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Prosumerism and Firm Competitiveness among Online Retail Stores in Lagos State, Nigeria: The Moderating Role of Technological Capability.

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Abstract: The online retail industry in Nigeria has seen an accelerated change brought about by the growing digitalization and changes in how consumers participate in value creation. Despite this change, many online retail firms still struggle to maintain competitiveness in a very dynamic and infrastructure constrained environment like Lagos State. While prosumerism is gradually gaining recognition as one of the strategic mechanisms that can be employed to improve firm performance, empirical literature on its impact in the Nigerian context is scattered, especially with regard to the role of technological capability. This study therefore analysed the effect of prosumerism on the firm competitiveness among select online retail stores in Lagos state, Nigeria with the moderating role of technological capability. The study used a cross-sectional research design in a survey method. The population included 325 management level employees from six major internet retail firms. Total enumeration was used because of the manageable size of the population. Data were obtained by a structured and validated questionnaire with Cronbach's Alpha values > 0.70 which ensured the reliability of the data. A total of 298 valid responses were analysed using descriptive statistics and hierarchical regression analysis in the computer software package, using the 25th version of the software package, namely, the Statistical Package for Social Studies (SPSS). The findings revealed that prosumerism had a significant positive effect on firm competitiveness (R^2 = 0.707, $p < 0.05$). Technological capability also showed a significant direct effect ($\beta = 0.415$, $p < 0.05$). However, the interaction term indicated a significant negative moderating effect ($\beta = -0.631$, $p < 0.05$), suggesting that excessive or misaligned technological capability may weaken the effectiveness of prosumer-driven strategies. The study recommends that online retail firms should strategically align technological investments with customer participation processes to enhance competitiveness.

Keywords: Prosumerism, Technological Capability, Firm Competitiveness, Online Retail, Nigeria

INTRODUCTION

The online retail scene in Nigeria has been highly transformed in recent years, as a result of fast-changing technology and consumer behaviour. Online retail activities have greatly increased especially as consumers depend more on digital platforms for transaction, evaluating and interacting with firms. This shift has redefined the traditional structure of exchange, moving away from a firm centred model of value creation to be a more interactive system in which consumers have an active role in shaping products, services and market outcomes. Prosumerism was originally conceptualised by Toffler 1980 and attributes a situation where the boundaries between producers and consumers become blurred, as individuals take an active role in the creation of value, rather than being passive recipients. In current (online) retail scenarios, this concept has become a modification of consumers' involvement in feedback, contribution to content, generation of ideas, and interaction with enterprises in digital communication (Ertz, Cao & Barragán, 2024). In contrast to traditional patterns of consumption where value is delivered unilaterally by firms, prosumerism outlines a collaborative model where consumers impact the development of products, their perception of a brand and how it is positioned in the marketplace. This transformation is made possible to a large degree by the proliferation of internet technologies, social media platforms and mobile applications, which provide consumers with the tools to interact, share experiences and influence the buying choices of others (Zhang, 2023).

The relevance of prosumerism in online retail is especially seen in emerging markets such as Nigeria, where digital adoption is still growing and so is a growing urban middle class. Lagos State in particular is representative of an extremely dynamic retail environment characterised by upward growth in penetration of internet and mobile devices, as well as in use of digital payment systems. Reports suggest that global online retail transactions have increased to a great extent with digital commerce making up a huge percentage of total retail transactions (Digital Commerce 360, 2021; Statista, 2021). In Nigeria this growth has been strengthened by the Covid 19 pandemic that accelerated the movement towards online shopping and increased the base of digitally active consumers (Euromonitor, 2021). As consumers get more engaged in digital activities, they are starting to have a more influential role in determining the result of a

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marketplace, which makes it a smart move for companies to consider prosumer participation in order to stay competitive. The Nigerian online retail industry operates in an intricate and difficult environment. Lagos based firms are hindered by infrastructural constraints like traffic congestion, inequality of delivery, unstable power supply and inconsistent internet connectivity which are related to the service delivery and customer experience (World Bank 2020; Usman & Kumar, 2020). In addition, the competitive arena is marked by fierce competition between local firms, informal online vendors and international e commerce platforms and forces firms to differentiate themselves from price competition. It is in such a setting that the capacity to take advantage of customer driven insights and interactions would be increasingly important for achieving and maintaining firm competitiveness.

Technological capability is a key factor in facilitating this transformation. At the level of the firm, technological capability includes digital infrastructure, platform design, data analytics capability and the ability to incorporate customer input into decision making processes (Kraus et al., 2021). At the consumer level, it includes digital literacy, skills in platform use, as well as the knowledge of generating and interpreting information on the Internet. The interplay between these capabilities determines to what extent the prosumer activities can be effectively harnessed. However, although technology supplies the infrastructure for engagement, its success or otherwise relies on the extent to which it is aligned to customer participation and organisational processes. Firms that do not combine technological ability with the prosumer driven strategies, could be at risk of having an underutilisation of both resources, which limits their potential to compete. Although the limited researches existing have shed light on the drivers of competitiveness, including innovation, quality of services, and the adoption of digital technologies, little interest has been attracted to prosumerism as strategic resources in the Nigerian online retailing setting. Furthermore, empirical findings on the relation between customer participation and firm's performance are still inconsistent and mixed with regard to their positive impact and conditional/weak relationships dependent on organisational and environmental factors (Naem & Okafor, 2019; Sudirjo, 2023). This lack of consensus demonstrates the need for context specific investigation, especially in emerging economies where, in terms of their institutional/organisational conditions, there is a large difference from that in developed markets.

In addition, the role of technological capability in shaping the effectiveness of prosumerism remains underexplored. While technology is widely recognised as an enabler of digital commerce, it is often treated as a background factor rather than a strategic capability that conditions how customer driven resources are captured and utilised (Okolie & Ojomo, 2020; Pascucci et al., 2023). In Nigeria, disparities in digital infrastructure and technical expertise further complicate this relationship, raising important questions about how firms can effectively integrate technological capability with prosumer engagement to enhance competitiveness. Against this background, this study examines the relationship between prosumerism and firm competitiveness among online retail stores in Lagos State, Nigeria, with a particular focus on the moderating role of technological capability.

LITERATURE REVIEW

The literature review of this study deals with the review of relevant literatures and other studies related to prosumerism, firm competitiveness and technological capability. Scholarly works relevant to the study will similarly be reviewed.

Prosumerism

Prosumerism denotes a market orientation where consumers are engaged in the creation, enhancement and spread of products and services as active actors, as opposed to passive recipients of output from firms (Brown et al., 2020). The concept is drawn from the merging of two words; producer and consumer; that imply a change in the structure of the roles that individuals play in exchange regarding in markets. The foundational articulation of prosumerism has been credited to Alvin Toffler in The Third Wave (1980), in which he foresaw the breakdown of traditional boundaries between production and consumption. Toffler's argument was that technology had advanced enough to enable consumers to make significant contributions to production processes and change market relationships. Although originally a concept, there is a growing degree to which this prediction can be seen taking place in current digital markets; especially when it comes to online retailing.

Prosumerism shifts the assumptions of traditional consumerism, in which consumers are generally restricted to decisions of purchase and use without influencing production and strategic consequences (Botelho et al., 2021). Under consumerism, companies maintain their control on value creation and consumers have the ability to exercise choice, but that is through purchase behaviour. In contrast, prosumerism puts consumers at the centre of the value creation process, with consumers becoming contributors of knowledge, creativity and reputational capital (Chatterjee et al. 2023). This distinction is critical, since it renews the idea not to perceive consumers only as demand side actors but as productive participants whose actions can determine firm performance and competitive positioning.

In the online retail space, prosumerism is made possible by digital platforms and interactive technologies, which allow for ongoing interaction between the firm and the consumers (Li, 2023). These

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platforms enable consumers to engage at multiple points in the product lifecycle, from ideation to design improvement to evaluation to post-purchase feedback. Digital tools like social media, review systems, feedback forums and collaborative design interfaces reduce barriers to participation and allow firms to tap into dispersed insights from their consumers on a mass scale (Sirviö et al., 2024). Via these contribution mechanisms consumers contribute content, recommendations and experiential knowledge that influence both strategic and operational decisions.

The rise of prosumerism represents a general growing trend towards participatory business models that emphasise co-operation and less one-sided delivery of value (Ertz et al., 2024). Through activities like customer co-creation, user-generated content, peer recommendations and collaborative design, prosumerism is a move away from firm-centric innovation towards more inclusive and interactive value creation processes (Chatterjee et al., 2023). These practises allow firms to tap consumer creativity and experiential knowledge to create offerings that are better attuned to market needs and expectations. Empirical works have shown that such alignment accounts for a higher level of customer satisfaction, trust, and brand loyalty especially in the digital mediated market (Kumar & Biswajit, 2020).

From a strategic standpoint, there are a number of benefits of prosumerism for businesses who work in the competitive environment of online retail. One of the most important lies in the ability to use customer knowledge and creativity as inputs to innovation processes (Brown, Hall & Davis, 2019). Consumers often have sophisticated knowledge of their own preferences, use situations, and unmet needs, which can be valuable in the development of products and services (Benaissa & Kobayashi, 2022). Through incorporating consumer feedback and ideas into the development cycle, firms can minimise uncertainty, improve the quality of their products, and increase market acceptance probabilities (Worlu & Sunny, 2021). This participatory approach also helps firms to detect potential design flaws or mismatches early on, helping to reduce rates of failure and improve overall performance (Rane et al., 2023).

Firm competitiveness

Firm competitiveness is the capacity of a business in upholding and improving their position in the market as compared to other competing companies in the market over time (Maune 2014). It is the ability of a firm to attract and retain customers, protect market share, demonstrate operational efficiency and maintain profitability in increasingly dynamic and competitive markets (Kpurunee et al., 2023). Competitiveness is thus not a stable condition, but an ever-changing outcome based on how well firms can put their resources to work, adapt to environmental changes, and react to the competitive pressures. As markets grow in complexity and the expectations of customers continue to change, marketing competitiveness has become a key strategic objective across industries.

From a strategic perspective, firm competitiveness can be interpreted as the ability of an organisation to over-deliver clients time after time by offering superior value through the products, services, or overall market offering (Thomran et al., 2022). This superiority can come from cost effectiveness, product differentiation, innovation ability, or the strength of customer relationships (Olubiyi, 2024). Competitiveness goes beyond winning market shares in the short term to include building sustainable advantages in order to stay relevant and resilient in the long term (Jerab & Mabrouk, 2023). Porter (1990) emphasises that it is both internal factors e.g. organisational capabilities and resources and external factors such as the structure of the industry and competitive intensity, which impact competitiveness (Cheraghalizadeh et al., 2021).

The Resource Based View is a basic theoretical view of understanding firm competitiveness. According to this view, competitiveness is the result of the capability of a firm to recognise, create, and apply valuable, scarce, inimitable and non-supersedable resources in ways that cannot easily be copied by its competitiveness (Kozlenkova et al., 2014). These resources can relate to tangible assets such as financial capital, technological infrastructure, distribution systems and intangible assets such as brand reputation, relationship with customers, organisational culture and managerial expertise. Firms that combine these resources into coherent capabilities are in a better position to achieve sustained competitive performance.

Achieving firm competitiveness brings a number of strategic benefits. One of the biggest big is increasing profitability. Firms with good competitive positions are often able to demand high prices, lower operating costs, and enjoy higher margins, thus enhancing overall performance (Kalu & Onuoha, 2023). This financial strength allows organisations to invest back into innovation and expand their operations and offer stronger value to the market which creates a constructive cycle of competitiveness and growth (Islami et al. 2020). Competitiveness also helps increase a firm's capacity to predict and adapt to changes in customer preferences, technological advances and regulatory environments that enable a firm to be agile and forward looking (Islami et al., 2020; Jerab & Mabrouk, 2023).

Technological capability

Technological capability is the capability of an organisation to successfully obtain, use, manage and reconfigure technological resources that will enhance processes, develop new products, innovate services and for continuity competitiveness (Salisu & Abu Bakar, 2019). It includes not only technologies (physical) but also skills, knowledge, routine and organisational

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processes needed for deploying technology in a manner that achieves strategic goals (Ringim et al., 2015). As observed by Odiachi et al. (2020), technological capacity is not limited to access to digital tools or systems, rather it is the ability of a firm to integrate technology for a particular purpose to create innovation, efficiency, and long-term performance. This distinction emphasises the strategic nature of technological capability as an embedded organisational competence and not just an operational input.

Within current business environments characterised by a pace of digital transformation, technological capability has emerged as a fundamental determinant of organisational competitiveness (Saura et al., 2020). Firms increasingly must look into new technologies, try out new solutions, and instal new digital systems into the core of the business. Technological capability therefore represents organisational readiness to adapt to technological change, engage in continuous learning and reconfigure internal processes in response to a changing market (Salisu & Abu Bakar, 2019). Importantly, this capability is dynamic rather than static, building up over time from accumulated experience, learning by doing, and strategic investment in technological resources (Saura et al., 2020).

The strategic importance of technology capability is that it may yield a prolonged competitive advantage. Firms with high technological capacity possess a better position for innovation and to differentiate their products and can respond proactively to environmental changes (Tijani et al., 2023). Such firms are able to turn technological investments into value creation outcomes by integrating technology into organisational routines and decision-making processes (Wanaswa et al., 2021). Technological capability therefore acts as the critical enabler of innovation by enabling organisations to discover new trends, invent new solutions and bring new products and services to market faster and more efficiently than their competitors (Tijani et al., 2023).

One of the greatest contributions of technological capability provides role in driving innovation performance. Organisations with advanced technological capability can engage in research and development activities better and know how to experiment with new ideas and to fast-track product development cycle (Odiachi et al., 2020). By using technological know-how and digital infrastructure, such firms are able to decrease time-to-market and acquire first-mover advantages in competitive industries (Tijani et al., 2023). This capacity is of special relevance in digitally intensive sectors, where innovation is closely related to technological experimentation and platform-based development.

Technological skill also has a vital role to play in improving an operation's efficiency. Advances in automation, artificial intelligence, data analytics and digital platforms have dramatically changed the way organisations manage their operations and deliver value (Odiachi et al., 2020). Firms that possess excellent technological capability are able to use these tools to optimise workflows, minimise the cost of operations, improve the quality of a service, as well as improve decision-making accuracy (Salisu and Abu Bakar, 2019). For instance, the use of machine learning and advanced data analytics, they are able to analyse large volumes of customer data and to predict demand patterns as well as personalisation of an offering in real-time (Johnson et al.). These efficiencies affect organisational agility while making organisations better able to respond to fluctuation in the market.

In addition to efficiency gain, there is a technological capability that adds to organisational adaptability to environmental ambiguity. As industries experience rapid digital disruption, firms constantly require adaptation of strategies, processes and business models Odiachi et al. (2020). Technological capability provides the capabilities or the tools an organisation needs to perceive technological change, identify the opportunities and capitalise them, and rearrange resources accordingly (Su et al., 2013). This is an adaptive ability that is essential in volatile markets where technological shifts can cause rapidly changing competitive conditions. Firms who invest strategically in technological infrastructure, employee skill development and innovation systems are better placed to establish resiliency and sustaining competitiveness over the period of time (Su et al., 2013).

Theoretical Framework

The study is mainly supported by the Resource-Based View (RBV), which was first proposed by Wernerfelt (1984) and further developed by Barney (1991). The RBV offers a strategic perspective to understand how firms use the internal resources to have a sustainable competitive advantage. This theoretical framework underscores the significance of resources that are valuable, rare, inimitable and organised, or in short, organisations with distinct and strategically managed resources are considered to be able to maintain a competitive edge in their industries (Barney, 1991; Kozlenkova et al., 2014). For this study, the RBV is especially applicable as it has a close relationship with the onus of prosumerism and technological capabilities among the online retails stores in Nigeria.

The idea of prosumerism (where consumers actively contribute to the co-creation, content generation, and marketing of products) fits perfectly in the RBV framework. From the perspective of RBV, consumer activities, in regards to user-generated content and collaborative design, are intangible resources that can be strategically leveraged to create value and differentiate a firm from its competitors. These activities make contribution that brings unique insights and strong brand

loyalty, which can be regarded of as valuable and difficult to replicate for competitors. By seeing consumer contributions as strategic resources, the RBV theory offers a very good basis for examining the process by which companies could use these customer-driven assets to maintain their competitiveness (Barney, 1991). Furthermore, the addition of technological capability to the RBV framework emphasised its relevance to the study. Technological capacities, like use of digital platforms, data analytics and ground breaking marketing tools, are dynamic assets that help firms to optimise their operations and enhance their customers engagement (Peña-Garcia et. al., 2021).

Empirical Review

Vorhies, Harker and Rao, (2017) investigated the relationship between market-driven capabilities, customer engagement, and firm performance. It explores how customer-focused capabilities, including customer relationship management and customer co-creation, contribute to a firm's competitive advantage through enhanced customer engagement and improved financial performance. Lusch and Vargo, (2020) article discussed the service-dominant logic (SDL) of marketing, which emphasizes the co-creation of value with consumers. It explores the role of consumer resources in value co-creation and the resulting impact on firms' competitive advantages.

Rust and Huang, (2020) explored the impact of mobile devices on the competitive landscape and the role of consumer resources in shaping digital competition. It investigates how consumers' access to mobile devices and their digital capabilities influence competitive dynamics and market outcomes. Matzler, Bailom, and Stieger, (2021) examined the influence of customer resources on firm performance. It explores how customer resources, such as knowledge, skills, and social connections, impact a firm's competitive advantage and financial performance.

Al-Rawabdeh et al. (2021) examines the comparative influence of post-purchase user-generated content (UGC) and traditional reference groups on young consumers' purchase intentions for electronic products in Jordan. The findings reveal that UGC significantly shapes purchase intentions, surpassing the influence of traditional reference groups such as family, friends, and colleagues. This underscores the growing reliance of young consumers on online communities and reviews over conventional social networks when making purchase decisions.

Dewarani and Alversia (2023) highlight the critical role of customer involvement and engagement in driving the co-creation of services, satisfaction, and loyalty within the Software as a Service (SaaS) sector in Indonesia. The findings reveal that increased customer involvement positively influences collaborative activities with service providers, which in turn enhances customer satisfaction and loyalty. Additionally, the level of co-creation amplifies these effects, showing that deeper collaboration between customers and providers leads to stronger satisfaction outcomes. The study conducted by Bruhn, Schoen Mueller, and Schäfer (2012) investigated the influence of consumer engagement via social media platforms on the establishment of brand equity. This study investigates the impact of social media interactions and engagement activities on brand-related outcomes such as brand awareness, brand image, and brand loyalty. These outcomes are crucial in determining a company's competitiveness in the market.

Akinbode et al. (2024) investigates the role of collaborative communication in enhancing project leadership effectiveness within Nigerian construction firms. The findings underscore the significance of collaborative communication in ensuring the successful delivery of projects by fostering better leadership practices and addressing key challenges in project execution. The research highlights specific components of collaborative communication that directly contribute to project leadership effectiveness, demonstrating a positive correlation between communication practices and project success. Adegoke and Ogungbamila, (2017) explore the relationship between consumer engagement and firm performance in the Nigerian fast-moving consumer goods (FMCG) industry. It investigates the dimensions of consumer engagement, such as interaction, participation, and emotional connection, and examines how consumer engagement activities impact firm performance indicators like market share, sales growth, and profitability in the Nigerian FMCG sector.

METHODOLOGY

Research Design

This study adopts a quantitative approach using a cross-sectional survey design to examine the relationship between prosumerism and firm competitiveness, as well as the moderating role of technological capability among online retail stores in Lagos State. The design is appropriate because it allows for the collection of structured data from respondents at a single point in time while enabling statistical testing of relationships among variables. As noted by Zikmund, Carr and Griffin (2013), survey designs are effective for capturing perceptions and behavioural patterns across a defined population. In this study, the design provides a suitable basis for analysing how customer driven activities such as co creation and user generated content influence firm competitiveness within a real business environment without experimental manipulation.

Study Area and Population

The study is conducted in Lagos State, Nigeria, which serves as the centre of digital commerce due to its high internet penetration and concentration of online retail firms. The study focuses on six dominant online retail companies, namely Jumia Nigeria, Konga, Jiji

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Nigeria, Ajebomarket, Vconnect, and Printivo. These firms were selected based on operational presence, market relevance, and continuous business activity. The target population comprises 325 management level employees, including managers and technical staff across the selected firms. This group is considered appropriate because they are directly involved in strategic decisions, digital operations, and customer engagement practices that shape competitiveness in online retail environments.

Sample Size and Sampling Technique

Given the relatively small and accessible population, this study adopts total enumeration. This means that all 325 management level employees were included in the study. The use of total enumeration eliminates sampling bias and ensures that all relevant perspectives are captured. It is particularly suitable where the population is limited and strategically important to the research objectives.

Table 1: Distribution of Management-Level Staff

Online Retail Firm	Number of Management Staff
Jumia Nigeria	200
Konga	66
Jiji Nigeria	12
Ajebomarket	14
Vconnect	22
Printivo	11
Total	**325**

Source: Administrative offices of the selected Online Retail Stores (2026).

Data Collection Instrument

Primary data were collected using a structured questionnaire designed in line with the study objectives. The instrument was divided into two sections. Section A captured demographic characteristics, while Section B measured the core constructs of the study. Prosumerism was measured through four dimensions, namely customer co creation, user generated content, peer recommendations, and collaborative design. Technological capability and firm competitiveness were also measured using multiple items adapted from existing studies. All items were measured on a five point Likert scale ranging from strongly disagree to strongly agree. The structured nature of the questionnaire ensured uniformity in responses and facilitated quantitative analysis.

Pilot Study, Validity and Reliability

A pilot study was conducted using approximately ten per cent of the population from similar online retail firms not included in the main study. The pilot test helped to identify ambiguous items and improve clarity. Validity was established through expert review and statistical testing. Factor loadings above 0.50 confirmed construct validity. Reliability was assessed using Cronbach's alpha, with all constructs exceeding the threshold of 0.70, indicating acceptable internal consistency.

Table 2: Reliability Statistics

Variable	Cronbach's Alpha
Prosumerism	0.712
Technological Capability	0.786
Firm Competitiveness	0.720

Source: Computer from Pilot study through SPSS V25 (2026)

Model Specification

This study models the relationship between prosumerism and firm competitiveness, incorporating technological capability as a moderating variable. Prosumerism is treated as a multidimensional construct comprising customer co creation, user generated content, peer recommendations, and collaborative design.

The functional relationship is expressed as:

$Y = \beta o + \beta_1 PR + \beta_2 TC + \beta_3 PR*TC + \mu i$

The model specifications are detailed below:

βo = the intercept expected value of y when x is equal to zero.

β = the Coefficient of the independent variable (it is the rate of change in y with respect to x).

μ = the error term to accommodate other variables that can influence firm competitiveness but are not included in the model.

A priori, the coefficients of prosumerism dimensions and technological capability are expected to be positive, while the interaction term may vary depending on the nature of moderation observed.

Method of Data Analysis

Data collected were analysed using the Statistical Package for the Social Sciences. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarise demographic characteristics and response patterns. Hierarchical regression analysis was used to test the moderating effect of technological capability by introducing variables in stages and evaluating changes in explanatory power.

RESULTS AND DISCUSSIONS

A total of 325 questionnaires were distributed to management-level employees (managers and technical staff) of the selected online retail companies in Lagos State, Nigeria. Of these, 298 were returned and duly completed, yielding a response rate of 91.69%. The remaining 27 questionnaires were either not returned or contained incomplete responses, accounting for 8.31%. According to Babbie (2010), a response rate of 50% is considered adequate for analysis, 60% is good, and a rate above 70% is very good. Therefore, the response rate of 91.69% achieved in this study is considered very good and sufficient for further data analysis.

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Demographic Analysis of Respondents

This section highlights the demographic distribution of 298 respondents, providing insights into the diversity within the study participants. The demographic breakdown is critical to understanding the characteristics of the respondents and their potential influence on the research findings. The table below presents the demographic analysis of the study's participants.

Table 3: Demographic Analysis of the Participants

Variables	Parameters	Frequency	Percentage (%)
Age Bracket	20-30 years	108	36.2
	31-40 years	100	33.6
	41-50 years	74	24.8
	51-60 years	16	5.4
Total		298	100.0
Gender	Female	170	57.0
	Male	128	43.0
Total		298	100.0
Marital Status	Single	65	21.8
	Married	230	77.2
	Others	3	1.0
Total		298	100.0
Years of Experience	0-5 years	105	35.2
	5-10 years	92	30.9
	10-15 years	56	18.8
	15-20 years	28	9.4
	20-25 years	17	5.7
Total		298	100.0
Highest Educational Level	ND/NCE	28	9.4
	BSc/BA/HND	182	61.1
	PGD/MBA/MSc/MA	88	29.5
Total		298	100.0

Source: Researcher's Field Survey, 2026

Table 3 shows that 57.0% of the respondents were female, while 43.0% were male, reflecting a relatively balanced gender representation. Regarding the age bracket, the majority of respondents fell within the 20-30 years category (36.2%), followed by those aged 31-40 years (33.6%). Respondents in the 41-50 years group accounted for 24.8%, while only 5.4% were aged 51-60 years. This indicates that the majority of participants are young adults, which could suggest higher openness to technological advancements and innovative practices within their respective roles.

In terms of marital status, the majority (77.2%) were married, while 21.8% were single, and a minimal 1.0% indicated other statuses. For years of experience, 35.2% of respondents had 0-5 years of work experience, followed by 30.9% with 5-10 years, and 18.8% with 10-15 years of experience. Respondents with 15-20 years and 20-25 years of experience constituted 9.4% and 5.7%, respectively. This distribution reflects a significant proportion of relatively early to mid-career employees who may be more adaptable to organizational changes and innovation.

More so, the highest educational level shows that 61.1% of the respondents held a BSc/BA/HND, while 29.5% had a PGD/MBA/MSc/MA. A smaller portion (9.4%) held ND/NCE qualifications. The high level of educational attainment among the respondents indicates that they are well-informed and capable of providing meaningful insights into the study's focus areas. This demographic mix ensures that the study's findings are based on responses from a diverse and knowledgeable group of participants.

Testing of hypothesis

H_o: Technological capability does not significantly moderate the relationship between prosumerism and firm competitiveness in online retail companies in Nigeria.

Table 4: Hierarchical Regression Results for Moderating Effect of Technological Capability

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	0.841a	0.707	0.705	8.94312	0.707	142.812	1	296	0.000
2	0.875b	0.766	0.763	8.02345	0.059	24.336	1	295	0.000
3	0.888c	0.789	0.785	7.67812	0.023	11.482	1	294	0.000

a. Predictors: (Constant), Prosumerism
b. Predictors: (Constant), Prosumerism, Technological Capability
c. Predictors: (Constant), Prosumerism, Technological Capability, Prosumerism * Technological Capability

Source: Researcher's Field Survey, 2026

Table 4 presents regression results to determine how technological capability moderates the relationship between prosumerism dimensions and firm competitiveness of online retail companies in Nigeria. The results revealed that the R-squared for the model between prosumerism dimensions (customer co-creation, user-generated content, peer recommendations, and collaborative design) and firm competitiveness was 0.707. With the introduction of the moderator (technological capability), the R-squared increased to 0.766, showing an additional variance of 5.9% explained. Further, the introduction of the interaction term (Prosumerism Dimensions * Technological Capability) improved the R-squared to 0.789, indicating an increase of 2.3%, which was statistically significant at $p < 0.05$ (p-value = 0.000). The significant increase in R-squared values confirms that technological capability enhances the relationship between prosumerism dimensions and firm competitiveness. This suggests that technological capability amplifies the effects of prosumerism practices, enabling firms to optimize customer engagement, foster innovation, and gain a competitive edge in the online retail sector in Nigeria.

Table 5: ANOVA Summary for Moderated Effect of Technological Capability on Firm Competitiveness

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	112754.562	1	112754.562	984.214	.000[b]
	Residual	33646.438	296	113.659		
	Total	146401.000	297			
2	Regression	118246.387	2	59123.194	567.961	.000[c]
	Residual	28154.613	295	95.419		
	Total	146401.000	297			
3	Regression	121312.019	3	40437.340	394.883	.000[d]
	Residual	25088.981	294	85.319		
	Total	146401.000	297			

a. Dependent Variable: Firm Competitiveness
b. Predictors: (Constant), Prosumerism
c. Predictors: (Constant), Prosumerism, Technological Capability
d. Predictors: (Constant), Prosumerism, Technological Capability (Z), Interaction Term (X*Z)

Source: Researcher's Field Survey, 2026

On Table 5, the first model between prosumerism dimensions and firm competitiveness of online retail companies had $F = 984.214$, $p = 0.000 < 0.05$. The second model, linking prosumerism dimensions (X), technological capability (Z), and firm competitiveness, had $F = 567.961$, $p = 0.000 < 0.05$. Finally, the third model, incorporating the interaction term (X*Z), revealed F-statistics = 394.883, $p = 0.000 < 0.05$. This result implies that the model demonstrates good fitness for all three models. The findings further confirm that prosumerism dimensions (X), technological capability (Z), and the interaction term (X*Z) significantly predict firm competitiveness in online retail companies in Nigeria.

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Table 6: Beta Coefficient for Moderated Effect of Technological Capability on Firm Competitiveness

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	12.564	2.841	-	4.424	0.000
	Prosumerism	1.462	.053	0.846	27.534	0.000
2	(Constant)	10.127	2.512	-	4.031	0.000
	Prosumerism	1.101	.065	0.637	16.938	0.000
	Tech. Cap.	.914	.092	0.315	9.935	0.000
3	(Constant)	-18.361	7.392	-	-2.483	0.003
	Prosumerism	1.604	.149	0.927	10.780	0.000
	Tech. Cap.	1.205	.246	0.415	4.900	0.000
	Prosumerism * Tech. Cap.	-.017	.005	-0.631	-3.400	0.001

a. Dependent Variable: Firm Competitiveness

Source: Researcher's Field Survey, 2026

On Table 6, the coefficient of prosumerism in Model 1 was 0.846, p = 0.000, in Model 2 it was 0.637, p = 0.000, and in Model 3 it increased to 0.927, p = 0.000, all significant at the 0.05 level. Technological capability was also significant in both Model 2 and Model 3, with β = 0.315, p = 0.000 and β = 0.415, p = 0.000, respectively. These findings suggest that technological capability not only moderates but can also act as a predictor variable for firm competitiveness among online retail companies in Nigeria. The results further revealed that the interaction variable (Prosumerism * Technological Capability) had a coefficient of -0.631, p = 0.001 < 0.05, indicating that technological capability significantly moderates the relationship between prosumerism and firm competitiveness. The negative coefficient implies that although technological capability enhances the direct relationship, its moderating effect slightly weakens the impact of prosumerism on firm competitiveness.

The multiple regression equation to estimate the moderating effect of technological capability on the relationship between prosumerism and firm competitiveness is expressed as:

FC = -18.361 + 0.927X1 + 0.415Z1 – 0.631(X1*Z1)

Where:
FC = Firm Competitiveness
X = Prosumerism
Z = Technological Capability
X*Z = Interaction Term

The regression equation shows that holding all factors constant at zero, firm competitiveness would be -18.361, which is negative. A unit increase in prosumerism leads to a 0.927 unit increase in firm competitiveness, while a unit increase in technological capability results in a 0.415-unit increase. However, a unit increase in the interaction term (Prosumerism* Technological Capability) causes a 0.631-unit decrease in firm competitiveness, indicating a statistically significant moderating effect at the 5% level. This implies that technological capability has a negative moderating effect on the relationship between prosumerism and firm competitiveness in online retail companies in Nigeria. The observed effect may result from an imbalance in integrating technological systems with prosumerism strategies, reducing their combined effectiveness. Consequently, the null hypothesis, which states that technological capability does not significantly moderate the relationship between prosumerism and firm competitiveness, is rejected.

DISCUSSION OF FINDING

The finding that technological capability significantly moderates the relationship between prosumerism and firm competitiveness is supported by existing literature that recognises the dual role of technology in shaping customer driven strategies. Tijani et al. (2023) argued that technological capability enhances firm performance by improving operational efficiency, digital interaction, and innovation processes, thereby strengthening the ability of firms to engage customers effectively. Similarly, Saura et al. (2020) emphasised that digital technologies provide platforms that facilitate customer participation, data exchange, and real time communication, which are essential for competitive positioning in online retail environments. From the perspective of Dynamic Capabilities Theory, Teece (2018) noted that firms must develop the ability to integrate and reconfigure technological resources to respond to evolving market demands. This suggests that technological capability plays a crucial enabling role in supporting prosumerism by providing the infrastructure necessary for customer interaction, information processing, and value creation.

However, prior studies also caution that technological capability does not always produce uniformly positive outcomes when combined with customer driven strategies. Saura et al. (2020) highlighted that excessive reliance on digital systems may lead to reduced flexibility and weaker customer relationships, particularly when technology replaces rather than supports human interaction. Likewise, Tijani

et al. (2023) observed that firms that prioritise technological advancement without aligning it with organisational processes and customer engagement strategies may experience diminishing returns. This view is further reinforced by Teece (2018), who argued that the effectiveness of technological resources depends on their alignment with managerial capabilities and strategic intent. Within this context, technological capability is positioned as a contingent resource whose value depends on how it is deployed in relation to other organisational capabilities such as prosumer engagement.

CONCLUSION

Based on the empirical results obtained from this study, prosumerism was found to have a statistically significant positive effect on the firm competitiveness of online retail store in Lagos state Nigeria. The results demonstrate that prosumerism is one of the most important sources of competitiveness in the online retail business, suggesting that businesses who are successful in co-involving customers in their value creation processes have a higher chance of performing better on the market. The study also revealed that the technological capability has a significant direct effect on the firm's competitiveness, thereby implying that the firms with superior technological resources are more capable of operating efficiently and uphold competitive performances. However, the moderating analysis indicated that the technological capability has a significant but negative impact on the relationship between the prosumerism and firm competitiveness. This means that although technology adds positively to competitiveness by itself, techno-prosumerism interaction diminishes the strength of the prosumerism and firm competitiveness relationship.

The study therefore concludes that prosumerism is one of the important strategic mechanisms used to improve firms' competitiveness among online retail stores in Lagos State. It goes on to conclude that technological capability should not be considered as an automatic enhancer of prosumerism results but as a conditional resource that depends on how well it is linked to customer participation and organisational processes. In a dynamic online retail environment, like Lagos State, the level of competitiveness is determined, not just by technological sophistication, but also by the ability of the firm to combine digital capability with active customer involvement. Therefore, prosumerism should be considered as a key competitive strategy and technology capability should be carefully controlled in order to support rather than undermine customer driven value creation.

RECOMMENDATION

Based on the findings and conclusion of this study, it is recommended that online retail stores in Lagos State should use an integrated strategic approach which will place prosumerism at centre of their competitive activities while ensuring that technological capability will be aligned with customer engagement processes. This means that firms should not just invest in technology for operational efficiency, but should use technological resources in ways that reinforce customer participation, responsiveness and co-creation of value. Such an approach will help firms maximise the competitive benefits of prosumerism with no risk of technology reducing the effectiveness of customer driven strategies.

Contribution to Knowledge

This research therefore contributes to the knowledge and provides empirical evidence on the relationship between prosumerism and firm competitiveness for online retail stores in the Lagos State, Nigeria. While there have been many previous studies on customer engagement and competitiveness, there has been a want for subnational evidence from a developing environment in the digital market. The study, therefore, covers an important contextual gap by demonstrating the impact of prosumerism on competitiveness in the Nigerian online retail sector. The study also contributes on theoretical level through the extension of the Resource Based View by identifying prosumerism as a valuable strategic resource which can be used to increase firm competitiveness. Conceptually, the study helps advance understanding by looking at prosumerism as a core predictor of firm competitiveness in addition to demonstrating how the effect of prosumerism itself depends in part on the deployment of technological capability within the firm.

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