experience with online shopping websites. It measures three important dimensions: Usability and Design of Websites or Apps, Interactivity and Personalization, and Trust and Safety. The measurement tool applied the four-point Likert scale ranging from 4–Strongly Agree, 3–Agree, 2–Disagree, 1–Strongly Disagree to measure customer satisfaction levels in the respective categories. Website/Apps Usability & Design considered the usability of the website, the quality of web pages, speed of loading pages, and mobile compatibility. Interactive and Personalized criterion evaluated the extent to which the website was personalized for the consumer, as well as the interaction of

the website with the consumers through interactive media. The Interactivity and Personalization criterion measured the level of personalization of the website for consumers as well as its interactivity with consumers using interactive media. The Trust and Security criterion measured the level of trust that can be placed in the website in protecting consumer information, conducting secure transactions, and disclosing policies. The experts conducted a pilot test to check the relevance and accuracy of the tool's content.

Customer Retention Questionnaire. The Customer Retention Questionnaire is an instrument created by a researcher to measure the consumer retention ability of online businesses. The survey considers the following three critical factors: Consumer Satisfaction and Loyalty, Personalized Retention Program, and Service Quality and Post-Purchase. It measures using a four-point Likert scale (4-Very Likely, 3-Likely, 2-Unlikely, 1-Very Unlikely). This is done to gauge whether consumers are likely to be loyal to the e-commerce business from their perspective. The Consumer Loyalty and Satisfaction factor examines repeat purchase, brand preference, and overall customer satisfaction. The Personalized Retention Strategies segment evaluates the success of personalized promotions, loyalty programs, and personalized offers in enhancing retention. The After-Sales Service and Quality factor evaluates after-sales service, the refund policy, and the responsiveness to customer queries. For the validation and reliability of the measurement tool, two stages were implemented, namely the expert review stage and pilot testing stage.

Validity of the Questionnaire. Face validation by three experts in e-commerce, marketing, and consumer behavior was carried out to validate the questionnaire. These experts scrutinized the questionnaire for its clarity, pertinence, and completeness to measure personalized marketing, online customer experience, and consumer retention. These comments were utilized to establish clarity in ambiguous questions, ensure consistency with the objectives of the research study, and establish that the questions reflect the concepts under study. Any modifications necessary for the same were incorporated according to their advice to guarantee validity in the questionnaire.

Reliability of the Questionnaire. For determining the reliability of the questionnaire, a pilot test was conducted on 30 randomly selected online consumers who were not involved in the research. Responses from the pilot test were analyzed using Cronbach's Alpha Coefficient, which determined the consistency of questions within the questionnaire. A value of Cronbach's Alpha greater than or equal to 0.70 was considered reliable (Nunnally et al.,1994). Below 0.70 value of Cronbach's Alpha necessitated changes or modifications to be made in the questionnaire. These changes may include elimination of unreliable questions, changing ambiguous questions into clear and unambiguous forms, or restructuring the scales. All the sub-variables yielded Cronbach alpha coefficients ranging from 0.80 to 0.90.

Internal consistency across variables was very high in the instrument. In Personalized Marketing, very high internal consistency was obtained from Customer Data Utilization ($\alpha = 0.941$) and Customer Engagement and Interaction ($\alpha = 0.933$), whereas high internal consistency was obtained from Personalized Content and Communication ($\alpha = 0.836$), indicating generally high internal consistency ($\alpha = 0.819$). High internal consistency was also obtained from Online Customer Experience, where Interactivity and Personalization ($\alpha = 0.927$) and Trust and Security ($\alpha = 0.921$) were very high, and Website or Apps Usability and Design ($\alpha = 0.842$) was high ($\alpha = 0.827$). On the other hand, high internal consistency was consistently obtained from Customer Retention, specifically in Consumer Loyalty and Satisfaction ($\alpha = 0.912$).

Table 1
Reliability Results

Variables	No. of Items	α value	Interpretation
Personalized Marketing			
Customer Data Utilization	5	0.941	Excellent
Personalized Content and Communication	5	0.836	Good
Customer Engagement and Interaction	5	0.933	Excellent
Overall	15	0.819	Good

Online Customer Experience			
Website or Apps Usability and Design	5	0.842	Good
Interactivity and Personalization	5	0.927	Excellent
Trust and Security	5	0.921	Excellent
Overall	15	0.827	Good
Customer Retention			
Consumer Loyalty and Satisfaction	5	0.912	Excellent
Personalized Retention Strategies	5	0.848	Good
Service Quality and Post-Purchase Experience	5	0.804	Good
Overall	15	0.891	Good

Legend > 0.9 =Excellent; >0.8=Good;>0.7=Acceptable;>0.6=Questionable;>0.5=Poor;<0.5=Unacceptable

Data Gathering Procedure - Prior to the distribution of the questionnaire, a pilot phase was conducted to guarantee that the process of data gathering would be efficient. In the first place, the screening questions were developed to filter respondents based on the inclusion and exclusion criteria. In the second place, the questionnaire was validated through expert review. A pilot survey of the survey instrument was conducted on a smaller subset of the respondents to pre-test the instrument and determine if ambiguities or questionnaire wording issues occurred. As the study entailed cooperation with online shops, written permission from these businesses were requested to determine their consent to distribute the questionnaire among their customers. Additionally, all information collected were anonymized and stored safely to ensure respondents' confidentiality and prevent unauthorized access. No personal data were gathered unless specifically necessary. The questionnaire was spread through online survey sites, such as social media (WeChat, Weibo), e-commerce forums, and consumer groups, and collaboration with e-commerce companies which helped target verified consumers. QR codes linked to the survey and email invitations was utilized for broader dissemination. To ensure representativeness, the sample was taken from all age brackets, income levels, and educational levels, and the monitoring system ensured that the sample distribution is in accordance with demographic quotas. Data collection involved monitoring responses for completeness and consistency, removing duplicated or incomplete entries to ensure data quality.

Data Analysis - In this study, the impact of customized marketing, website customer experience, and customer retention in Shaanxi Province online commerce firms has been scientifically assessed using the SPSS 2.0 software program. Statistical Package for the Social Sciences (SPSS) is a standard statistical package offering numerous functions related to data handling, descriptive statistics, comparative statistics, and correlations. It was utilized for data analysis. Frequency and percentage distribution were used to analyze respondents' demographic profile. On the other hand, Mean and Standard Deviation were used to analyzed personalized marketing, online customer experience and customer engagement. Correlation analysis was performed using Pearson's correlation coefficient to evaluate the interrelation among personalized marketing, customer experience in online environments, and consumer retention. A connection and strength between these two variables have already been proven by this analysis mentioned above; therefore, information can be gained regarding whether the trend toward personalizing marketing and customers' experiences will have any significant influence on consumers' loyalty and retention. On the contrary, the lack of connection would mean that some other variables are more influential in customer retention.

Ethical Considerations - Maximization of ethical considerations is necessary during the research process to ensure study credibility and integrity. In this regard, the researcher ensured that what he was doing fell under the set of ethical principles and guidelines to ensure participants' rights and well-being were respected while maintaining the trust and confidentiality of the data. The study's objectives, methodology, and any associated risks were also reported to each subject for possible participation in the research. Copies of informed consent were handed out, clearly stating the nature of the study: an entirely voluntary undertaking that allowed the subject full discretion to withdraw from the study without any implications or penalties.

Before data was collected, confidentiality and privacy were assured to be of the utmost value. Respondents' identifiable information and any other identifiable data collected from the respondents were not published and

were, therefore used only for this study. Data storage and access were strictly maintained securely, with the understanding that no one would ever disclose any sensitive information; otherwise, they would misuse it. The participants were informed of the research goals, procedures, and results they would gain through the study. This removed any ambiguity or uncertainty regarding the procedure to be adopted for the research, which made the participants clearly understand the purpose of the study and its importance.

The researcher gave full credit to all used references and sources by following the APA style guidelines regarding citations of other researchers' works. Therefore, this indicated that previous research contributed to the development of the present study. The researcher adopted all the responsibilities, considering that the participants in the research were not affected in any way. The study was properly planned and executed, considering any risks the participants might face during the research. Proper consideration was given to minimize adverse effects and uphold the welfare of the participants while pursuing ethical practices and protocols.

3. Results and discussion

Table 2

Summary Table of Personalized Marketing

Indicators	Weighted Mean	Verbal Interpretation	Rank
Customer Data Utilization	2.97	Effective	1
Customized Content and Communication	2.95	Effective	3
Customer Engagement and Interaction	2.96	Effective	2
Composite Mean	2.96	Effective	

Legend: 3.50-4.00=Very Effective; 2.50-3.49=Effective; 1.50-2.49=Ineffective; 1.00-1.49=Very Ineffective

Table 2 summarizes the consumers responses on personalized marketing. Overall, it can be denoted that it is considered effective in the e-commerce platforms in the province of Shaanxi based on the composite mean of 2.96. This shows that people generally consider personalized marketing in e-commerce platforms in Shaanxi as a very effective approach to engage customers. The average combined score of 2.96 points to a positive overall effect on customer engagement and satisfaction. The finding that in, person marketing is indeed a very effective promotional tool in e-commerce platforms in Shaanxi (composite mean 2.96) goes hand in hand with Li (2020) who points out that digital technologies and mobile marketing create more communication and engagement opportunities. Therefore, the use of digital platforms allows companies to execute personalization strategies efficiently, which, in turn, increases.

Of the three dimensions of personalized marketing, *Customer Data Utilization* generated the highest weighted mean (2.97, effective). Customer data usage is regarded as the most potent element of personalized marketing out of the three components. This means that marketing based on customer information is at the very heart of both marketing that is effective and marketing that is compelling. The result that Customer Data Utilization was assigned the highest weighted average (2.97) aligns with the insights by Chandra et al. (2022), who point out that the optimal use of data is at the core of successful personalized marketing. The use of customer data allows companies to limit the options their customers have to face and to provide a personalized experience that, in turn, elevates stakeholders' engagement and loyalty through customer, data, driven, multichannel personalization strategies. Customer Engagement and Interaction recorded a weighted mean of 2.96 (effective). This simply implies that personal marketing is basically a really strong tool that can boost customer engagement and interaction to almost double the figures. Agreeing in general with the fact that consumers are very enthusiastic about the brand strategies to encourage them actively involved with the brand as a result of the weighted average of 2.96. By aligning marketing with the individual interest at the time, a business can increase engagement, satisfaction, and loyalty which is consistent with the customer interactions positive impact.

Though ranked third, *Customized Content and Communication* remain close with the other dimensions with a weighted mean of 2.95 (effective). It can be inferred that, even though the customized content and communication dimension ranks third in the perceptions of effectiveness, the customers consider it as a convincing method of influence. The standardized average value of 2.95 reflects that it is equally effective as the other dimensions in

facilitating personalized marketing. Customized Content and Communication ranking third with a weighted mean of 2.95 is consistent with Wang et al. (2024), who state that tailored content is like digital "self, marketing" that bridges the gap between the organization's capabilities and the results they want. On the other hand, making personalized communications is a way for businesses to react appropriately to customer behavior, thus supporting engagement and retention in the same way that self, marketing can lead to individual success.

Table 3*Summary Table of Online Customer Experience*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Website or Apps Usability and Design	2.96	Agree	2
Interactivity and Personalization	2.96	Agree	2
Trust and Security	2.96	Agree	2
Composite Mean	2.96	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

The summary of online customer experience is demonstrated in Table 3. The overall composite mean shows 2.96 (agree). This signifies that, on the whole, customers tend to agree that their online experience is good. The composite mean of 2.96 suggests that features such as usability, personalization, trust, and engagement are considered as the main factors that add value to the customer experience. The positive feeling of the customers towards the online experience of the company (composite mean 2.96) is in line with Jabbar et al. (2019), who indicate that being responsive to customer needs in real, time increases customer satisfaction. Brief and personable contacts are a kind of signal that the organization is concerned and thus the relationship gets strengthened and customer loyalty gets fostered. Customers, indeed, have had a mostly positive experience reported online.

As can be seen in the table, Website or Apps Usability and Design, Interactivity and Personalization, and Trust and Security revealed the same composite mean of 2.96 (agree). This means that consumers consider Website or App Usability and Design, Interactivity and Personalization, and Trust and Security as equally potent factors. The same composite mean of 2.96 shows that these three aspects are all necessary and together they make a positive online customer experience. The three factors Website or Apps Usability and Design, Interactivity and Personalization, and Trust and Security have the same composite mean of 2.96 which is in line with the findings of Lemon et. al. (2019), who argue that user, friendly design, the ability to respond quickly, and personalized content improve user experience. Therefore, these essential elements are seen to be responsible for customer satisfaction, a higher level of engagement, and continued loyalty to digital platforms.

The summary of consumer retention is depicted in Table 4. Overall, the composite is 2.99 (Likely). This means that customers generally show a high likelihood of sticking to the platform or store. The overall retention figure derived from the average of 2.99 points to a generally positive scenario, thus, it can be concluded that the strategies employed in regular engagement and continuous patronage have been quite effective. The customer retention which is positive and has been reflected in the composite mean of 2.99 is in conformity with Zhou et al. (2020), who demonstrated that a personalization approach based on clustering leads to improved recommendation relevance and better user experience. Such personalization strategies that provide more customized and significant suggestions not only increase engagement but also encourage the customers to purchase again, thereby, supporting customer loyalty as a whole.

Table 4*Summary Table of Consumer Retention*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Consumer Loyalty and Satisfaction	2.97	Likely	3
Personalized Retention Strategies	2.98	Likely	2
Service Quality and Post-Purchase Experience	2.99	Likely	1
Composite Mean	2.98	Likely	

Legend: 3.50-4.00=Very Likely; 2.50-3.49=Likely; 1.50-2.49=Unlikely; 1.00-1.49=Very Unlikely

Among the three dimensions of customer retention, Service Quality and Post-Purchase Experience recorded the highest composite mean of 2.99 (Likely). This infers that out of the different elements of customer retention, service quality and post, purchase experience are the most effective in convincing customers to remain loyal. The

composite mean of 2.99 at the highest-level shows that a positive service encounter and dependable follow-up are the major factors that lead to repeat engagement and satisfaction. The focus on personalized digital services and strategic engagement found by Li et. al.(2022) matches the result that service quality and post-purchase experience obtained the highest customer retention scores (mean 2.99). In the same way, libraries can increase user satisfaction through services that are tailored and responsive, e-commerce platforms can retain their customers most efficiently by offering high-quality service and dependable post-purchase support.

Personalized Retention Strategies generated a composite mean of 2.98 (Likely) and ranked second. This means that tailored retention strategies are very effective in convincing customers to continue being loyal to the platform or store. This clearly illustrates that changing the offers, communication, or incentives in line with the customer's profile highly impacts the recommencement of repeat purchases. This aligns with Lemon et. al.,(2019) who argue that highly personalized offers and finely calibrated digital interactions enhance user experience and satisfaction. Through personalization of retention activities, companies deepen the involvement and loyalty of customers, which is the basis of the relationship that lasts with them.

Consumer Loyalty and Satisfaction recorded a composite mean of 2.97 (Likely) ranked third and the lowest among the dimensions of customer retention. This suggests that even if consumer loyalty and satisfaction show positive signs, they are the least influential factors among the customer retention dimensions. The overall average of 2.97 points to that customers will generally remain loyal and satisfied, however, factors such as the quality of service and customer retention personalized strategies have a greater impact on customer retention. This is consistent with Chandra et al. (2022) who stress that through personalized marketing customer engagement and emotional bonds that make loyalty possible are created. Customer loyalty is the least important among the retention factors, but at the same time, targeted, personalized interactions still have an impact on raising customer satisfaction and getting repeat business.

Table 5 presents the relationship between personalized marketing dimensions and online customer experience. Overall, the results indicate that most dimensions of personalized marketing did not show statistically significant relationships with website or app usability and design, interactivity and personalization, and trust and security, suggesting that personalization efforts alone may not uniformly translate into enhanced online customer experience outcomes.

Table 5
Relationship between Personalized Marketing and Online Customer Experience

Variables	rho	p-value	Interpretation
Customer Data Utilization			
Website or Apps Usability and Design	0.033	0.524	Not Significant
Interactivity and Personalization	0.092	0.073	Not Significant
Trust and Security	-0.028	0.585	Not Significant
Customized Content and Communication			
Website or Apps Usability and Design	0.017	0.743	Not Significant
Interactivity and Personalization	-0.010	0.840	Not Significant
Trust and Security	0.025	0.623	Not Significant
Customer Engagement and Interaction			
Website or Apps Usability and Design	-0.085	0.095	Not Significant
Interactivity and Personalization	-.138**	0.007	Significant
Trust and Security	-0.032	0.528	Not Significant

***. Correlation is significant at the 0.01 level*

Specifically, customer data utilization was not significantly related to any dimension of online customer experience. The weak and non-significant correlations imply that the mere use of customer data does not necessarily improve users' perceptions of usability, interactive features, or trust and security. This suggests that customers may be less sensitive to backend data practices unless these are clearly manifested in tangible and meaningful online experiences. The fact that there is only a slight impact of using customer data on the online customer experience can be explained by the fact that customers only care about the data practices of the companies at the backend if those lead to clear and tangible improvements in usability, interactivity or trust. Thus, Ahmad et

al. 's (2022) findings that certain personalization efforts may not significantly increase the perceived online experience if they are not directly and tangibly manifested in the customer, visible service items or benefits (e. g., personalization features may have a small impact on satisfaction and related outcomes) are in line with this.

Similarly, customized content and communication hardly showed any significant correlation with usability and design, interactivity and personalization, or trust and security. These results suggest that although content customization is typical in digital marketing, it might not be enough to influence customers' overall experience even if it is perceived as relevant, timely, and value, adding. The lack of clear linkages between personalization of content and the main experience dimensions is consistent with the results of studies which showed that personalization by itself does not necessarily result in better customer behaviour or perceptions unless it is a radical part of the whole experience. Similarly, studies have shown that personalized messages or email content, even if simple, do not always lead to stronger behavioural responses or to a better user experience if they are irrelevant and not delivered in a context, and mood, sensitive way, thus demonstrating the need for personalization to be more than just a superficial modification (Nobile et. al.,2023).

In contrast, customer engagement and interaction had a significant negative relationship with interactivity and personalization (0. 138, $p=0.007$). This indicates that as engagement and interaction levels increase, the degree of interactivity and personalization assessment decreases. A reasonable hypothesis would be that overuse of engagement elements like the very frequent appearance of prompts, pop, ups, or requests for interaction could result in user frustration and they may feel that the personalization is less of a quality factor and more of a signal that they have been 'overdoing' it. What the discovery reveals is that there is a need for the right dosage in engagement techniques insofar as it is stressed that personalization should not just emphasize but also keep the user experience from becoming overloaded. The negative correlation between customer engagement and perceived interactivity, which was in line with the findings from the research, is that personalization may cross the boundary where, instead of being perceived as a help to the customer, it becomes an intrusion. Personalization intrusiveness literature, based studies have identified that the users generally feel the personalized messages or interactive suggestions as being pushed too drastically and aggressively as a result of which they behave in a way that they basically withdraw their engagement intentions and at the same time the quality of the online experiences gets down (Lee et al., 2022).

Overall, the results indicate that personalized marketing is not a guarantee for positive online customer experiences. It is only through the manner in which engagement and interactive elements are planned and carried out that personalization can be successful. User, focused and thoughtful personalization strategies that emphasize relevance and ease may be a better way of enhancing online customer experience than extensive or mass personalization initiatives.

Table 6
Relationship between Personalized Marketing and Customer Retention

Variables	rho	p-value	Interpretation
Customer Data Utilization			
Consumer Loyalty and Satisfaction	0.031	0.550	Not Significant
Personalized Retention Strategies	0.100	0.051	Not Significant
Service Quality and Post-Purchase Experience	-0.071	0.165	Not Significant
Customized Content and Communication			
Consumer Loyalty and Satisfaction	-0.039	0.450	Not Significant
Personalized Retention Strategies	0.040	0.429	Not Significant
Service Quality and Post-Purchase Experience	0.069	0.175	Not Significant
Customer Engagement and Interaction			
Consumer Loyalty and Satisfaction	0.046	0.369	Not Significant
Personalized Retention Strategies	0.054	0.292	Not Significant
Service Quality and Post-Purchase Experience	0.057	0.263	Not Significant

**. Correlation is significant at the 0.01 level

Table 6 presents the relationship between personalized marketing and customer retention. The findings indicate that none of the dimensions of personalized marketing exhibited a statistically significant relationship

with any of the customer retention indicators, namely consumer loyalty and satisfaction, personalized retention strategies, and service quality and post-purchase experience.

In particular, using customer data to a great extent shows very weak, almost, no correlations that are significant with all aspects of customer retention. What is meant here is that merely gathering and using customer data does not on its own lead to loyal customers, better customer retention strategies, or enhanced post, purchase experiences. Consumers will not readily value data, driven initiatives unless they are clearly reflected in major service improvements. This result is supported by the findings of Gosling et. al.,(2023) who stressed that any personalization efforts should primarily bring real value to customers if they are intended to influence consumer loyalty or perceptions merely. Studies on the effectiveness of personalization revealed that personalization alone is not sufficient to enhance the impact of a message or an experience unless it is in line with the customers' immediate needs and situations. Hence, different outcomes from a contextual study of personalization effects during various shopping stages indicate that data misuse without visible benefits may fail to increase loyalty or retention.

Also, tailored content and communication do not have a major impact on consumer loyalty and satisfaction, personalized retention strategies, or service quality and post, purchase experience. The finding suggests that even though personalized marketing messages and content are a common practice, they may not be enough to impact long, term retention if they do not correspond to the customers real needs and expectations. The finding that individualized content and communication did not significantly affect customer loyalty, retention strategies, or service quality aligns with Vishwakarma's (2025) study, which revealed that personalization effects mainly depend on how relevant and well, executed it is rather than the mere fact of implementation. The research on personalization outcomes was the last case that demonstrated that without value delivery and customer needs (such as trust and transparency) fulfillment, personalized initiatives are unlikely to generate higher loyalty or experience (hence, the customer loyalty and experience outcome are not significantly influenced by personalization alone at the long term unless it satisfies users as in the personalization effects research that points to the role of customer relevance and perception).

Besides that, customer engagement and interaction appeared not to show any significant relationship with any of the customer retention dimensions. It means that engagement efforts, if they are not supported by other factors, might not be strong predictors of customer loyalty or repeat purchases. It brings to light that customers may, in fact, put consistent service quality, reliability, and value as their top priorities over interactive or engagement, focused marketing initiatives when making a decision to be loyal. This is supported by the most recent research which proves that engagement alone cannot be the reason for customer retention over time. Studies have revealed that while interactive features can certainly help in making the user experience more enjoyable, customers, ultimately, are more concerned with consistent service quality, reliability, and the real benefits that they get rather than just engagement. Consequently, the strongest customer retention policies are those that incorporate customer engagement with major service improvement and value creation at the same time (Vishwakarma, 2025).

In general, the results indicate that personalized marketing at this place doesn't really have a direct or strong impact on customer retention. Actually, it reveals that the companies shouldn't solely rely on personalization strategies but also should implement overall strategies which combine personalization with great, high, quality service, quick post, purchase support, and customer relationships based on value as a way of ensuring customer retention for a long period.

Table 7
Proposed Personalized Marketing and Online Customer Engagement Plan

Key Results Area	Objectives	Strategies	Person/s Involved	Success Indicator
Personalized Marketing (Customized Content and Communication)	To enhance customer engagement and satisfaction by delivering	1. Behavior-Based Content Personalization Utilize customer browsing history, purchase patterns, and interaction data to deliver relevant product	Marketing Manager / Digital Marketing Team Data Analyst/CRM	20% increase in click-through rate (CTR) for personalized messages compared to non-personalized

	marketing content and communications that are tailored to individual preferences, behaviors, and needs.	recommendations, promotions, and messages in real time. 2. Segmented and Timely Communication Group customers based on preferences, frequency of purchase, and engagement level, then send targeted emails, app notifications, or SMS messages at optimal times to avoid message fatigue. 3. Feedback-Driven Content Refinement Continuously collect customer feedback and engagement metrics (click-through rates, dwell time, conversions) to refine and adjust personalized content, ensuring it remains relevant, value-adding, and non-intrusive.	Specialist IT/Platform Support Team	content 15% improvement in customer engagement 10% increase in repeat purchase rate
Online Customer Experience: Website or Apps Usability, Interactivity and Personalization, Trust and Security	To enhance online customer experience by ensuring a user-friendly website or app, delivering balanced and meaningful interactivity and personalization, and maintaining high standards of trust and security to improve customer satisfaction, confidence, and continued platform use.	1. Optimize platform usability and performance by improving interface design, navigation clarity, loading speed, and mobile responsiveness to ensure a seamless user journey. 2. Implement smart, non-intrusive personalization features such as relevant product recommendations 3. Strengthen trust and security mechanisms through secure payment systems, transparent data privacy policies, and visible security assurances to reinforce customer confidence.	IT and Web Development Team Digital Marketing and UX/UI Designers Customer Service and Data Protection Office	Website/App usability satisfaction score increases to 85% based on user feedback surveys. Customer engagement and personalization effectiveness (e.g., interaction rates, click-through on personalized features) reaches 80%. Trust and security confidence level (perceived data protection and secure transactions) improves to 90% among users.
Consumer Retention: Consumer Loyalty and Satisfaction	To strengthen consumer loyalty and satisfaction by consistently delivering positive, reliable, and personalized online experiences that encourage repeat purchases and long-term engagement with the platform	1. Implement personalized loyalty programs and targeted rewards based on customers' purchase history and preferences to reinforce repeat buying behavior. 2. Enhance post-purchase support (e.g., responsive customer service, order tracking, and hassle-free returns) to sustain satisfaction beyond the point of sale. 3. Continuously gather and act on customer feedback through reviews and surveys to refine services and address pain points before they affect loyalty.	Customer Relationship Management (CRM) Team Customer Service Representatives Marketing and Data Analytics Team	Repeat purchase rate reaches 85% among active customers. Customer satisfaction score improves to 90% based on post-purchase surveys. Customer retention rate increases to 80% over a 12-month period.

4. Conclusions and recommendations

Customer data utilization, customized content and communication and customer engagement and interaction as strategies for personalized marketing in Shaanxi Province were found to be effective in e-commerce businesses. E-commerce businesses' consumers in Shaanxi Province agreed that they have positive online experience on website or apps usability and design, interactivity and personalization, trust and security. Consumers in e-commerce business in Shaanxi Province were likely to retain in the digital platforms because of consumer loyalty and satisfaction, personalized retention strategies and service quality and post-purchase experience. Most dimensions of personalized marketing did not show statistically significant relationships with website or app usability and design, interactivity and personalization, and trust and security. In addition, personalized marketing strategies did not show statistically significant impact on customer retention. Personalized marketing and online customer experience plan for e-commerce businesses in Shaanxi Province was proposed for implementation.

E-commerce businesses in Shaanxi Province may keep on using customer data, tailored content, and engagement strategies for personalization. E-commerce businesses may continue to maintain and improve the usability of the website/app, the interactive functionalities, and the security measures to provide positive online

experiences. E-commerce businesses are advised to keep up with the personalized retention methods they have implemented while also managing to provide excellent service and post-purchase care to obtain consumer loyalty. E-commerce businesses may bring together a personalized marketing strategy with the enhancements of usability, interactivity, and security to deliver an overall online customer experience to the full. Future researchers may consider investigating the different ways that ply together personalization strategies that are of one kind or another differently with specific elements such as usability, interactivity, and trust of the online customer experience to have an insight into which combinations are most effective in raising engagement and retention. Businesses are advised to carry out the Proposed Personalized Marketing and Online Customer Experience Plan through the combination of customer data usage, personalized content, and engagement approaches, along with excellent website/app usability, interactive features, and solid trust and security measures.

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