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Clicks vs. Bricks: The Transformation of Traditional Retail in the Era of E-Commerce in Chhattisgarh

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Abstract
E-commerce boom has really changed the face of the retail industry, putting the usual retail store system to test, especially in the developing markets. By adopting consumer preference shift and strategic adaptation as mediating variables and competitive pressure as a moderating factor, this paper analyzes the changes in traditional retail performance due to the adoption of e-commerce in Chhattisgarh. The quota and purposive sampling method were used to select a sample of 400 traditional retailers of the five division of Chhattisgarh. The data were obtained by field survey and were processed by the Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that the adoption of e-commerce has a profound positive impact on the performance of retail business directly and indirectly by changing consumer preference towards online shopping and strategic adjustment of retailers. The findings also suggest that competitive pressure within the e-commerce enhances the relationship between e-commerce adoption, strategic adaptation and the performance of the retailers. These results imply that digital change in the retail sector works along interdependent technological, behavioural and strategic channels. The research can add to the literature on the digital retail transformation by carrying empirical evidence based on a regional Indian population and the significance of incorporating digital technologies into adapting retail strategies to stay relevant in the changing shopping ecology.

Keywords: E-commerce adoption; Retail business performance; Consumer preference shift; Strategic adaptation; Competitive pressure; Digital retail transformation; Traditional retailing.

1. Introduction

Over the last twenty years, electronic commerce (e-commerce) has undergone unmatched structural changes in the world retail sector. The innovations in the sphere of digital technologies, the popularity of the internet, and mobile connections have significantly changed the way consumers seek information, compare goods, and buy them (Abtahf et al., 2023). The e-commerce sites have minimized the market frictions through the availability of a wide range of products, comparison of prices in real-time and cross-border transactions (Brynjolfsson & Smith, 2000). This digital transformation has transformed the conventional nature of competition between online and offline trading, undermining the supremacy of the brick-and-mortar stores and forcing retailers to re-examine their approaches to handling competition (Wang and Zhang, 2020). As a result, the retailing process is no longer pure physical, but hybrid that combines online and offline experiences (Abulaish et al., 2019). Theoretically, the emergence of e-commerce is an indication of wider technological disruptive developments and diffusion of innovation in retail markets (Mackey and Cuomo, 2020). The innovations are changing the structure of the industry and consumer demands with the help of technology, as it enhances efficiency in distribution and reduces the cost of transactions (Pantano, 2014). Consumers are also able to use digital platforms to shop, compare, and make purchases in a more convenient way than traditional stores, which used to be limited in geography and ability to offer a variety of goods (Yrjola et al., 2017). This has resulted in the emergence of increasingly consumer-driven markets in which digital platforms are driving the way of buying (Lim et al., 2018). The more companies become competitive because of the possibilities to use technology to increase accessibility, convenience, and efficiency of the services.

E-commerce has also played a major role in facilitating consumer-based decision-making. The online platforms are the sources of product information, peer reviews, and social media content that influence the consumer perceptions and purchase decisions (Ullal et al., 2021). Interaction between the consumers and the companies is also enhanced through social media and content produced by the firm, thus affecting the purchase intentions (Kumar et al., 2021). Moreover, online commerce provided with such properties as personalized suggestions, easy payment gateways, and more has made shopping online more appealing,

making customers prefer to spend their money on online shops instead of bricks-and-mortar ones (Kumar and Ayodeji, 2021). This shift has accelerated the growth of e-commerce all over the world and increased rivalry to the conventional retailers (Urne and Aggrawal, 2020). Multi-channel and omni-channel retailing is a major development of the contemporary retail theory. Although physical stores were the main foundation of traditional retail, modern systems are becoming more and more digital and physical, aiming to provide consumers with seamless customer experiences (Verhoff et al., 2015). The combination of "clicks" (Internet platforms) and "bricks" (physical shops) allows retailers to integrate both the benefits of experiences and convenience (Herhausen et al., 2015). This approach has been critical to the retailers who want to stay competitive in the digitally dynamic environment.

Simultaneously, e-commerce has increased the pressure of competitors to the traditional retail. Online marketplaces enjoy the advantage of the reduced costs of operation and the expanded range of products, which gives them the opportunity to compete in the pricing and delivery (Chava et al., 2022). The issue of showrooming, when customers view the products at the store but order them online, also indicates that conventional retailers experience a problem (Cai and Xu, 2018). With the increased sophistication of digital platforms, retailers need to embrace technological and strategic innovations in order to remain competitive. This change has become faster today due to global happenings. With limited movement and social distancing, online shopping became an important distribution channel because of the COVID-19 pandemic and patients needed a minimum of mobility (Pantano et al., 2020). Through this shift, the long-term consumer behavior change was reinforced and the effectiveness of digital channels in retail was strengthened (Sheth, 2020; Beckers et al., 2021).

The effects of e-commerce have been especially strong in the case of emerging economies, such as India, because of the rapidly growing digitalization, the rise in smartphone usage, and the presence of better internet connectivity (Takkar and Sharma, 2021). The developing infrastructure, increasing incomes, and growing digital platforms have made India one of the most rapidly growing e-commerce markets (Singh et al., 2023). The presence of large online retail companies has increased competition, and old fashioned retailers are forced to embrace new business approaches (Ahmed and Joshi, 2024). The online retail has been further extended to urban and semi-urban areas by improved logistics and last-mile delivery systems (Lim et al., 2018). The impacts of e-commerce differ among regional markets regardless of the rapid growth. Though cities with high digital penetration are metropolitan, smaller cities continue to be dependent on conventional forms of retail outlets like kirana stores. More digital connectivity, however, and more logistics networks, are slowly changing these markets.

The state of Chhattisgarh is one of the pertinent but understudied contexts of understanding these dynamics. The state is experiencing higher penetration rates of digital and presence of traditional forms of retail. This co-existence provides a special environment to analyze the effects of e-commerce on the performance, strategies, and sustainability of retailers. It is based on this context that the current research will examine how the adoption of e-commerce has influenced the traditional retail in Chhattisgarh in terms of the changes in consumer preferences, strategic adjustment, and competition and therefore add to the overall knowledge of digital transformation of retail in emerging economies.

2. Literature Review

2.1 E-Commerce Adoption and Retail Business Performance

The digital technologies have greatly transformed the world retail environment, forcing the traditional retailers to embrace the digital environment in their operations. E-commerce adoption is used to describe how retailers use online services, online payment systems, and online technology to carry out trade and deal with customers. E-commerce enables retailers to transcend geographical boundaries, improve efficiency, and enhance accessibility for customers. According to the theory of digital transformation and theories of innovation adoption, companies that effectively incorporate technological innovations in business models have more chances of enhancing organizational performance. E-commerce technologies give retailers a chance to simplify inventory management, implement data-based marketing approaches, and offer personalized customer experience. These features allow retailers to capture a wider range of customers and improve the sales performance. In addition, the combination of online and offline strategies enables retailers to create omnichannel strategies strengthening customer relations and contributing to a higher level of convenience. Therefore, through the use of e-commerce technologies, the retailers are better positioned to enhance their overall business performance in an ever-competitive retail world.

H1: E-commerce adoption positively influences retail business performance

2.2 E-Commerce Adoption and Consumer Preference for Online Shopping

The growth of e-commerce has radically changed consumer buying behavior and shopping habits.

Online shopping preference captures the extent to which consumers prefer online purchasing channels, as opposed to the physical stores. Owing to increased availability of digital technologies, mobile phones, and access to internet, the consumers have become more exposed to online shopping platforms. The adoption of e-commerce by retailers is vital in the formation of these preferences. Retailers offering online buying facilities give consumers an opportunity to access product comparison, online reviews, personalized recommendations and shopping at the comfort of home delivery. The features increase perceived convenience, minimize the cost of search and increases the general shopping efficiency, which drives consumers to transition towards online purchasing channels. With time, repetitive usage of digital retail platforms intensifies consumer trust and familiarity with online transactions, thus convincing them to want to shop online. With more and more retailers turning to e-commerce platforms, consumers are moving slowly towards digital purchasing experiences.

H2: E-commerce adoption positively influences consumer preference for online shopping

2.3 Consumer Preference for Online Shopping and Retail Business Performance

The success of retail businesses depends largely on consumer preferences since they have to match their products with the changing customer expectations and buying patterns. The growing popularity of online shopping has redefined the trends of retail demand and presented new opportunities to retailers having the potential to cater to digitally oriented customers. Retailers enjoying the effects of online shopping systems can have more customers, better accessibility, and larger volumes in terms of transactions as long as they offer efficient digital services. The online retail stores also enable the consumer to make purchases fast and be exposed to an extended and better range of products and competitive prices. Consequently, retailers that best respond to the online shopping needs of consumers are better placed to attract and maintain customers, and increase sales performance and competitiveness in the market. Thus, ensuring that retail strategies meet consumer preferences in online shopping is key to enhancing the overall business performance.

H3: Consumer preference for online shopping positively influences retail business performance

2.4 Strategic Adaptation of Retailers and Retail Business Performance

Retailers in the dynamic market settings with fast changing technology have to constantly amend their strategies to ensure that they are not left behind. Strategic adaptation is the capability of retailers to change their business models, business operations, and marketing strategies as the market environment and technological changes occur. The adaptations can encompass the adoption of omnichannel retailing measures, adoption of digital tools of marketing, better logistics and delivery systems, and better customer service mechanisms. Strategic management literature indicates that, organizations who have the ability of adjusting their strategies according to the changes in the external environment are more poised to maintain competitive advantages and enhance the long-term performances. Strategic adaptation in the retail world is allowing companies to react to evolving consumer demands and the new competitive forces that digital commerce brings. When retailers effectively adopt adaptive strategies, they can increase the efficiency of their operations, customer satisfaction, and improve their position on the market. Strategic adaptation is thus an important process whereby retailers integrate technological and market transformations into better business performance.

H4: Strategic adaptation of retailers positively influences retail business performance

2.5 Moderating Role of Competitive Pressure from E-Commerce

The retail industry has experienced a heightened competition because of the expansion of e-commerce. Competitive pressure of e-commerce is associated with the level of challenges that traditional retail stores face due to the emergence of digital business and online markets. This force mostly forces retailers to be innovative, better on service, as well as more efficiency in their operations to stay in the game. Strategic initiatives implemented by the retailers can be greatly affected by the competition pressure. The positive effects of technological adoption and strategic initiatives could even be more prominent when the competition by e-commerce platforms is strong. As an example, retailers that implement e-commerce technologies can have an increased positive performance when competition is intense due to the ability to compete digitally and compete more efficiently in the technologically advanced markets. Equally, the strategic adaptations, including integration of omnichannels, digital marketing and better logistics, could have more performance returns when retailers are in the highly competitive environments. Consequently, e-commerce competitive pressure can serve as a contextual factor affecting the effectiveness with which retailers can transform adoption of technology and strategic reactions into enhanced business performance.

H5: Competitive pressure from e-commerce moderates The connection between retail business performance and e-commerce adoption
H6: Competitive pressure from e-commerce moderates the relationship between strategic adaptation of retailers and retail business performance

2.6 E-Commerce Adoption and Strategic Adaptation of Retailers

The introduction of digital technologies can be an impetus of a larger-scale organizational change. By adopting e-commerce solutions, the retailers often have to change their operational framework, marketing approaches, and supply chains to successfully incorporate digital sources within business models. Such developments necessitate strategic adjustment on the part of retailers to match their internal potentials with the new technological possibilities. The entry of e-commerce is prompting retailers to pursue new strategic activities including digital marketing, online consumer activities, data analytics, and combined online-offline retailing. Such endeavors allow the retailers to become responsive to changing consumer demands and technology. In turn, e-commerce adoption does not only strengthen technological capacities of retailers, but also triggers strategic changes that make organizations more competitive in digitally motivated markets.

H7: E-commerce adoption positively influences strategic adaptation of retailers

Based on the hypothesis formulated above, following conceptual framework is developed for the present study:

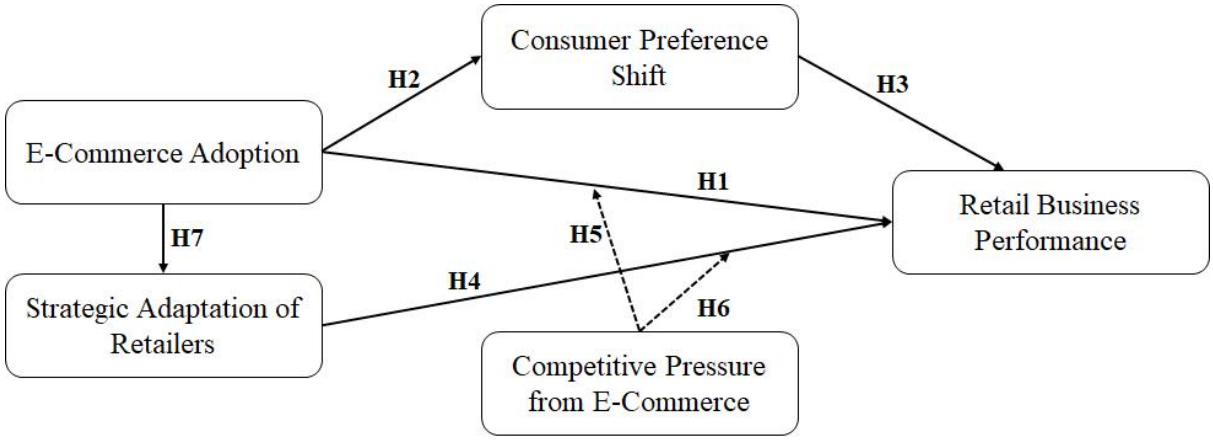

Figure 1: Conceptual Framework of the Study

The study's conceptual framework is depicted in Figure 1, showing the relationships among e-commerce adoption, consumer preference shift, strategic adaptation, and retail business performance. It also highlights the moderating role of competitive pressure from e-commerce, influencing the strength of relationships between adoption, strategic adaptation, and overall retail performance outcomes.

3. Methodology

3.1 Study Design

This research design is quantitative research where the objectives of the study are to empirically investigate the role of e-commerce in influencing the traditional retail-based business in the state of Chhattisgarh. Quantitative research techniques are especially suitable in exploring causal relationships between theoretically constructed constructs and testing hypotheses based on structured data gathered by a large sample of individuals. The quantitative approach also allows using more sophisticated statistical methods like structural equation modeling to study the dependence between the variables and to have generalizing information about the evolution of traditional systems of retail in the environment of the growing e-commerce.

3.2 Population and Sample Size

The study population consisted of owners and managers of brick-and-mortar retail stores within the state of Chhattisgarh. The traditional outlets were chosen as the unit of analysis as they are directly influenced by the increasing popularity of online marketplaces, hence can give pertinent information on how the digital commerce impacts retail business, competition, and performance of business. The study had a total sample size of 400 respondents. The sample size is considered sufficient in the context of structural equation modeling and surpasses the minimum cut-off point involved in partial least squares structural equation modeling (PLS-SEM), which normally necessitates larger samples to guarantee statistical strength and model dependability. Further, a sample of 400 increases the reliability and generalizability of the findings, as well as provides the opportunity to test the proposed relationships between constructs strongly.

3.3 Sampling Technique

The sampling method was a mixture of quota sampling and purposive sampling methods with an aim of guaranteeing both geographical coverage and relevance of the respondents. Administratively, Chhattisgarh consists of five major divisions, namely Raipur, Bilaspur, Durg, Bastar and Surguja with differences in economical activity, development of infrastructure and the nature of the retail market. These divisions were thus established as quotas so as to achieve equal regional representation in the sample. Each division was sampled to have 80 respondents giving a total of 400 observations. Purposive sampling was used to select the respondents within the respective quotas who were actively engaged in the running/management of traditional retail outlets, and had sufficient information on the aspect of consumer buying behaviour changes and the competition posed by e-commerce sites. Purposive sampling was employed so that only those respondents with pertinent experience and exposure to the dynamics of the retail market were included in the research which increased the validity of the data collected. Quota plus purposive sampling is highly suggested in the regional market studies whose research goal necessitates domain-specific knowledge of a respondent, while trying to capture variations in contexts.

3.4 Data Collection Method

The data were obtained using a structured questionnaire that was distributed to the owners and managers of retail stores in the sampled divisions. The questionnaire included two primary sections the demographic section and the measurement section addressing the study constructs.

3.5 Measurement Scale and Instrument Design

Each measurement item was measured on a five-point Likert scale between 1 (strongly disagree) and 5 (strongly agree), a widely applied measurement scale in both behavioral and management research to measure respondent perceptions and attitudes in a standardized way.

3.6 Measurement of Constructs

To maximize construct validity and comparability with other previous studies, the research instrument was tailored based on measurement scales that are validated in previous literature. E-commerce Adoption/Growth Perception (ECA) was assessed in the construct of online shopping based on the adapted items of Lim et al. (2018), Ahmed and Joshi (2024), and Kumar and Ayodeji (2021), which reflect perceptions towards the growing adoption and access to online shopping platforms. Consumer Preference Shift (CPS) measured using the modified items of Ullal et al. (2021), Riansyah et al. (2024), and Brynjolfsson and Smith (2000), and included the variables of the consumer buying behavior change and increased dependence on online sources of evaluations and buying products. Competitive Pressure from E-Commerce (CP) was assessed based on the items developed by Cai and Xu (2018), Fitzgerald and Spiegler (2019), and Chava et al. (2022), who acknowledge the focus on the sense of increased competition among traditional retailers due to online stores. The Strategic Adaptation of Retailers (SA) was assessed based on items that were adapted based on Pantano and Viassone (2014), Kumar et al. (2021), and Verhoef et al. (2015) and reflected the adoption of digital tools, marketing practices, and operational changes achieved by retailers by the technological disruption. Lastly, Retail Business Performance (RP) was assessed based on items modified by Zhang et al. (2016), Johansson and Kask (2017), and Herhausen et al. (2015) and included the perceived effect of e-commerce on the sales, profitability, and the whole business performance of the traditional retail stores.

3.7 Reliability and Validity of Instrument

Measurement reliability is improved by the fact that previously tested scales were used, and the conceptual area is consistent regarding familiar theoretical ideas in the studies of retail and e-commerce (Kulkarni and Khan , 2023).

3.8 Common Method Bias (CMB) Control

To reduce common method bias (CMB), a number of procedural remedies were applied in the design of the questionnaire and in data collection. First, the questionnaire was anonymous and confidential, ensuring less evaluation apprehension among the respondents and promote less distorted answers. Second, the language of the measurement items was well phrased using simple and neutral diction to prevent the problem of ambiguity and social desirability bias. Thirdly, the independent and dependent items were put in dissimilar parts of the questionnaire to minimize the chances of respondents inferring about the research relationship between the two. Fourth, response pattern bias was limited by both positively framed statements and randomized order of the questions. Such methodological strategies are extensively being suggested as a means of minimizing common method variance in survey-based research and tend to guarantee that the relationship seen between constructs are genuinely theoretically supported as opposed to measurement artifacts. On the whole, the methodology used in the paper guarantees well-developed empirical research through a regional representative sampling approach, tested measurement scales, and intensive data-gathering

execution. This method forms a sure foundation in the analysis of relations between the adoption of e-commerce and changes in consumer preferences, competition, strategic adjustment, and output of traditional retail business in the changing retail environment of Chhattisgarh.

4. Results

4.1 Data Analysis

4.1.1 Demographics of the respondents

The population sample was predominantly male (73.3% with 26.8% being female). Majority of the respondents were between 35-44 years (32.0%), 45-54 years (28.5%), and 25-34 years (23.3%), which was an indication of mature and experienced retailers. Education-wise, most of them were postgraduates (32.8%), indicating relatively well-educated sample, or graduates (46.3%). The retail business was spread across various industries, the most significant of which are clothing/apparel (22.5%), electronics (21.3%), household goods (19.8%), and grocery/kirana stores (18.8%). The experience in business was quite even, with the highest percentage (26%) working between 10-15 years. The majority of the stores were of small size, and they hired 1-2 employees (33.8%). Most of the retailers were in urban areas (60.3%), then semi-urban areas (30.5%). Composition-wise the highest percentage recorded in terms of business turnover, i.e. average monthly sales fell within Rs. 2-5 lakh, which constitutes a moderate business scale in retail operations. A detailed summary of respondents' demographic profiles is shown in Table 1.

Table 1: Demographic details

Particulars		Frequency	Percent	Mean	SD
Gender					
	Male	293	73.3	2.0125	.78988
	Female	107	26.8		
Age					
	Below 25	23	5.8	3.0000	1.41421
	25–34	93	23.3		
	35–44	128	32.0		
	45–54	114	28.5		
	55 and above	42	10.5		
Education Level					
	Higher Secondary	33	8.3	2.4175	1.12310
	Graduate	185	46.3		
	Postgraduate	131	32.8		
	Others	51	12.8		
Type of Retail Business					
	Grocery / Kirana	75	18.8	2.9525	1.37294
	Clothing / Apparel	90	22.5		
	Electronics	85	21.3		
	Household goods	79	19.8		
	Others	71	17.8		
Years of Business Operation					
	<5 years	102	25.5	2.4950	1.11942
	5–10	96	24.0		
	10–15	104	26.0		
	>15	98	24.5		
Number of Employees in Store					
	1-2	135	33.8	2.4275	1.10126
	3-5	107	26.8		

	6-10	100	25.0		
	>10	58	14.5		
Location					
	Urban	241	60.3	2.1000	.82868
	Semi-Urban	122	30.5		
	Rural	37	9.3		
Average Monthly Sales					
	Below 50,000	37	9.3	2.4750	1.14571
	50,001 – 2 lakh	93	23.3		
	2 – 5 lakh	181	45.3		
	Above 5 lakh	89	22.3		

4.1.2 Measurement Model Evaluation

PLS-SEM assessed measurement and structural model using SmartPLS 4 and performed 5,000 resamples were bootstrapped in order to assess the significance of the connections. The model has a reasonable degree of fit, according to the model fit metrics. The saturated model (SRMR = 0.039) and the estimated model (SRMR = 0.042) showed values that were below the recommended value of 0.08 implying good fit of the model (Hair et al., 2021). Moreover, the Normed Fit Index (NFI) is 0.923, which is also an acceptable value since the model fits the data well since a value of 0.90 is regarded as satisfactory in PLS-SEM. The difference between the chi-square value of the saturated model (512.038) and the estimated model (494.930) is also low which is another factor indicating the suitability of the model. Table 2 displays the study's model fit indices, which show a good degree of model fit.

Table 2: Model Fit Indices

Index	Saturated Model	Estimated Model
SRMR	0.039	0.042
d_ULS	0.322	0.375
d_G	0.213	0.208
Chi-square	512.038	494.930
NFI	0.921	0.923

The combination of these indices suggests that the measurement model is evidenced by a satisfactory level of fit and can be utilized to further assess the measurement and structural relationship.

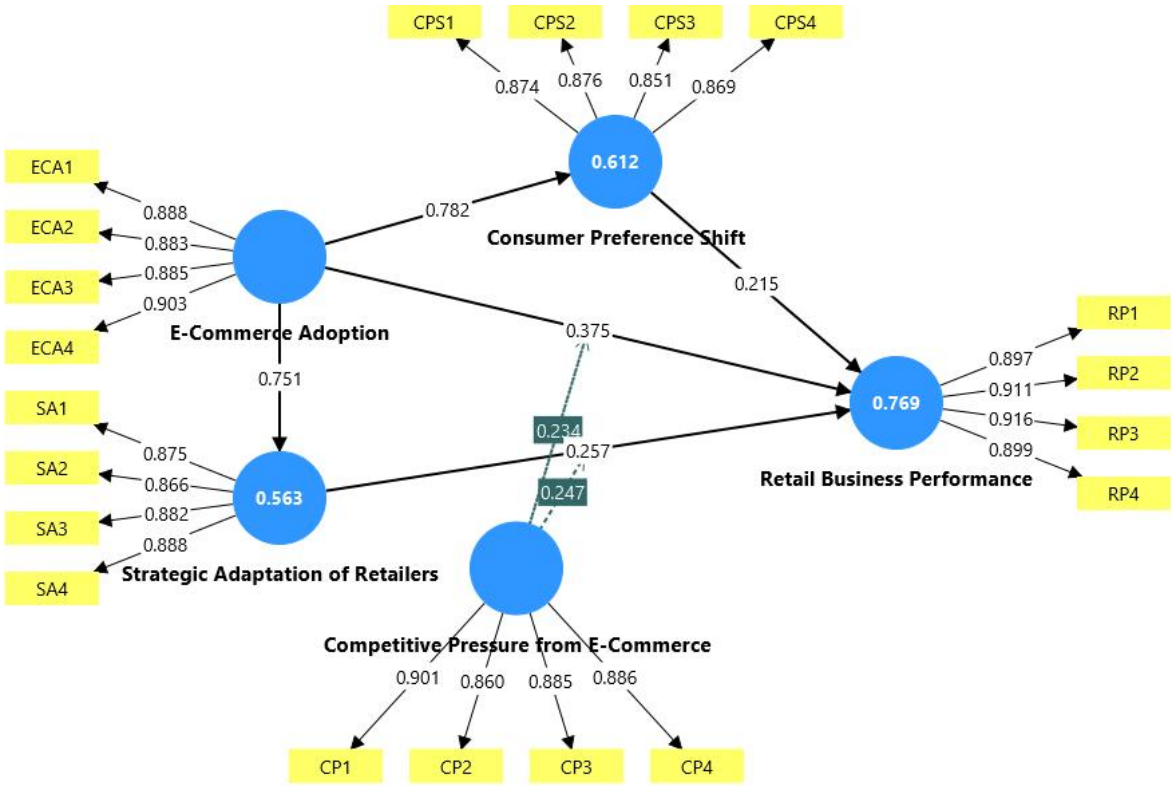

Figure 2: Measurement Model – CFA

Figure 2 presents the structural model results, displaying path coefficients, factor loadings, and R^2 values. E-commerce adoption significantly influences consumer preference shift and strategic adaptation, which in turn affect retail business performance. Competitive pressure from e-commerce moderates key relationships, strengthening the overall impact of digital adoption on retail performance outcomes.

4.1.2.1 Construct Reliability and Convergent Validity

Cronbach alpha, composite reliability (ra and rc), and Average Variance Extracted (AVE) were used to test construct reliability and convergent validity. Table 3 reveals that the Cronbach alpha values were between 0.890 and 0.927 which is significantly above the recommended value of 0.70 (Nunnally and Bernstein, 1994), and this demonstrates that the measurement items were very high in internal consistency. Likewise, the values of composite reliability were all between 0.924 and 0.948, which is higher than the actual minimum of 0.70 (Hair et al., 2021). Moreover, the AVE values were found to be 0.752-0.820, which are well above the desired cut off number of 0.50, and thus have sufficient convergent validity of the constructs (Fornell and Larcker, 1981). These results show that all constructs exhibit adequate convergent validity and a high degree of reliability. The results of construct reliability and convergent validity are shown in Table 3.

Table 3: Construct Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability (rc)	AVE
Competitive Pressure from E-Commerce	0.908	0.934	0.780
Consumer Preference Shift	0.890	0.924	0.752
E-Commerce Adoption	0.912	0.938	0.791
Retail Business Performance	0.927	0.948	0.820
Strategic Adaptation of Retailers	0.901	0.931	0.770

4.1.2.2 Indicator Reliability

Outer loading of items used to measure the indicator was used to examine its reliability. Table 4 has recorded all the item loadings to be greater than the required threshold of 0.70 (Chin, 1998) which depicts high item indicator reliability. The factor loading of all constructs was also between 0.851 to 0.916 which illustrates that the indicators are good measures of their respective latent variables. As all of the loadings were far beyond the

threshold level, deletion of any indicators was not necessary. The outer loadings of all measurement items are presented in Table 4, confirming indicator reliability.

Table 4: Outer Loadings

Construct	Items	Loading Range
Competitive Pressure from E-Commerce	CP1–CP4	0.860 – 0.901
Consumer Preference Shift	CPS1–CPS4	0.851 – 0.876
E-Commerce Adoption	ECA1–ECA4	0.883 – 0.903
Retail Business Performance	RP1–RP4	0.897 – 0.916
Strategic Adaptation of Retailers	SA1–SA4	0.866 – 0.888

4.1.2.3 Discriminant Validity

The Fornell -Larcker criterion was applied to determine discriminant validity, where it is necessary that the square root of an AVE of a construct exceed its correlations with other constructs. The elements in the diagonal (square root of AVE), as presented in Table 5, are greater than the correlations between the constructs, indicating that each construct has more variance with its indicators than with another construct. Accordingly, discriminant validity is achieved in all constructs. Discriminant validity assessed using the Fornell–Larcker criterion is reported in Table 5.

Table 5: Discriminant Validity - Fornell-Larcker Criterion

Construct	CP	CPS	ECA	RBP	SA
Competitive Pressure	0.883				
Consumer Preference Shift	-0.009	0.867			
E-Commerce Adoption	-0.009	0.782	0.889		
Retail Business Performance	0.131	0.642	0.697	0.906	
Strategic Adaptation	-0.016	0.658	0.751	0.672	0.878

4.1.3 Structural Model Evaluation

4.1.3.1 Path Coefficients and Hypothesis Testing

The hypothesized relationships were tested to identify the significance of the hypothesized relationship by assessing the structural model with the bootstrapping procedure which involves 5,000 resamples. As indicated in Table 6, the hypothesized relationships were positive and statistically significant.

The use of e-commerce had a very strong and significant impact on the performance of the retail business ($\beta = 0.375$, $t = 7.566$, $p < 0.001$) so the results from the e-commerce adoption by retailers are improved performance outcomes. Consumer preference shift ($\beta = 0.782$, $t = 36.069$, $p < 0.001$) was also significantly affected by adoption of e-commerce, which implies that a significant influence of online shopping platforms on consumer buying preference is strong. In addition, strategic adaptation of retailers was significantly affected positively in response to e-commerce acceptance ($\beta = 0.751$, $t = 38.081$, $p < 0.001$), this shows that retailers adjust their strategies with regard to digital transformation.

The movement of consumer preference also showed a positive impact on retail business performance ($\beta = 0.215$, $t = 4.739$, $p < 0.001$), as a consequence of which it became possible to conclude that those retailers who can adapt to the shift in consumer tastes and preferences will have increased chances to improve performance. On the same note, strategic adaptation played a crucial role in the performance of the organization which can be said to be positive ($\beta = 0.257$, $t = 6.148$, $p < 0.001$).

The effect of competitive pressure due to e-commerce was also a strong contribution in enhancement of the retail business performance ($\beta = 0.102$, $t = 3.095$, $p = 0.002$). Besides this, the interaction effects were also found to be statistically significant, confirming that competitive pressure plays a moderating role. The connection between competitive pressure and e-commerce adoption became significant ($\beta = 0.234$, $t = 6.030$, $p < 0.001$) and provided a lot of power to the relationship between e-commerce adoption and retail performance. On the same note, competition pressure and strategic adaptation ($\beta = 0.247$, $t = 5.444$, $p < 0.001$) enhanced the correlation between strategic adaptation and retail performance. The structural model results, including path coefficients and hypothesis testing, are summarized in Table 6.

Table 6: Path Coefficients and Hypothesis Testing

Path	β	t-value	p-value	Result
Competitive Pressure → Retail Business Performance	0.102	3.095	0.002	Supported
E-Commerce Adoption → Retail Business Performance	0.375	7.566	0.000	Supported
Consumer Preference Shift → Retail Business Performance	0.215	4.739	0.000	Supported
Strategic Adaptation → Retail Business Performance	0.257	6.148	0.000	Supported
E-Commerce Adoption → Consumer Preference Shift	0.782	36.069	0.000	Supported
E-Commerce Adoption → Strategic Adaptation	0.751	38.081	0.000	Supported
CP × E-Commerce Adoption → Retail Business Performance	0.234	6.030	0.000	Supported
CP × Strategic Adaptation → Retail Business Performance	0.247	5.444	0.000	Supported

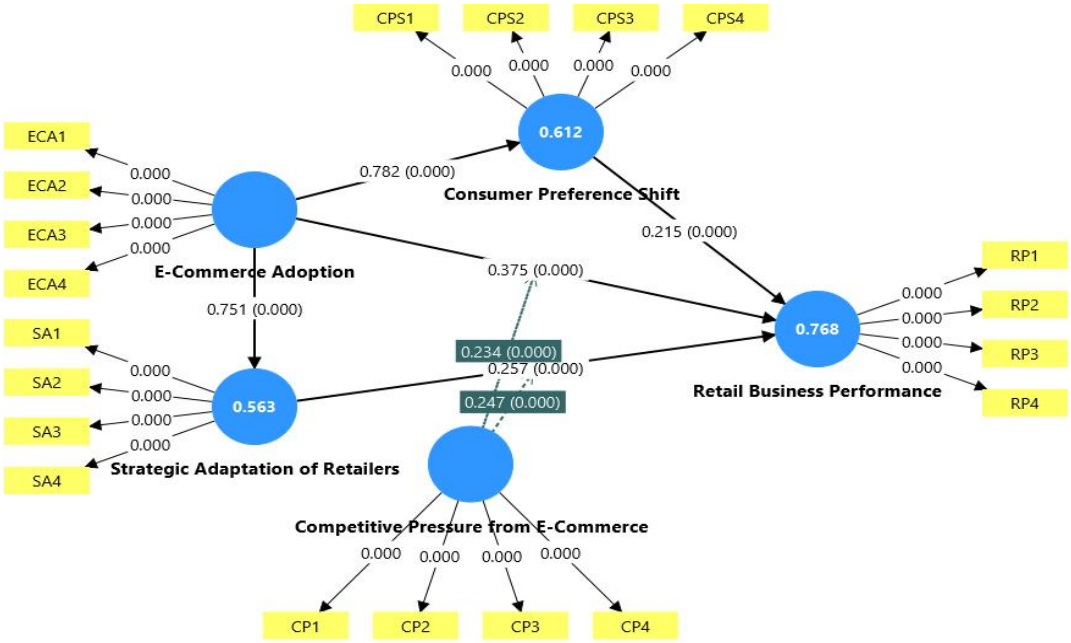

Figure 3: Structural Model Measurement (Path Analysis)

Figure 3 depicts the structural model with path coefficients and significance levels (p-values). All of the proposed correlations are statistically significant, according to the findings. E-commerce adoption strongly influences consumer preference shift and strategic adaptation, which subsequently enhance retail business performance. Competitive pressure significantly moderates these relationships, reinforcing the model's explanatory power.

4.1.3.2 Coefficient of Determination (R^2)

The coefficient of correlation was used to gauge the model's predictive power (R^2). The findings indicate that the consumer preference shift has an R^2 value of 0.612 which implies that the e-commerce adoption explains the variance of consumer preference shift by about 61%. Equally, the R^2 of strategic adaptation is 0.563 indicating that the e-commerce adoption can account a variation of 56% of the strategic adoption variance of retailers. Dependent construct retail business performance has a high R^2 value of 0.769 which shows that the retail performance variance is around 77% due to the adoption of e-commerce, consumer preference shift, strategic adjustment, and competitive pressure. Chin (1998) indicates that values of R^2 above 0.67 are also regarded as a big portion and thus, this confirms a powerful predictive ability of the proposed model. The coefficient of determination (R^2) values are presented in Table 7, indicating strong predictive power of the model.

Table 7: Coefficient of Determination (R^2)

Construct	R^2	Adjusted R^2
Consumer Preference Shift	0.612	0.611
Strategic Adaptation of Retailers	0.563	0.562
Retail Business Performance	0.769	0.765

4.1.3.3 Indirect Effects

The analysis of the indirect effects demonstrates that the adoption of e-commerce makes a strong

impact on the business performance of the retailing organization by mediating the mechanism. Its overall indirect impact on the performance of retail business was β = 0.361 (t = 8.500, p < 0.001). Two major specific indirect effects were established. First, the relationship between the e-commerce adoption and the retail performance was partially mediated by strategy adaptation (β = 0.193, t = 5.951, p < 0.001). Second, consumer preference shift mediated too, the connection between the adoption of e-commerce and the performance of a retail store (β = 0.168, t = 4.711, p < 0.001). These results suggest that the effect of e-commerce adoption on the performance of retailing is not only direct, but also behavioral and strategic. The indirect effects of the model are reported in Table 8.

Table 8: Indirect Effects

Indirect Path	β	t-value	p-value
E-Commerce Adoption → Strategic Adaptation → Retail Business Performance	0.193	5.951	0.000
E-Commerce Adoption → Consumer Preference Shift → Retail Business Performance	0.168	4.711	0.000

Generally, these The findings imply that e-commerce adoption has a significant impact on business performance in the retail sector both directly and indirectly by influencing consumer preferences and the strategic adjustment processes. Moreover, the effect on performance of e-commerce adoption and strategic adaptation can be enhanced by competitive pressure, supporting the significance of competitive market conditions on the formation of retail performance outcomes. Significant path coefficients and strong R^2 indicate the strength and predictive power of the developed structural model.

5. Discussion

The article adds to literature on the research concerning digital transformation of traditional retail by empirically exploring the effects of retail business performance on e-commerce adoption by behavioural and strategic channels, with the competitive pressure taken into consideration. Instead of looking at e-commerce as an alternative to face-to-face retail, the results show that its impact works in integrative processes that entail changes in consumer preference and strategic adjustment. This will justify the perspective of digital retail change as a systemic process not only on the market demand but also on organizational capabilities. One of the contributions of the study is that it has indicated that e-commerce adoption is a market-shaping force which is not only a technological capability but also affects the consumer purchasing behaviour. The fact that e-commerce adoption and preference of online shopping are positively related implies that a local consumer behaviour can be actively transformed by digital initiatives undertaken by retailers. This is supported by previous studies that state that digital channels increase convenience, accessibility, and efficiency of the transactions, which prompts consumers to switch to the online channel (Verhoef et al., 2015; Lim et al., 2018). The results build on this view by revealing that in newly developed areas like Chhattisgarh online shopping demand can be triggered by digitally smart retailers, suggesting that online adoption is in reaction to consumer necessities as well as create them.

The findings also accentuate change in consumer preference as a paramount behavioural process between digital transformation and retail performance. The retailers that can adjust to the consumer preference of online shopping have a higher chance of enhancing performance results as more consumers adopt the online shopping formats. This finding is in line with the previous research that focuses on the significance of consumer empowerment and channel integration in improving retail performance (Zhang et al., 2019). The results indicate that in the traditionally conservative retail setting, where the alignment between the retailer capabilities and the changing preferences in the digital sphere can bring the measurable performance increase. The other important contribution is associated with the importance of strategic adaptation in converting the adoption of e-commerce into better performance. Although the prior studies have highlighted effectiveness of adoption of digital technologies in operations, the current study reveals that adoption of technologies is not enough to maintain a competitive edge. The retailers need to support adoption of e-commerce with strategic endeavors including incorporating online and offline channels, re-designing marketing practices, and enhance logistics. This is in line with the belief that the future of retailing is the combination of physical and digital channel (Rigby, 2011). The previous studies also imply that the successful channel integration will result in better organizational and customer performance (Herhausen et al., 2015). The current evidence is empirical evidence that the strategic adaptation is a key competence that traditional retailers can use to survive in the digital disruption.

Another aspect that the study adds is how competitive pressure brought about by e-commerce moderates. The results reveal that competitive pressure intensifies the effects of e-commerce adoption and strategic adaptation on the performance of the retailers (Sekhar et al., 2019).

This implies that the digital competition is not only challenging but it can also encourage innovation and responsiveness with regard to strategy by the retailers. It has been already demonstrated that online platforms can enhance competition due to the lowered barrier to entry and enhanced price information (Brynjolfsson and Smith, 2000; Wang and Zhang, 2020). The findings at hand build on this inference by showing that competitive pressure is a situational factor, which is compelling retailers to better capitalize on digital technologies and dynamic strategies (Shahjee, 2016). Moreover, the mediation analysis gives the understanding of how the transformation of retail occurs. The results indicate that the adoption of e-commerce has an indirect effect on the performance of retailers as it affects consumer preferences and strategy changes. This two-sided mediation shows that digital transformation is a market and an organizational phenomenon. The online platforms transform consumer demands and at the same time make retailers to change their operations and strategies. This view is in line with the general literature on digital commerce, focusing on how consumer behaviour, adoption of technology, and organizational strategy relate to gain a competitive advantage (Pantano and Viassone, 2014; Pereira and Faria, 2018).

On the whole, the research provides a detailed insight into the role of e-commerce in the conventional retail systems. Rather than highlighting digital commerce as the sole disruptive factor, the results show that the technological adoption, consumer behaviour, strategic adjustment and competition dynamics interact in a complex manner (Pratap et al., 2022; Rai et al., 2017). These lessons can be more applicable in the new regional markets where online expansion is taking place in parallel with well-established traditional retailing systems. Another area the study adds to the theoretical and practical knowledge is the contribution of an integrated model of the digital retail transformation. It emphasizes competitive pressure increases the effects of the relationship between the e-commerce adoption and performance, which is mediated by the consumer and strategic factors. Besides, by centering on a regional context, the study offers empirical findings that digital transformation processes, which are being experienced in more developed markets, are being more applicable in emerging economies (Verhoff et al., 2015; Zhang et al., 2019). The results also indicate that retailers should consider e-commerce as a fundamental element of the business change, align business strategies with the changing consumer preferences, and use competitive pressure as an innovation engine and a driver of modernization.

This paper has theoretical and practical implications. Its theoretical contribution to the digital retail transformation literature is that it shows how the use of e-commerce affects retail performance in the form of consumer preference change and strategic adjustment along with the moderating affect of competitive pressure. In practice, the results imply that to improve the performance in more and more digitalized retailing conditions retailers have to combine digital technologies with strategic changes, align their operations with the new trends in consumer preferences, and use the competitive pressure as a source of innovation.

The current research has some useful information on the effects of e-commerce on conventional retail performance; nevertheless, there are some gaps that can be filled in the future studies. First, given that the study is specific to one regional context, comparative research between the states or countries would be required to increase the levels of generalizability. Second, cross-sectional design does not allow seeing the dynamic changes; longitudinal studies are preferred. Third, the model can be enhanced with other variables in the future research, including digital capability, technological preparedness, customer experience, and supply chain integration. Lastly, qualitative researches that incorporate interviews and case studies may be better placed to make insightful revelations on the challenges and opportunities of adopting e-commerce.

6. Conclusion

The pace of increased e-commerce has dramatically changed the structural and organizational environment of the retail sector, and especially in emerging markets where the mainstream retailing structures are still predominant. The paper has reviewed the effects of the adoption of e-commerce on the performance of traditional retailers in Chhattisgarh with the inclusion of consumer preference shift and strategic adaptation as a mediating variable and competitive pressure as a moderating variable. The results of the study also have a solid empirical demonstration of the fact that digital transformation largely improves the performance of retail by using interconnected technological, behavioural, and strategic processes. Specifically, the intermediating effects of consumer preference shift and strategic adaptation emphasize that the use of technology is impacting the performance through the restructuring of demand and internal strategic change. Moreover, the paper shows that the relationship between digital adoption, strategic adaptation and retail performance are enhanced by competition pressure exerted by e-commerce platforms. E-commerce is not just disruptive force, but also an agent of innovation and strategic modernization. Altogether,

the research adds to the body of literature on the topic of digital retail transformation by offering empirical data collected in the local context in India, which is essential since the future competitiveness lies in the successful integration of technologies and flexibility in dynamic digital conditions, as well as being responsive to emerging consumer demands.

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