Socio-Demographic Determinants and Sustainable Shoppers' Behaviour among Emerging Retail Business Survival in North-Central Nigeria

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Abstract

The rise in sustainability issues has increased concern in consumers' shopping attitude, especially in emerging retail markets, it is against this backdrop that this study investigates the influence of socio-demographic determinants of sustainable shoppers' behaviour on emerging retail business survival, with a specific focus on educational attainment and age influence as a dimension of socio-demographic. A cross-sectional research design was employed with data collected from the shoppers patronising the emerging retail outlets. A structured questionnaire of three hundred and eighty-four designed to capture the respondents' socio-demographic characteristics. The data were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM 4.0)**,** which is suitable for predictive analysis and theory development. Study indicates that sustained patronage is increasingly linked to digital and social connectivity rather than conventional family standards. The research concludes that socio-demographic characteristics substantially influence the behaviour of sustainable consumers in the growing retail sector, with educational attainment and age-related factors enhancing loyalty and promoting patronage. The study recommended that emerging retail businesses should develop sustainability initiatives that align with educated consumers' lifestyles and social values and retailers should invest in digital platforms, peer-driven promotions, and trend-relevant sustainable products targeted at younger consumers.

Keywords: emerging, retailing, shopper, socio-demographic, sustainable

1.0 Introduction

Sustainable shopping behaviour has grown to be a major field of research with scholars trying to find out how consumers incorporate environmental and social factors in their daily buying choices. The socio-demographic factors like education, age, income and lifestyle are always associated with the likelihood that a person will embrace the practices of sustainable consumption in retail markets of the world (Tripathi & Trigunait, 2025). The previous research has shown empirically that these variables contribute to the explanation of variation in awareness and actual behaviour towards the use of eco-friendly products (Ledro, Nosella & Vinelli, 2025).

Sustainable consumption is starting to gain some academic focus in sub-Saharan Africa and in Nigeria specifically, as the retail industry starts to transform in response to the forces of economic change, urbanization, and the growing environmental consciousness. The recent research of the Nigerian consumer attitudes refers to the evidence that urban residents are more aware and moderate to high willingness to buy the products that relate to sustainable practices, despite the existing challenges that are cost and availability (Ilodigwe, 2024). They also demonstrated that sustainability awareness is not limited to the high-income population but cut across the socio-economic groups indicating that demographic features influence the connection to the sustainable offerings in subtle manners (Hariram *et al*., 2023). Although there is increased information on consumer attitudes in bigger Nigerian cities, very little is known about the effects of socio-demographic determinants on actual behavioural responses in terms of loyalty and patronage of emerging retail businesses in such regions as North-Central Nigeria. Education can influence consumer judgments of the product sustainability and their intention to stick with a brand that serves sustainable value whereas age can influence aspects like adopting technology, peer effects, and generational inclination that influence shopping behaviour. These socio-demographic dimensions are not well researched in the Nigerian business environment, especially in the new forms of retail patterns that are a mix of the traditional and the modern retail patterns. The research issue which current study seeks to address is the lack in awareness of consumer sustainability coupled with a lack in actual behaviour in the emerging markets of the retail sector, particularly the situation in places like North-Central Nigeria, where the socio-demographic factors are not investigated comprehensively. The available studies in Nigeria indicate that despite that a significant proportion of consumers are concerned about environmental problems and that there is an increased desire to buy environmentally friendly products, the actual sustainable purchasing behaviour is rather unequal and is often restricted in its opportunities by financial factors, availability of products, and insufficient knowledge of consumers (Damian-Okoro, 2025).

This work fits in major development constituencies of the world. The Sustainable Development Goals of the United Nations, in particular, SDG 8 (decent work and economic growth), SDG 10 (reduced inequalities), and SDG 12 (responsible consumption and production) demonstrate the need to have inclusive economic participation and sustainable behaviour on the individual and organisational levels. The knowledge of the socio-demographic influences on sustainable shopping behaviour can help to achieve SDG 12 since it will guide the strategies aimed at promoting responsible shopping habits among various consumer groups. It also serves SDGs 8 and 10 in its disclosure of how an inclusive place of retail can support economic chances and diminish inequality in access to sustainable solutions. The placement of the analysis in the local and international discourses will help the study provide evidences that can be relied upon by academics, practitioners and policy makers to create equitable and sustainable retail conditions in the emerging markets.

This study fills the gap in the literature by analysing how education related attributes and age may influence the loyalty and patronage of the shopper, and offers the region specific information that may help enrich the global knowledge on sustainable consumer behaviour in developing economies (Nurhilalia & Saleh, 2024 ;Chaihanchanchai & Anantachart, 2023; Yang & Wibowo, 2022).The main objective of this study is to examine the influence of socio-demographic determinants and sustainable shoppers' behaviour among emerging retail businesses in North-Central Nigeria. The specific objectives are to: (i) investigate empirically the influence of educational attainment (experience, academic background, lifestyle, social life, spending habits) on shoppers' loyalty among emerging retail businesses in North-Central, Nigeria, (ii) examine the extent to which age influence (technological adoption, age-group factors, age-oriented brand loyalty, peers-influence engagement and parental influence) on shoppers' patronage among emerging retail businesses in North Central, Nigeria.

Null hypotheses formulated

H$_{01}$: Educational attainment has a significant positive impact on the loyalty of shoppers in emerging retail businesses in North-Central Nigeria

H02: Age-related variables, such as adoption of technology, generational inclinations, peer influence, and parental guidance, contribute significantly to the patronage of shoppers in emerging retail business in North-Central Nigeria.

It is on this basis that the study intends to examine the influence of socio-demographic determinants on the sustainable shoppers' behaviour among the emerging retail business survival in North-Central Nigeria.

2.0 Literature Review

2.1 Theoretical Foundation

The theoretical basis of the present research is based on consumer behaviour theory and theory of planned behaviour (TPB), as both of them provide sound frameworks to understand the determination of socio-demographic factors on sustainable shopping behaviour. The consumer behaviour theory is a multidimensional approach to consumer behaviour, which means that individuals consider alternatives and make purchase decisions depending on the internal preferences and external factors (Khobibah *et al*., 2023). In this context, the socio-demographic factors of education, age, income, and lifestyle are taken as the key factors that influence the awareness, attitudes and behaviour intentions to sustainable products. The combination of these variables through the theory enables an in-depth explanation of loyalty and patronage behaviours in the emergent retail settings and the interactive nature of the personal background of a consumer in interacting with marketing stimuli and the retail settings to generate noticeable consumer behaviour (Ajzen, 2020).

This point of view is supplemented by the Theory of Planned Behaviour which focuses on attitude, subjective norms, and perceived behavioural control as the factors that influence intention and actual behaviour (Ajzen, 2020). TPB is especially applicable to research into sustainable shopping because it factors in the effects of personal beliefs regarding the impact of their purchase, the impact of peer and family, and the perceived capacity to shop sustainably on the decision to be loyal or patronize a particular business establishment. An example is that younger consumers might be more susceptible to peer interaction and online social media, and older consumers, or those with a higher education level, could be informed through informed judgment and lifestyle compatibility to make sustainable decisions. Combining TPB and socio-demographic factors, the current study can clarify not only why some consumer groups tend to implement more sustainable behaviours more than others but also in what circumstances these intentions are actually transformed into frequent visits to the new retailing companies.

2.2 Sustainable Shopping Behaviour in Emerging Retail Contexts

The response to the sustainable shopping behaviour in the emerging retail environment is an adjustment of consumer priorities towards the buying of goods that take into account the environmental and social implications with the conventional economic conditions (Kosyak & Popov, 2020). In the new market, consumers have to confront complicated trade-offs between price sensitivity and ethical issues, especially in the base-of-pyramid settings, where short-term needs tend to dominate over abstract environmental payoffs (Lappeman, Bundwini & Chikweche, 2024). However, it is indicated that not all consumers in these markets will consider sustainable consumption because there are segments of consumers who can make a decision on sustainable consumption when value and ethical consideration is a complementary factor (Testa *et al.,* 2021). Sustainable retailing in such conditions does not only entail the provision of environmentally friendly goods but also conveying the ethical commitments in a manner that captures the local values of consumers. Such a situation puts a premium on the interpretation and behaviour of various socio-demographic segments of what sustainability entails in retail, which emphasises the role of socio-economic variables in influencing behaviour (Tripathi & Trigunait, 2025).

Another feature of emerging retail markets is the rapid changes in the market structure, is the accessibility of consumers and the competitive dynamics. The retailers within these kinds of markets are also gravitating towards sustainable marketing practices as a way of not only addressing the regulatory and ethical expectations but also developing competitive advantage and consumer loyalty (Tanveer *et al.,* 2021). The loyalty and patronage in sustainable retail environments are critical results demonstrating more intimate interaction than a purchase. Both attitudinal and behavioural aspects, such as trust in the ethical position of a retailer and positive experiences that are repeated, determine the loyalty, which can be described as commitment by a consumer to repurchase or support a brand despite the pressure of competition (Sharp, Wheeler, & Nenycz-Thiel, 2023). The loyalty in the emergent markets can be strengthened through a scenario where the retailers sincerely incorporate sustainability in their value propositions and align them with the expectations of the consumers. On the other hand, behavioural patronage represents long-term involvement and repurchase behaviour and is influenced by consumer perceptions of the individual and social utility of sustainable products in the socio-economic environments. The combination of these results with demographic features should be thoroughly studied, since age, education level, and the lifestyle determine the adoption and maintenance of sustainable shopping habits.

2.3 Socio-Demographic Determinants of Shopping Behaviour

The socio-demographic factors that have been identified to be fundamental predictors of consumer behaviour over the years in both the global and the local environment include age, education, income, gender, and household factors (Lin et al., 2022). Studies conducted in both developed and emerging economies have continuously indicated that these factors influence the manner in which individuals process information, how people evaluate product features and the manner in which they make their buying decisions, including those that are related to sustainability and ethics (Veldhuizen *et al*., 2020; Chaihanchanchai & Anantachart, 2023). As an illustration, systematic reviews and research studies show that younger and more educated consumers tend to be more accepting of environmentally friendly products and show a greater tendency to turn positive attitudes into actual purchases, particularly when other facilitating variables like income and information access are present (Sharma, 2021). In a broader sense, the evidence shows that all socio-demographic characteristics interact with diverse psychological variables (environmental awareness and perceived control) to affect sustainable consumption behaviour, and the intricate relationship between an individual background and behavioural consequences can be highlighted (meta-analysis on sustainable consumption).

In most situations, education is found to be a reliable predictor of consumer behaviour since it increases the level of product attributes awareness, green issues and the future consequences of purchasing products (Wijekoon & Sabri, 2021). European research studies have shown that education and income level usually fit with increased practice towards sustainability although the trends may tend to differ with cultural and market conditions with some high-income groups favouring imported or status products over local sustainable products (Ilie *et al*., 2025). The studies on Nigeria in the region provide comparative information, although they also emphasize the dynamics that are context-specific. The consumer behaviour studies conducted in Nigeria have also demonstrated a significant predictive effect of age, education, and income in terms of predicting the adoption of online retail and adoption of new shopping formats based on socio-demographic factors in consumer behaviour, and this suggests that socio-demographic factors determine the availability and utilisation of retail (Rahim *et al.*, 2024). South-west Nigerian research also proves that demographic factors do not work equally in both formal and informal retail sectors, and influence the spending habit, product preferences, and decision processes differently (Olodo & Balogun, 2025; Aremu, Olodo & Aremu, 2021**)**. These trends support the point that the demographic profiles do not merely correlate with consumer behaviour, they can assist in explaining the difference in loyalty, patronage, and adaptation to the new retail conditions where sustainability messages can be more or less salient (Dabija, Bejan & Grant, 2018).

2.4 Educational Attainment and Shoppers' Loyalty

The level of education and associated individual characteristics including experience, lifestyle, social participation and expenditure patterns are generally identified to have significant impact on consumer loyalty albeit the degree and direction of such impacts differ depending on the environment and groups of people (Nurhilalia & Saleh, 2024). Through education, the consumer perception of product benefits, product quality and the development of long-term relationships with the brand could be influenced (Kral & Janoskova, 2020). More educated people tend to be more selective and information process thus resulting in more critical thinking and thus better purchasing behaviour that may result in a greater level of loyalty when they are satisfied with the products they consume (Ashiq & Hussain, 2024). Educational experience within the retail context is interacted with the values of lifestyle and social behaviours that contribute to the development of preferences and habits such that recurrent positive experiences with specific brands may transform over time into more intense forms of loyalty (Mahr, Hilken & Bressgott, 2022). Studies indicate that lifestyle preferences that are consistent with individual identities and values, such as sustainability issues or use of technology may enhance brand attachment to brands compatible with those identities and lifestyles (Acar et al., 2024; Kranz et al., 2022**)**.

Another factor that determines the loyalty is spending habits, which in most cases are related to the level of education and lifestyle. Customers who had specific consumer behavior in terms of financial literacy, value orientation or habitual purchasing were likely to have consistent preference to one brand or retail format over a period which strengthened their repeat business and loyalty (Hult et al., 2022). Nonetheless, there are other nuances with these relationships mentioned by socio-demographic research. In other settings, weaker levels of education have been linked to greater expressed loyalty perhaps the levels of value have different perceptions and because of interpersonal recommendations as opposed to evaluation criteria. These ambivalent results indicate that although education tends to provide consumers with the means of an informed choice, the result of the loyalty in reality is determined by the interaction of educational experience with the lifestyle, social network, and spending behavior in a particular retail setting (Becker & Jaakkola, 2020). Such sophistication highlights the necessity of localized research into the impact of educational levels and other individual factors on loyalty in the new retail environments in which consumer profiles and market forces are not similar to those of developed economies (Abdul, 2023).

2.5 Age Influence and Shoppers' Patronage

The age is an excellent indicator of consumer behavior in retail settings and is a factor that determines what individuals purchase, as well as the way they make decisions and build long term behavior (Houghtaling et al., 2019). The use of technology among various age groups differs significantly, whereby younger generations like millennial and the generation Z will be more inclined to use mobile commerce, social commerce, and other digital tools that reshape shopping behaviors whereas the aged are slow adapters but tend to be loyal once they have the technologies (Haris, 2025). The younger generation is more likely to consult the internet in their product search, peer-to-peer online reviews and integrates them into their purchasing behaviours as opposed to the older generation who might favour conventional media and interpersonal communication. This disparity identifies age as a driver in changing patronage trends with particular emphasis to retail businesses adopting digital interfaces and personalised technology that will attract each age group differently (Nunan & Di Domenico, 2019).

The importance of peer engagement is particularly high among the younger population because the social pressure and the recommendations of the community can only hasten the adoption of the new products and influence the long-term patronage both online and in real life. This trend shows that age based social forces relate to the greater culture and technological trends to shape how different consumer groups perceive brands through the years (Кантаева, 2022). An age-based modulation is also applied to brand loyalty, as older clients tend to exhibit more deeply embedded brand loyalty, since they have been exposed to more frequent brand experiences, and young consumers tend to exhibit a more dynamic brand loyalty pattern, requiring constant adjustment between brand values and personal identity. Cross cultural indicators imply that despite being less loyal in the conventional meaning of the word, Generation Z and millennial are highly situational loyalists when the brands can continuously fulfill their requirements of personalized experiences and ethical behavior (Cagnin & Nicolas, 2022). This is enhanced by peer influence especially among younger consumers who incorporate social approval and digital community norms in their purchasing behaviour. That is, age not only influences the predilection towards loyalty but also the foundation upon which loyalty is achieved be it the trust accrued over time in older generations, or the congruence of values and social approval in the younger generations (Yang & Wibowo, 2022). The other age related influencing factor that has an implication to patronage behaviour is parental influence; where younger consumers who have not yet established independent shopping behaviour are more likely to be influenced. Research indicates that socialisation at an early age and family orientation can have significant impacts on how younger age groups in a retail setting navigate their surroundings, impact their brand level of trust and shape their thoughts on the concept of value and quality (Helm, Kim & Van Riper, 2020).

3.0 Methodology

This research design adopted a cross-sectional quantitative study design due to the necessity to explain behavioural patterns and socio-demographic characteristics of consumers at one moment. The cross-sectional research design enables the empirical study of the connection between education attainment, age, and behavioural reactions like loyalty and patronage without the logistical and time limitations of longitudinal research (Creswell & Creswell, 2023). Structured questionnaires guarantee standardization of answers, which make the powerful comparison of statistical analysis of various consumer groups. The design will offer context-specific interpretation of consumer behaviour by targeting emerging retail business in certain state capitals in North-Central Nigeria and that of generalization in the urban retail markets in the region. The sample population will include customers who frequent retail outlets located in Kwara (Ilorin), Niger (Minna/Suleja), Benue (Makurdi), and Nasarawa (Lafia) which was totaled as 2,354,000 (macrotrends.net, 2025). The sample size determined through Godden (2004) formula for sample size determination which is as follows:

$$SS = \frac{Z^2 p(1-p)}{\propto^2}$$

Where:

SS = required sample size

Z^2 = Z-value (e.g., 1.96 for a 95 percent confidence level

P = Percentage of population picking a choice, expressed as decimal in this case (0.5)

α = Confidence interval, expressed as decimal (e.g., .05 = +/- 5 percentage points)

$$SS = \frac{1.96^2 \times 0.5(1 - 0.5)}{0.05^2}$$

$$SS = \frac{0.9604}{0.0025}$$

Sample size = 384

The study adopted a multi-stage sampling process which is used to make it representative and efficient. The first is a judgmental sampling that determines retail outlets in urban centres where the emerging businesses are clustered; the second is proportionate stratification that establishes the sample per state on the basis of the population share; and the last one is the convenience sampling where selected respondents are those who are in these retail outlets to administer the questionnaire. The study constructs (Section A) and socio-demographic variables (Section B) are operationalized into educational attainment (experience, academic background, lifestyle, social life, spending habits), age-related (technology adoption, peer influence, millennial tendencies, parental guidance), loyalty, and patronage by the structured questionnaire that includes Likert-scale items. Expert review, content and face validation, and Cronbachs Alpha testing are all done to ensure reliability and validity. To conduct the analysis, descriptive statistics will provide summaries of the demographic trends and behavioural patterns, whereas inferential statistics will be performed with the help of the Partial Least Squares Structural Equation Modelling (PLS-SEM 4.0), which will be used to test the hypothesized relationships to provide a robust information about socio-demographic determinants driving the loyalty and patronage in the emerging retail environment (Hair & Alamer, 2022).

4.0 Results and Discussions

Measurement and Structural Model Assessment

The Shoppers' Loyalty Model in figure 1 illustrates the significant influence of educational attainment components on loyalty in emerging retail businesses in North-Central Nigeria, with an impressive R^2 of .781 indicating that 78.1% of variance in loyalty is explained. Lifestyle emerges as the strongest driver (β = .441), followed by social life (β = .419) and academic background (β = .373), reflecting how educated consumers' daily values, social interactions, and knowledge alignment foster commitment, repeat purchases, resistance to switching, and word-of-mouth recommendations. Experience contributes moderately (β = .217), while spending habits exert a notable negative effect (β = -.444), suggesting that financially disciplined, educated shoppers are less prone to blind loyalty and more likely to switch for better value. This supports the fact that educational attainment, particularly through lifestyle congruence and social reinforcement, strongly enhances sustainable shopper loyalty critical for retail survival.

Figure 1

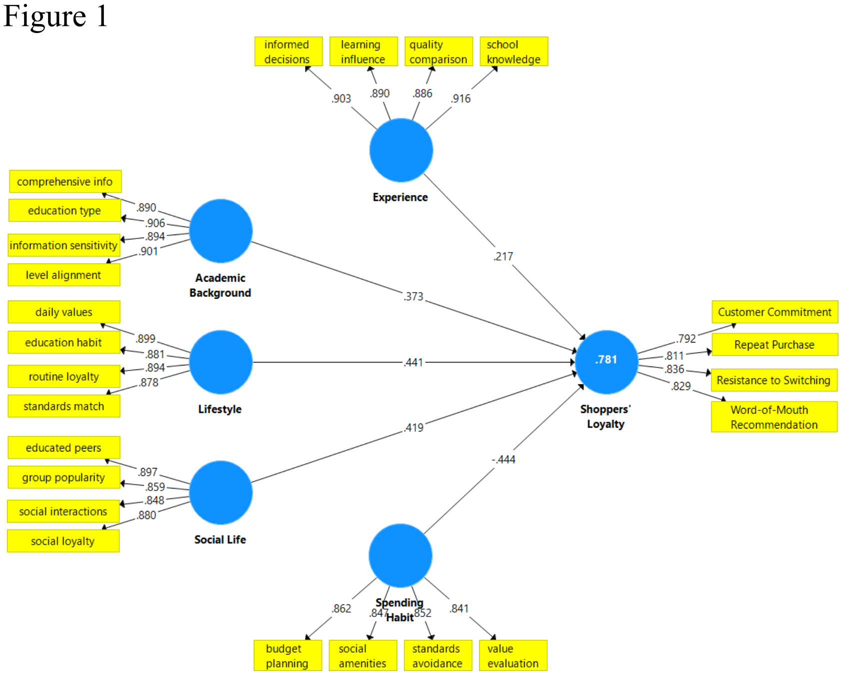

Figure 1. Shoppers' Loyalty Model

Source: Field Survey, (2026)

The Shoppers' Patronage Model in figure 2 demonstrates robust age-related influences on patronage, explaining 79.0% of variance ($R^2 = .790$) in emerging North-Central Nigerian retail contexts. Age-oriented brand loyalty is the dominant predictor ($\beta = .370$), followed by age-group factors ($\beta = .336$), peer-influence engagement ($\beta = .295$), and technological adoption ($\beta = .277$), highlighting how younger consumers' familiarity, trendiness, peer validation, and digital comfort drive commitment, frequent visits, recommendations, and satisfaction. Conversely, parental influence shows a negative path ($\beta = -.284$), indicating that traditional family-driven choices diminish as consumers age and gain independence. This confirm that modern, peer- and technology-driven age factors predominantly shape sustainable patronage, offering retailers levers for targeting youth to secure long-term business viability.

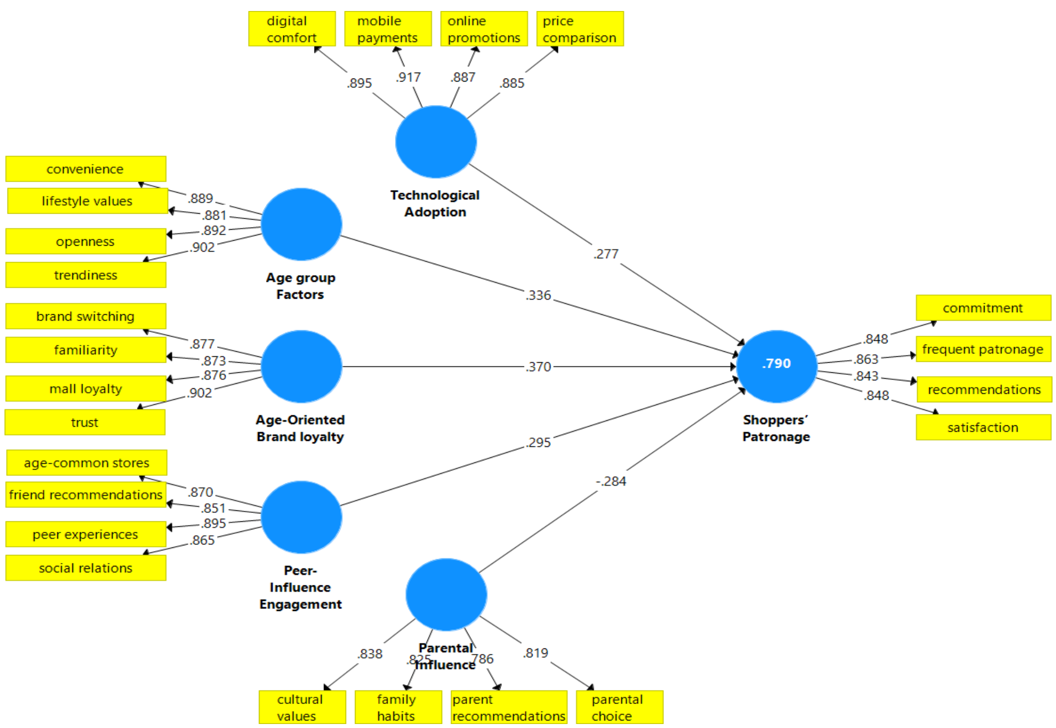

Figure 2: Shoppers' Patronage Model

Source: Field Survey, (2026)

Table 1 presents discriminant validity assessment using Fornell-Larcker criterion and HTMT ratios for the loyalty model. The square root of AVE values (diagonal elements: 0.817–0.899) exceeded inter-construct correlations, satisfying the Fornell-Larcker criterion. However, several HTMT values approached or exceeded the conservative threshold of 0.85 (e.g., Spending Habit-Academic Background is 0.961, Social Life-Experience is 1.002), suggesting potential discriminant validity concerns. While these elevated values may indicate conceptual overlap among educational dimensions, which is theoretically plausible given that academic background, lifestyle, and social interactions naturally interconnect, they do not invalidate the model as all constructs demonstrated adequate AVE and composite reliability (Henseler *et al*., 2015). This pattern suggests that educational attainment operates as a multifaceted construct where distinct dimensions share common variance, reinforcing the comprehensive operationalization needed to capture its influence on loyalty in emerging retail contexts.

Discriminant Validity Test

Shoppers' Loyalty Model

Table 1: Fornell Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT)

Latent Variables	Academic Background	Experience	Lifestyle	Shoppers' Loyalty	Social Life	Spendin g Habit
Academic Background	**.898**	***.771***	***.792***	***.896***	***.839***	***.961***
Experience	.709	**.899**	***.834***	***.869***	*.872*	***.977***
Lifestyle	.725	.763	**.888**	***.906***	***.797***	***.967***
Shoppers ' Loyalty	.785	.761	.797	**.817**	***.922***	***.959***
Social Life	.763	.791	.719	.800	**.871**	***1.002***
Spendin g Habit	.860	.877	.861	.819	.886	**.851**

Note: *Fornell Larcker criterion values (square root of AVE) are on the diagonal, HTMT values are above the diagonal at the upper right corner*

Source: *Field Survey, (2026)*

Shoppers' Patronage Model

Table 2 reveals discriminant validity results for the patronage model, where Fornell-Larcker diagonal values (0.817 - 0.896) generally exceeded off-diagonal correlations. Several HTMT values exceeded the stringent 0.85 threshold (e.g., Parental Influence-Age group Factors is 0.998, Parental Influence-Peer Influence is 1.009), indicating potential construct overlap. This finding aligns with theoretical expectations, as parental influence, peer engagement, and generational factors are inherently interrelated in shaping age-based consumption patterns, particularly in collectivist cultures where family and peer networks significantly influence purchasing decisions (Hofstede, 2001). While discriminant validity is marginally compromised, the strong convergent validity and theoretical coherence support the model's integrity. These results underscore the interconnected nature of age-related influences on patronage, suggesting that retail interventions targeting younger consumers must simultaneously address peer networks, family values, and technological comfort to effectively drive sustained patronage.

Table 2: Fornell Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT)

Latent Variable	Age group Factors	Age-Oriented Brand loyalty	Parental Influence	Peer-Influence Engagement	Shoppers' Patronage	Technological Adoption
Age group Factors	**.891**	***.821***	***.998***	***.842***	*.880*	***.775***
Age-Oriented Brand loyalty	.749	**.882**	***.984***	***.818***	***.907***	*.852*
Parental Influence	.865	.858	**.817**	***1.009***	***.959***	***.976***
Peer-Influence Engagement	.766	.738	.873	**.870**	***.904***	*.882*
Shoppers' Patronage	.791	.811	.819	.799	**.851**	*.888*
Technological Adoption	.715	.777	.857	.800	.797	**.896**

Note: *Fornell Larcker criterion values (square root of AVE) are on the diagonal, HTMT values are above the diagonal at the upper right corner*

Source: *Field Survey, (2026)*

Structural Model Assessment

Hypotheses Test

Model 1: Shoppers' Loyalty Model

Table 3 presents the structural path coefficients testing Hypothesis 1, revealing that all educational attainment dimensions significantly influence shoppers' loyalty ($p < 0.001$). Lifestyle emerged as the strongest predictor ($\beta = 0.441$, $t = 5.679$), followed by Social Life ($\beta = 0.419$, $t = 9.140$) and Academic Background ($\beta = 0.373$, $t = 6.852$), while Experience showed moderate but significant effects ($\beta = 0.217$, $t = 4.622$). Notably, Spending Habit demonstrated a significant negative relationship ($\beta = -0.444$, $t = 5.523$), indicating that more deliberate spending patterns may reduce impulsive loyalty or that budget-conscious consumers maintain transactional rather than emotional loyalty. The 95% confidence intervals excluded zero for all paths, confirming robustness. These findings strongly support hypothesis one, demonstrating that educational factors collectively explain substantial variance in loyalty, with lifestyle compatibility and social reinforcement serving as primary drivers in North-Central Nigerian retail markets where community values and identity alignment shape sustained brand commitment.

Table 3: Bootstrap Path Coefficient and Bias Corrected Confidence Interval

Latent Variables	Original Sample	Standard Deviation	T Statistics	P Values	Bias	2.5 %	97.5 %
Academic Background -> Shoppers' Loyalty	.373	.054	6.852	**.000**	.002	.243	.462
Experience -> Shoppers' Loyalty	.217	.047	4.622	**.000**	.002	.120	.305
Lifestyle -> Shoppers' Loyalty	.441	.078	5.679	**.000**	-.002	.296	.596
Social Life -> Shoppers' Loyalty	.419	.046	9.140	**.000**	.000	.326	.509
Spending Habit -> Shoppers' Loyalty	-.444	.080	5.523	**.000**	-.002	-.585	-.269

Source: *Field Survey, (2026)*

Model 2: Shoppers' Patronage Model

Table 4 reports structural relationships testing Hypothesis 2, with all age-related variables significantly predicting shoppers' patronage ($p < 0.001$). Age-Oriented Brand Loyalty showed the strongest effect ($\beta = 0.370$, $t = 10.874$), followed by Age group Factors ($\beta = 0.336$, $t = 7.771$), Peer-Influence Engagement ($\beta = 0.295$, $t = 7.090$), and Technological Adoption ($\beta = 0.277$, $t = 6.810$). Parental Influence exhibited a significant negative relationship ($\beta = -0.284$, $t = 3.873$), suggesting that stronger parental guidance may restrict exploratory patronage or that autonomous decision-making enhances retail engagement among younger adults. All confidence intervals excluded zero, confirming statistical robustness. These results provide strong support for hypothesis two, indicating that generational characteristics, peer networks, and digital fluency collectively drive patronage behaviours, while excessive parental control may limit retail exploration, highlighting the need for age-appropriate marketing strategies that balance tradition with innovation in emerging markets.

Table 4: Bootstrap Path Coefficient and Bias Corrected Confidence Interval

Latent Variable	Original Sample	Standard Deviation	T Statist ics	P Values	Bias	2.5%	97.5%
Age group Factors -> Shoppers' Patronage	.336	.043	7.771	**.000**	.000	.257	.430
Age-Oriented Brand loyalty -> Shoppers' Patronage	.370	.034	10.874	**.000**	-.002	.305	.434
Parental Influence -> Shoppers' Patronage	-.284	.073	3.873	**.000**	.003	-.424	-.147
Peer-Influence Engagement -> Shoppers' Patronage	.295	.042	7.090	**.000**	.001	.196	.369
Technological Adoption -> Shoppers' Patronage	.277	.041	6.810	**.000**	.000	.193	.351

Source: *Field Survey, (2026)*

Quality Criteria, Predictive Relevance, and Model Fit

Shoppers' Loyalty Model

Table 5 evaluates the predictive quality and explanatory power of the loyalty model. The model achieved substantial explanatory power (R^2 is 0.781, adjusted

R^2 is 0.778), indicating that educational attainment dimensions collectively explain 78.1% of variance in shoppers' loyalty, surpassing the 0.67 threshold for substantial effects (Chin, 1998). The Stone-Geisser Q^2 value (0.516) exceeded zero, confirming strong predictive relevance. Effect sizes (f^2) for Lifestyle (0.221) and Social Life (0.166) indicated medium-to-large impacts, while Academic Background (0.159) approached medium effect status, and Experience (0.048) and Spending Habit (0.056) showed small but meaningful contributions. The SRMR value (0.080) fell at the acceptable threshold, suggesting adequate model fit. These robust quality metrics validate that educational constructs possess strong predictive validity for loyalty behaviours, providing empirical evidence that education-based segmentation strategies can effectively enhance customer retention in emerging retail businesses across North-Central Nigeria.

Table 5: Effect Size (f^2), Coefficient of Determination (R^2), Predictive Value (Q^2), and SRMR

Latent Variables	**F^2**	**R^2**		**Q^2**	**SRMR**	
		R Square	**R Square Adjusted**		**Saturated Model**	**Estimated Model**
Academic Background	**.159**					
Experience	.048					
Lifestyle	**.221**					
Shoppers' Loyalty		**.781**	**.778**	**.516**	**.080**	**.080**
Social Life	**.166**					
Spending Habit	.056					

Source: *Field Survey, (2026)*

Shoppers’ Patronage Model

Table 6 demonstrates exceptional predictive performance for the patronage model, with R^2 = 0.790 and adjusted R^2 = 0.787, indicating that age-related variables explain 79% of patronage variance, a substantial effect (Cohen, 1988). The Q^2 value (0.566) confirmed superior predictive relevance compared to the loyalty model, suggesting age influences exert stronger out-of-sample prediction capability. Age-Oriented Brand Loyalty (f^2 = 0.166) and Age group Factors (f^2 = 0.132) exhibited medium effect sizes, while Peer-Influence Engagement (f^2 = 0.093) and Technological Adoption (f^2 = 0.089) showed small-to-medium effects, and Parental Influence ($f^2 = 0.034$) demonstrated small but significant impact. The SRMR (0.080) indicated acceptable fit. These findings establish that age-based determinants possess robust explanatory and predictive power for patronage behaviours, validating generational segmentation as a strategic priority for retailers seeking to build sustained customer engagement in digitally evolving North-Central Nigerian markets.

Table 6: Effect Size (f^2), Coefficient of Determination (R^2), Predictive Value (Q^2), and SRMR

Latent Variable	F^2	R^2		Q^2	SRMR	
		R Square	R Square Adjusted		Saturated Model	Estimated Model
Age group Factors	.132					
Age-Oriented Brand loyalty	**.166**					
Parental Influence	.034					
Peer-Influence Engagement	.093					
Shoppers' Patronage		**.790**	**.787**	**.566**	**.080**	**.080**
Technological Adoption	.089					

Source: *Field Survey, (2026)*

Discussion of Findings

The first objective examined the influence of educational attainment, encompassing academic background, experience, lifestyle, social life, and spending habits, on shoppers' loyalty in emerging retail businesses in North-Central Nigeria. The results strongly support the first hypothesis, revealing significant positive path coefficients for academic background ($\beta = .373$, $p < .001$), experience ($\beta = .217$, $p < .001$), lifestyle ($\beta = .441$, $p < .001$), and social life ($\beta = .419$, $p < .001$), with lifestyle exerting the strongest influence, while spending habits showed a significant negative effect ($\beta = -.444$, $p < .001$). The model explained 78.1% of variance in loyalty ($R^2 = .781$), indicating robust predictive power. The positive paths align with expectations that higher education fosters critical evaluation, value congruence, and social reinforcement of loyalty, yet the negative spending habit effect suggests that educated consumers, being more financially discerning, exhibit lower blind loyalty and switch when better value emerges elsewhere. This finding extends prior work in emerging markets (Wijekoon & Sabri, 2021; Nurhilalia & Saleh, 2024) by highlighting spending habits as a boundary condition that tempers loyalty. Grounded in Consumer Behaviour Theory and the Theory of Planned Behaviour, the results underscore how cognitive capacity and normative influences shape attitudinal loyalty, with lifestyle congruence emerging as a dominant driver. These insights are particularly relevant for emerging economies where educated consumers increasingly prioritise long-term value and ethical alignment, offering retailers a pathway to cultivate loyalty through lifestyle-oriented sustainable positioning rather than price competition alone.

The second objective investigated the extent to which age-related variables, technological adoption, age-group factors, age-oriented brand loyalty, peer-influence engagement, and parental influence, affect shoppers' patronage in the same context. The second hypothesis is largely supported, with significant positive paths from age-group factors ($\beta = .336$, $p < .001$), age-oriented brand loyalty ($\beta = .370$, $p < .001$), peer-influence engagement ($\beta = .295$, $p < .001$), and technological adoption ($\beta = .277$, $p < .001$), while parental influence displayed a significant negative effect ($\beta = -.284$, $p < .001$). The model accounted for 79.0% of variance in patronage ($R^2 = .790$), demonstrating excellent explanatory strength. The positive coefficients confirm that younger consumers drive patronage through openness to trends, digital engagement, and peer validation, whereas the negative parental influence indicates that as consumers mature and gain independence, early family-driven habits lose salience. This pattern contrasts with some developed-market studies emphasizing persistent parental socialisation (Helm et al., 2020) but aligns with generational shifts observed in African contexts (Dabija, 2018). Anchored in the Theory of Planned Behaviour's normative and control beliefs and Consumer Behaviour Theory's external influences, the findings illuminate how peer networks and technology amplify patronage among younger cohorts. For emerging retail sectors across developing economies, these results signal that sustainable patronage is increasingly tied to digital and social connectivity rather than traditional family norms, enabling retailers to target youth segments with technology-enabled sustainable offerings to secure long-term survival.

Theoretical Implication

The study enriches Consumer Behaviour Theory and the Theory of Planned Behaviour by demonstrating their applicability in an under-researched African emerging retail context. It extends these frameworks by revealing boundary conditions, specifically, the moderating role of spending habits on education-driven loyalty and the diminishing role of parental influence on age-driven patronage, thus refining understanding of how socio-demographic factors interact with attitudinal and normative processes in resource-constrained settings. These insights contribute to sustainable consumption theory in developing economies by emphasizing lifestyle congruence and peer/technology influences over traditional socialization pathways.

Practical Implication

Retail managers in emerging economies should prioritize lifestyle-aligned sustainability messaging and digital engagement to build loyalty and patronage among educated and younger consumers. Rather than competing solely on price, businesses can foster loyalty by highlighting ethical sourcing and waste reduction that resonate with educated lifestyles, while leveraging mobile platforms, peer endorsements, and online promotions to drive patronage among youth. Policymakers can support these efforts through awareness campaigns that frame sustainability as value-enhancing and culturally congruent, ultimately strengthening retail sector resilience and advancing responsible consumption goals.

Managerial Contribution

Managers of emerging retail businesses in North-Central Nigeria and similar developing markets should segment consumers by education and age, targeting highly educated shoppers with premium sustainable product lines that match their lifestyles and social values, while using digital tools and peer-influenced promotions to attract younger patrons. Recognising that disciplined spending habits reduce blind loyalty and that parental influence wanes with age, retailers can focus on consistent quality, transparency, and experiential marketing to convert awareness into sustained patronage and long-term survival.

5.0 Conclusion

This study confirms that socio-demographic factors significantly shape sustainable shoppers' behaviour in North-Central Nigeria's emerging retail sector, with educational attainment (particularly lifestyle and social dimensions) driving loyalty and age-related factors (especially brand familiarity, peer influence, and technology adoption) fostering patronage. These dynamics underscore the potential for sustainability-oriented strategies to enhance customer retention and business survival in developing economies where urbanisation and education are rising, aligning with global calls for responsible consumption.

These findings validate Consumer Behaviour Theory and Theory of Planned Behaviour, revealing that emerging market consumers balance sustainability awareness against economic limitations. Retail survival requires strategic segmentation addressing educated yet price-sensitive loyalists through lifestyle-aligned positioning and competitive pricing, alongside age-targeted branding and digital infrastructure for diverse patronage patterns. The substantial explained variance and robust psychometric properties establish this as a significant contribution to African consumer behavior literature, demonstrating that socio-demographic frameworks remain powerful in emerging markets when incorporating local economic and cultural realities. These insights extend to comparable developing economies navigating sustainability transitions amid resource constraints, where consumer aspirations exceed purchasing power, requiring adaptive strategies balancing ethical imperatives with affordability pragmatism.

Recommendations

(i) To enhance shoppers' loyalty, emerging retail businesses should develop sustainability initiatives that align with educated consumers' lifestyles and social values, such as transparent ethical sourcing and community engagement programmes. To boost patronage, retailers should invest in digital platforms, peer-driven promotions, and trend-relevant sustainable products targeted at younger consumers, while de-emphasising traditional family-oriented messaging that shows diminishing influence.

(ii) Retail managers should implement lifestyle-aligned sustainability strategies emphasizing value-for-money rather than premium eco-branding for educated price-sensitive consumers, while deploying age-based segmentation through mobile payments and digital platforms for younger shoppers versus personalized service for older demographics. Leverage peer networks via referral programs while avoiding family-oriented marketing, positioning stores as spaces for autonomous consumption identity.

(iii) Policymakers should enhance purchasing power through economic development and support retail digital transformation via infrastructure investment. Marketing campaigns should emphasize tangible sustainability benefits, cost savings, health, durability, communicating economic rationality rather than abstract environmental appeals. Integrate sustainable options across all price points rather than segregating premium products, normalizing sustainability as standard practice. Train staff on sustainability communication addressing price concerns, and track adoption rates alongside sales metrics. These can operationalize educational and age insights into retail strategies supporting business survival through enhanced loyalty and patronage in North-Central Nigeria's competitive market.

Contribution to the Study

The research advances sustainable consumer behaviour literature by providing empirical evidence from an African emerging market context, demonstrating nuanced socio-demographic effects on loyalty and patronage that both corroborate and extend findings from developed and Asian markets. It highlights lifestyle congruence as a primary loyalty driver and digital/peer influences as key patronage levers, offering a contextualised model valuable for retail sustainability studies across developing economies.

Suggestions for Further Study

Future research could adopt longitudinal designs to track how these relationships evolve over time, incorporate additional variables such as income or cultural orientation, or employ multi-group analysis to compare urban versus rural consumers. Necessity-based approaches like Necessary Condition Analysis (NCA) could identify threshold levels of education or technology adoption required for sustainable behaviour, addressing limitations of the current cross-sectional PLS-SEM approach.

Limitation of the Study

The cross-sectional design captures associations but not causality or temporal changes, while convenience sampling within urban centres limits generalization to rural areas. Potential common method bias was mitigated through validated scales, high construct reliability, and HTMT discriminant validity checks; contextual specificity to North-Central Nigeria was addressed by multi-state sampling, enhancing regional representativeness.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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