

New Product Development and Business Sustainability of Selected Mobile Phone Outlets in Abeokuta Computer Hub, Ibara, Abeokuta

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ABSTRACT

This study investigates the effect of new product development on business sustainability among mobile phone sellers in Abeokuta Computer Hub, Ibara, and Abeokuta. Specifically, the study examines how customers' needs, new product penetration, new product competitiveness, and innovation of new products influence the sustainability of small-scale mobile phone businesses. A survey research design was adopted, with primary data collected through structured questionnaires from 141 respondents. The data were analysed using descriptive statistics and multiple regression analysis. The regression results reveal that the new product competitiveness ($\beta = 0.790$, $p < 0.001$) and innovation of new products ($\beta = 0.241$, $p < 0.001$) have positive and highly significant effects on business sustainability, implying that rapid innovation and competitive product features strongly shape the sustainability of business. Customers' needs also exhibit a positive and significant effect ($\beta = 0.384$, $p = 0.008$), indicating that alignment with consumer preferences enhances business survival. In contrast, new product penetration shows a positive but marginally significant effect ($\beta = 0.290$, $p = 0.051$), implying a weaker independent influence. The study concludes that business sustainability in the mobile phone retail sector is largely driven by innovation intensity, competitive product dynamics, and responsiveness to customer needs. The study recommends that mobile phone sellers should strengthen customer-oriented strategies, adopt flexible and responsive inventory systems, and continuously monitor technological trends to remain competitive to sustain long-term business performance.

KEYWORDS

Business sustainability, new product development, product innovation, product competitiveness, customer needs

I. INTRODUCTION

The Nigerian business environment has experienced significant transformation in recent years, driven by rapid technological advancements, globalisation, evolving consumer behaviour, regulatory reforms, and heightened market uncertainty. These forces have intensified competitive pressures across industries, compelling firms to adopt strategic frameworks that support long-term survival, growth, and adaptability (Usman et al., 2024). In technology-driven sectors such as the mobile phone retail market, the ability to innovate and respond swiftly to shifting market demands has become not merely an advantage but a prerequisite for organisational relevance and sustainability.

Central to this imperative is new product development (NPD), a systematic process through which firms identify market opportunities, design or improve products, and deliver enhanced value to consumers. Beyond the introduction of entirely new offerings, NPD encompasses product modification, line extension, and strategic repositioning, all aimed at sustaining customer satisfaction and strengthening competitive positioning. In rapidly evolving, technology-intensive markets, the capacity to continuously develop and refine products has emerged as a fundamental determinant of firm performance and long-term competitiveness.

The strategic significance of NPD is particularly pronounced in emerging markets such as Nigeria, where small and medium-scale enterprises (SMEs) form the backbone of commercial activity yet frequently contend with structural limitations, including constrained access to finance, inadequate technological infrastructure, and limited institutional support. Within trading clusters such as mobile phone vendors operate in a uniquely challenging environment characterised by short product life cycles, rapidly shifting consumer preferences, and mounting demand for technologically advanced devices. In this context, sustained competitiveness demands continuous product innovation and modification, a reality that places NPD at the heart of business strategy for SMEs operating in such semi-informal, cluster-based markets.

Despite its strategic relevance, the effectiveness of NPD initiatives among SMEs remains constrained by a range of structural and managerial deficiencies. A critical limitation is the insufficient attention given to market intelligence, the systematic gathering and application of information about customers, competitors, and broader market dynamics. Market orientation has been widely recognised as a foundational driver of successful product innovation, as firms that embed customer insight into their development processes achieve greater product-market fit and competitive advantage. Empirical evidence further suggests that firms with superior marketing and operational capabilities demonstrate stronger innovation performance by aligning their development efforts with actual consumer needs. However, many SMEs in developing economies allocate minimal resources to research and development (R&D), resulting in weak innovation capacity, limited absorptive ability, and a tendency to invest in invalidated product ideas, outcomes that contribute to high failure rates and poor market performance.

The broader macroeconomic environment in emerging markets compounds these challenges further. Low consumer purchasing power, infrastructural deficits, and vulnerability to global economic volatility introduce significant uncertainty into NPD activities, yet simultaneously heighten the urgency for innovation as a survival mechanism. Firms that fail to innovate risk obsolescence, while those that adopt effective NPD practices are better positioned to build resilience, sustain performance, and adapt to changing market conditions (Judijanto et al., 2024). This perspective aligns with the Schumpeterian notion of creative destruction, which holds that economic progress is driven by continuous innovation, firms that develop and renew their product offerings displace those that do not (Schumpeter, 1934). Accordingly, flexible and responsive NPD practices have been shown to accelerate product development cycles, improve market responsiveness, and enhance the probability of product success among SMEs.

These dynamics are especially evident within the Abeokuta Computer Hub, Ibara, Ogun State, where mobile phone vendors operate in a semi-informal, highly competitive cluster

environment in which success is closely tied to product innovation and the ability to anticipate and respond to market trends. Notwithstanding the growing relevance of NPD in such settings, existing scholarly literature has largely focused on firm-level or country-level analyses, with limited empirical attention devoted to cluster-based SMEs and informal market contexts. This study, therefore, investigates the impact of new product development on business sustainability among selected mobile phone sellers in the Abeokuta Computer Hub, to provide empirical evidence on how NPD practices shape the sustainability and performance of SMEs operating in resource-constrained and highly competitive environments.

II. LITERATURE REVIEW

A. Conceptual Review

New Product Development:

New product development (NPD) is the entire process by which a company converts an idea or perceived opportunity into a product available for sale (Olakunori, 2017). It not only involves the technical aspects of product research, engineering, and design but also the managerial aspects of product planning, which allow firms to tap into market opportunities (Gronroos, 2016). Notably, the "product" here is not limited to physical goods but can also be services and intangible products, and broadly refers to any combination of tangible, intangible and symbolic attributes that is capable of delivering value and satisfaction to the purchaser (Kotler, 2013). And because the product is the core of the marketing mix on which other activities are built, NPD is seen as a key to organisational performance and success.

The NPD process involves a series of discrete stages, which typically begin with idea generation and concept development, and progress through business analysis, prototype development, testing and finally commercialisation (Cooper & Kleinschmidt, 1978). The most widely recognised framework for managing these stages, the Stage-Gate model developed by Cooper and Kleinschmidt (1978), continues to be the most common approach to managing these stages, offering clear decision milestones that are used to manage cross-functional teams, including research and development, marketing, production, and so on, through the development process. One area that is especially important is during the stage of business analysis, when production costs, pricing, sales forecasts and industry dynamics are considered to assess the economic feasibility of further development (Slater & Norvel, 2016). Consequently, successful NPD requires not just technical expertise but also effective communication, role clarity, and leadership to address the time pressures and potential conflicts that may arise between departments as part of the development process (Cooper, 2016). At a strategic level, firms engage in NPD for a number of interrelated reasons: to address changing customer demands and expectations, to identify and capitalise on new market opportunities, to mitigate the competitive pressures of existing markets, and to harness under-used company resources in a manner that maximises profitability and ensures the long-term survival of the business (Pride, 2014). When successful, NPD allows firms to broaden product offerings, increase market share, foster customer retention and ensure future growth (Smith, 2018). Consumer insight is the key to this process; firms that

consistently integrate customer knowledge into their development processes are more likely to generate products that enjoy high levels of market success and provide long-term competitive advantage.

Business Sustainability:

Business sustainability is defined as an organisation's ability to sustain operations, deliver value over time and respond to environmental, economic and social challenges without undermining its future potential (Elkington, 1997; Dyllick & Muff, 2016). Deriving from the discourse of sustainable development, the concept has matured from being initially associated with environmental compliance to a more comprehensive approach that balances economic, social and environmental considerations, known as the triple bottom line (Elkington, 1997). In today's business landscape, business sustainability is no longer regarded as a niche concern but as a central strategic imperative that influences organisational priorities, resource mobilisation and competitive advantage.

At the organisational level, business sustainability is operationalized in three dimensions. The economic dimension relates to the firm's capacity to remain profitable, efficiently manage costs and generate adequate revenue to support ongoing operations and investment in growth (Slaper & Hall, 2011). The social dimension relates to the firm's responsibilities to its workers, customers and the broader community in terms of fair employment practices, stakeholder relations and corporate social responsibility (Carroll & Shabana, 2010; Lozano, 2018). The environmental dimension, on the other hand, concerns the reduction of environmental impact through sustainable resource management, waste mitigation and the implementation of environmentally responsible policies and practices (Bansal & Roth, 2000). Combined, these dimensions reflect the recognition that the long-term sustainability of organisations requires a dynamic interplay between economic, social and environmental dimensions, rather than an exclusive focus on any one dimension.

In the context of emerging markets, business sustainability holds special meaning for SMEs due to the vulnerabilities and resource constraints in the environment. SMEs are more vulnerable to market shocks and lack the economic scale, capital access, and institutional support afforded by larger firms (Ayyagari et al., 2017; Mustapha et al., 2021). In this environment, sustainability is less about regulatory compliance and more about strategic survival - businesses that do not develop the capability to adapt and remain relevant in their markets are likely to rapidly decay or disappear (Nwachukwu & Vu, 2020). This is borne out by empirical evidence from sub-Saharan Africa that SMEs that integrate sustainability into their strategic decision-making enjoy higher resilience, greater customer loyalty and more stable financial performance over the long term.

Innovation is recognised as a key driver of business sustainability, especially in rapidly changing and technology-based markets. Businesses that are engaged in continuous product and service innovation are better equipped to respond to changing consumer needs and preferences, competitive shifts, and maintain sustainable growth in sales over time (Nambisan et al., 2017; Teece, 2018). This link is particularly pertinent in retail and trading markets, such as mobile phones, where product lifecycles are short, demand is volatile and product differentiation is becoming more challenging in the absence of innovation activity (Morozov et al., 2024). This relationship is supported by the resource-based perspective on the firm, which suggests firms with distinctive, valuable, and inimitable resources - such as

NPD capability - are more likely to attain sustainable competitive advantage and long-term performance (Barney, 1991; Teece, 2018). As a result, the incorporation of NPD into the firm's strategic plan is increasingly being seen as a means to translate an innovation strategy into sustainable business success for SMEs.

The measurement of business sustainability in SMEs has itself been the subject of considerable scholarly debate, as conventional sustainability metrics developed for large corporations are frequently ill-suited to the operational realities of smaller firms (Schaltegger & Burritt, 2018; Lozano, 2018). Scholars have increasingly advocated for context-sensitive frameworks that assess sustainability through indicators such as sales growth, customer retention, market share, operational continuity, employee welfare, and community impact — dimensions that more accurately reflect the sustainability experience of resource-constrained enterprises (Nwachukwu & Vu, 2020; Abisuga-Oyekunle et al., 2020). In the Nigerian SME context specifically, business sustainability has been linked to the ability to maintain consistent revenue generation, sustain competitive relevance amid market turbulence, and build loyal customer bases in the face of intense informal competition (Mustapha et al., 2021; Usman et al., 2024). These indicators collectively provide a more grounded and operationally meaningful basis for assessing sustainability performance in cluster-based and informal market settings such as the Abeokuta Computer Hub.

B. Theoretical Framework

This paper is grounded on the New Product Development (NPD) theory, originally advanced by Booz et al. (2018), which provides a structured explanation of how firms systematically transform ideas into marketable products. The theory, commonly referred to as the BAH model, remains one of the most influential frameworks in innovation literature and serves as the foundation for most contemporary NPD process models. It is built on empirical industry evidence, case studies, and managerial practice, thereby reflecting how firms typically organise and execute product innovation activities. The BAH model conceptualises NPD as a sequential and interrelated process that aligns innovation activities with organisational objectives. It begins with new product strategy, which links product development efforts to overall business goals and provides direction for idea generation and selection. This is followed by idea generation, where firms identify potential product concepts that align with market opportunities. The screening stage evaluates and filters ideas to determine feasibility and strategic relevance.

Subsequently, business analysis assesses selected ideas using financial and market-based indicators such as profitability, sales projections, and return on investment (ROI). The process then progresses to development, where viable ideas are converted into tangible prototypes. This is followed by testing, which validates product performance and market readiness before full introduction. The theory further culminates in commercialisation, where products are launched into the market. A central proposition of the BAH framework is that firms with well-structured and formally implemented NPD processes are more likely to achieve successful product outcomes and long-term competitive advantage. Each stage is designed to reduce uncertainty, improve decision quality, and enhance innovation success rates.

However, for this study, emphasis is placed on the pre-commercialisation stages of the model, as these phases are most critical in determining product viability before market entry. This theoretical framework is therefore relevant in explaining how mobile phone sellers in Abeokuta Computer Hub, Ibara, Ogun State, develop and refine product ideas, and how such processes influence business sustainability in a highly competitive and resource-constrained environment.

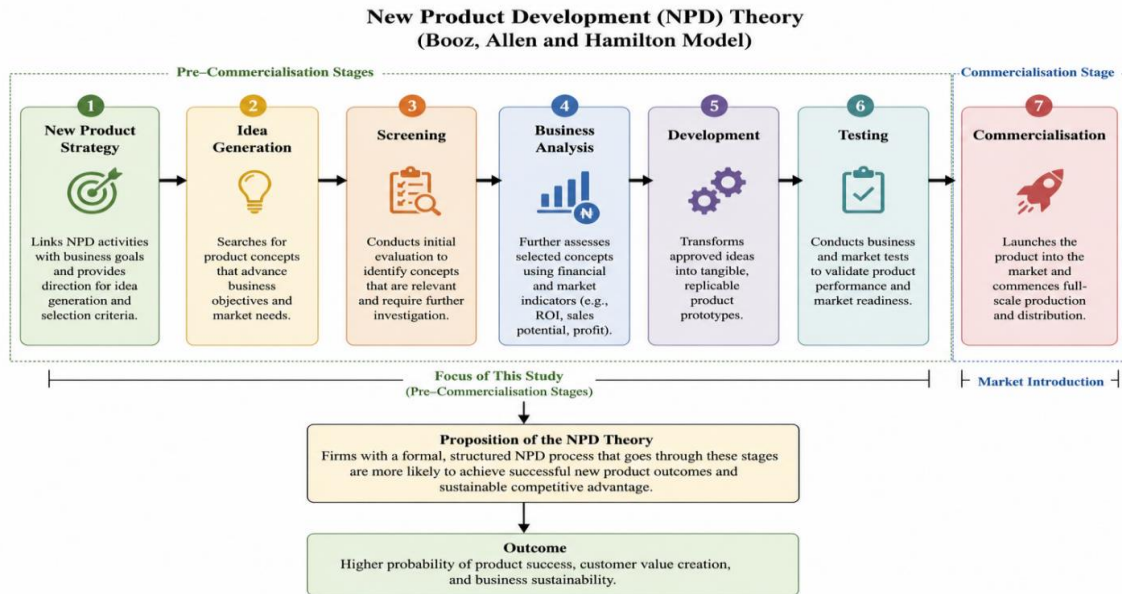


Figure 1: New Product Development Theory

C. Empirical Review

Iqbal and Suzianti (2021) studied the design of NPD processes in SMEs from an open innovation standpoint through a systematic review of 99 articles. They highlighted the importance of collaboration, knowledge integration and flexibility in NPD processes. The study suggests that SMEs that use structured NPD processes and benefit from external knowledge sources have greater product success and competitiveness. Employing a conceptual-empirical approach, they noted that flexibility, efficiency and speed are key NPD success factors. The findings indicate that processes based on agile principles have a positive impact on development time and product quality, which in turn increases firm competitiveness and sustainability.

Omar et al. (2021) adopted a survey method to examine the NPD practices of Malaysian SMEs. Results show that market competition, innovation capability and strategic orientation are key factors in NPD performance. The results indicate that SMEs that have organised innovation practices and internal capabilities are more likely to experience long-term growth and success. Yusr et al., (2022) examined the factors influencing product innovation performance with structural equation modelling. This research identifies administrative and functional capabilities, such as Research and Development, marketing and operations, as

key determinants of NPD performance. The findings show firms with greater internal capabilities have greater innovation success and performance.

Mubarak et al. (2026) investigated the influence of open innovation and absorptive capacity on improving NPD performance for SMEs using PLS-SEM. The study emphasises that, through the knowledge-based view, accessing external knowledge enhances innovation. The results also show that firms with greater absorptive capacity better absorb external knowledge and turn it into successful product innovation and performance.

Sipos et al. (2025) used multi-country data within a resource-based view to examine the effects of marketing innovation on SME performance. The research confirmed that innovation strategies lead to improved competitiveness and growth. This research confirms that SMEs which develop innovation capabilities perform better and sustain stronger. Judijanto et al. (2024) used bibliometric analysis to explore the relationship between NPD strategies and MSME growth. This study highlighted that innovation capability, resilience and policy support play a pivotal role in SME performance. It found that well-implemented NPD strategies are crucial in improving business resilience in the face of economic shocks. Sipos et al. (2025) examined the impact of NPD activity on SME performance in a dynamic macroeconomic environment through a mixed-methods approach. Drawing on Schumpeterian and dynamic capabilities perspectives, the study concluded that increased NPD activity offsets negative impacts of macroeconomic uncertainty.

The results suggest that ongoing product innovation enhances firm resilience and performance during economic uncertainty. In a survey study, Ceptureanu et al. (2022) investigated the link between market orientation, NPD capability and sustainability performance of small to medium enterprises (SMEs). The research showed NPD capability mediates the relationship between market intelligence and sustainability performance. This study highlights that firms that successfully convert customer knowledge into formalised NPD processes experience better performance.

The study by Osei et al. (2023) examined how NPD contributes to sustainability among small and medium-sized enterprises (SMEs) in informal trading clusters in sub-Saharan Africa through a mixed methods approach. They found that companies that engage in continuous product adaptation and line extension enjoy more stable revenues, customer loyalty and competitive advantage. They also emphasised the cluster's role in knowledge diffusion to enhance innovation. Mubarak et al. (2025) examined the moderating effect of absorptive capacity on the link between NPD and business sustainability of technology-based SMEs. The cross-sectional study concluded that firms with effective knowledge integration capabilities reap greater sustainability outcomes from NPD. The research highlights the importance of internal knowledge management capability for achieving long-term benefits from innovation.

D. Summary of Empirical Gap

There is a significant amount of research that has shown that new product development (NPD) is a critical factor in firm competitiveness and sustainability, especially in SMEs. Research by Iqbal and Suzianti (2021) and Žužek et al. (2021) reveals that formalised, flexible, and responsive NPD processes contribute to product success by promoting collaboration, knowledge sharing and speed of development. Likewise, Omar et al. (2021)

and Yusr et al. (2022) show that internal capabilities (especially in terms of innovation, marketing, and operational efficiency) are crucial to NPD success. Together, these studies confirm that companies with enhanced organisational and strategy capabilities are more likely to attain better innovation outcomes.

Moreover, Mubarak et al. (2026) and Mubarak et al. (2025) further build on this insight to emphasise the role of absorptive capacity and open innovation to bridge external knowledge and product development. Similarly, Sipos et al. (2025) verify that innovation-based strategies improve competitiveness and growth of SMEs, while Judijanto et al. (2024) highlight that resilience and policy interventions strongly affect the role of NPD in enhancing the sustainability of SMEs in turbulent economic environments. Furthermore, Ceptureanu et al. (2022) confirm that NPD capability is a mediating factor between market orientation and sustainability performance, highlighting the benefits of formalised innovation systems to translate market information to business outcomes.

Despite this progress, the research has several shortcomings. First, the existing research is mostly focused at the firm or national level with little emphasis on micro-commercial clusters and informal markets where SMEs operate in a more dynamic and resource-poor environment. Second, while earlier studies consistently establish relationships between NPD, firm performance and sustainability, there is still little consensus on how these unfold in highly informal retail environments, especially in developing countries like Nigeria. Third, although literature like that of Sipos et al. (2025) and Osei et al. (2023) recognise the influence of contextual factors (macro-economic uncertainty and informal clustering), there remains limited empirical evidence on their interaction with NPD at the microenterprise (street-level or cluster-based) level.

More significantly, while previous studies focus on organisational capabilities and innovation systems, there is still a paucity of research on how micro-level product development practices among small-scale traders influence business sustainability measures such as enterprise survival, customer retention and sales stability. Though some studies address absorptive capacity and market orientation (Ceptureanu et al., 2022; Mubarak et al., 2025), they primarily relate to formal SMEs, and there is a contextual gap in understanding semi-formal retail clusters in competitive and dynamic markets. Against this backdrop, there is an empirical and contextual gap in how NPD affects business sustainability in informal and semi-formal SME clusters in Nigeria, especially in mobile phone retail clusters such as Abeokuta Computer Village (ACV) in Ibara, Ogun State. To this end, this study fills this gap by exploring the impact of NPD on business sustainability among a sample of mobile phone vendors in the study site with the aim of contributing empirical evidence on how NPD practices influence survival and performance in a resource-poor and competitive environment.

III. METHODOLOGY

A. Research Design

This study adopted a qualitative research design to obtain in-depth insights into respondents' views, experiences, and perceptions regarding new product development and business sustainability. The design was considered appropriate because it allows detailed

exploration of opinions and contextual understanding of the study variables. The population of the study comprised entrepreneurs operating in Computer Village, Oke-Ilewo, Abeokuta, with a total population of 250 SMEs as obtained from the Computer and Allied Products Dealers Association of Nigeria (CAPDAN), Oke-Ilewo. The sample size was determined using the Krejcie and Morgan (1970) formula, which yielded a sample of 153 respondents from the population of 250. A simple random sampling technique was adopted to ensure that each member of the population had an equal chance of selection, thereby reducing bias and enhancing representativeness. Only 141 responses were returned and fit for further analysis.

B. Sources of Data

The study relied on primary data collected directly from respondents through a structured questionnaire administered to entrepreneurs in the study area. The sampling frame consisted of all registered entrepreneurs operating within Computer Village, Oke-Ilewo, and Abeokuta. The questionnaire served as the main research instrument and was designed to capture detailed responses relating to the study objectives. Data collection focused on obtaining factual and experience-based responses relevant to new product development practices and business sustainability outcomes.

C. Validity and Data Analysis Technique

The validity of the research instrument was ensured through content relevance, ensuring that all questions aligned with the study objectives. In addition, rich description was employed to capture respondents’ views accurately, while external review was conducted to enhance objectivity and reduce bias. Reliability was tested using Cronbach’s Alpha, which produced a coefficient of 0.950 for 25 items, exceeding the recommended threshold of 0.70, indicating high internal consistency of the instrument. Data collected were analysed using thematic analysis, which involved identifying, categorising, and interpreting recurring themes in line with the research objectives. This approach facilitated a systematic examination of the respondents.

IV. PRESENTATION OF RESULTS

A. Demographic Information

Table 1: Demographic Information of Respondents

Variable	Item	Frequency	Percentage (%)
Gender	Male	95	67.4
	Female	46	32.6
	Total	141	100.00
Age	20 - 30 years	85	60.3
	31 - 40 years	36	25.5
	41 - 50 years	14	9.9
	51 years and above	6	4.3
	Total	141	100.00
Marital Status	Single	79	56.0

	Married	55	39.0
	Divorced	9	5.0
	Total	141	100.00
Academic Qualification	SSCE	24	17.0
	NCE/ND/Technical	95	67.4
	HND/B.Sc	10	7.1
	Other	12	8.5
	Total	141	100.00
Years in Business	0-1 Year	8	5.7
	2-4 Years	86	61.0
	5-7 Years	30	21.3
	8-10 Years	3	2.1
	11 years and above	14	9.9
	Total	141	100.00

Source: Field Survey, 2026

Table 1 shows the demographic information of the respondents. The gender distribution of the respondents shows that 95 (67.4%) respondents were male, while 46 (32.6%) respondents were female. The Table also indicates that 85 (60.3%) respondents were within the age range of 20-30 years; 36 (25.5%) respondents were within the range of 31-40 years; 14 (9.9%) respondents were within the age range of 41-50 years; while 6 (4.3%) respondents were within the age range of 51 years and above. Also, 79 (56.0%) respondents were single; 55 (39.0%) respondents were married; while 9 (5.0%) respondents were divorced. Furthermore, 24 (17.0%) respondents have an SSCE certificate; 95 (67.4%) respondents have an NCE/ND/Technical certificate; 10 (7.1%) respondents have an HND/B.Sc certificate; while 12 (8.5%) respondents have other certificates. Lastly, the table indicates that 8 (5.7%) respondents have been in business for 0-1 year; 86 (61.0%) respondents have been in business for 2-4 years; 30 (21.3%) respondents have been in business for 5-7 years; 3 (2.1%) respondents have been in business for 8-10 years; while 14 (9.9%) respondents have been in business for 11 years and above.

B. New Product Development

Table 2: New Product Penetration

Statement	TWV	Mean	SD	Rank
New product launches by big brands affect the sustainability of small mobile phone businesses.	417	2.97	0.79	1
My business faces pressure to constantly stock the latest mobile phones to survive.	410	2.91	0.85	2
New mobile phone models enter the market more frequently than before.	405	2.87	0.76	3

The fast penetration of new products makes it hard to maintain steady sales.	402	2.85	0.72	4
Innovative mobile phones reduce the demand for older models in my store.	389	2.76	0.81	5

Source: Field Survey, 2026

Table 2 shows that respondents generally agree that new product penetration significantly affects business sustainability, as reflected in mean scores ranging from 2.76 to 2.97. The highest-ranked item (Mean = 2.97; SD = 0.79) indicates that new product launches by big brands have a strong effect on the sustainability of small mobile phone businesses, suggesting heightened competitive pressure from dominant market players. This is followed by the perception that businesses are compelled to continuously stock the latest mobile phones to remain viable (Mean = 2.91; SD = 0.85), reflecting operational pressure created by rapid product cycles. Further results show that frequent introduction of new mobile phone models is also a notable concern (Mean = 2.87; SD = 0.76), while the fast penetration of new products is seen to moderately hinder stable sales performance (Mean = 2.85; SD = 0.72). The least-ranked but still relevant factor is the reduction in demand for older phone models due to innovation (Mean = 2.76; SD = 0.81).

Table 3: New Product Competitiveness

Statement	TWV	Mean	SD	Rank
Rapid improvements in new products threaten the sustainability of traditional mobile phone businesses.	408	2.89	0.78	1
New mobile phones are launched with features that make older models less competitive.	402	2.85	0.80	2
My business struggles to compete when new phones are priced aggressively.	398	2.82	0.77	3
The competitiveness of new phones affects customer loyalty to my shop.	393	2.79	0.74	4
Innovative products from top brands make it harder for my business to compete.	385	2.73	0.82	5

Source: Field Survey, 2026

Table 3 shows that respondents generally perceive new product competitiveness as a significant threat to business sustainability, with mean scores ranging from 2.73 to 2.89. The highest-ranked item (Mean = 2.89; SD = 0.78) indicates that rapid improvements in new products pose a strong threat to the sustainability of traditional mobile phone businesses, reflecting the disruptive nature of technological advancement. This is followed by the view that new mobile phones are introduced with features that quickly render older models less competitive (Mean = 2.85; SD = 0.80), highlighting the speed of product obsolescence in the market. The findings further show that aggressive pricing strategies of

new phones also constrain business competitiveness (Mean = 2.82; SD = 0.77), while customer loyalty is moderately affected by the competitiveness of new products (Mean = 2.79; SD = 0.74). The lowest-ranked item, though still relevant, shows that innovative products from major brands make it harder for businesses to compete (Mean = 2.73; SD = 0.82).

Table 4: Degree of Innovation

Statement	TWV	Mean	SD	Rank
Rapid technological innovation in new phones threatens the sustainability of my business.	414	2.94	0.76	1
Innovative features in new products reduce the attractiveness of older models.	409	2.90	0.71	2
My business finds it challenging to respond to the speed of innovation in the mobile phone market.	401	2.84	0.83	3
Continuous innovation in mobile phones influences customers to switch brands or sellers.	397	2.81	0.80	4
Frequent innovation in mobile phones puts pressure on my business to keep up.	392	2.78	0.85	5

Source: Field Survey, 2026

Table 4 indicates that respondents perceive the degree of innovation in mobile phones as a strong determinant of business sustainability, with mean scores ranging from 2.78 to 2.94. The highest-ranked item (Mean = 2.94; SD = 0.76) shows that rapid technological innovation in mobile phones poses a significant threat to business sustainability, highlighting the disruptive effect of continuous technological change. Closely following is the view that innovative features in new products reduce the attractiveness of older models (Mean = 2.90; SD = 0.71), indicating accelerated product obsolescence driven by innovation.

Further results show that businesses experience difficulty in responding to the speed of innovation in the mobile phone market (Mean = 2.84; SD = 0.83), while continuous innovation also influences customers to switch between brands or sellers (Mean = 2.81; SD = 0.80). The least-ranked item reveals that frequent innovation places sustained pressure on businesses to keep up with market changes (Mean = 2.78; SD = 0.85).

C. *Business Sustainability*

Table 5: Business Sustainability

Statement	TWV	Mean	SD	Rank
The continuous release of innovative mobile phones threatens the long-term sustainability of my business.	417	2.97	0.79	1
The rapid introduction of innovative phones reduces the relevance of my current inventory.	411	2.91	0.81	2

My business struggles to stay sustainable due to frequent changes in mobile phone technology.	405	2.87	0.76	3
Business sustainability depends on how well we adapt to new product innovations.	402	2.85	0.80	4
I find it difficult to maintain stable income because of fast-changing mobile phone trends.	389	2.76	0.83	5

Source: Field Survey, 2026

Table 5 indicates that respondents generally perceive business sustainability as being significantly affected by rapid technological changes in the mobile phone market, with mean scores ranging from 2.76 to 2.97. The highest-ranked item (Mean = 2.97; SD = 0.79) shows that continuous release of innovative mobile phones poses a strong threat to long-term business sustainability, reflecting the disruptive impact of constant product innovation. This is closely followed by the perception that rapid introduction of new phones reduces the relevance of existing inventory (Mean = 2.91; SD = 0.81), indicating accelerated inventory obsolescence. The result also shows that frequent technological changes make it difficult for businesses to remain sustainable (Mean = 2.87; SD = 0.76), while sustainability is also linked to the ability of firms to adapt to new innovations (Mean = 2.85; SD = 0.80). The least-ranked item indicates that fast-changing mobile phone trends hinder stable income generation (Mean = 2.76; SD = 0.83).

D. Multiple Regression Analysis

Table 6: Result of Multiple Regression Analysis

Source	SS	Df	MS	No. of Obs. = 141
Regression	41.203	4	10.301	F = 395.731
Residual	3.540	136	0.026	Prob>F = 0.000
Total	44.743	140		R-Squared = 0.921 Adj R-Squared = 0.919 R = 0.960
Variables	Coef	Std. Err.	T	Sig.
(Constant)	0.129	0.097	1.330	0.186
Customers' Needs	0.384	0.054	0.151	0.008
New Products Penetration	0.290	0.046	1.971	0.051
New Product Competitiveness	0.790	0.056	14.190	0.000
Innovation of New Product	0.241	0.053	4.581	0.000
a. Dependent Variable: business sustainability				
b. Predictor: (Constant), Innovation of New Product, Customers' Needs, New Products Penetration, New Product Competitiveness				

Source: Authors' Computations Using SPSS 25 (2026)

The multiple regression analysis in Table 6 shows that the model is significant and explains the variations in business sustainability. The F-statistic ($F = 395.731$, $p < 0.001$) indicates that the overall effects of independent variables are statistically significant. The coefficient of determination ($R^2 = 0.921$) indicates that 92.1% of the variance in business sustainability is accounted for by customers' needs, new product penetration, new product competitiveness and innovation of new product. The adjusted coefficient of determination ($R^2 = 0.919$) also reflects a good model fit and the correlation coefficient ($R = 0.960$) shows a strong positive correlation between the dependent and independent variables.

At a variable level, innovation of new product ($\beta = 0.241$, $p < 0.001$) and new product competitiveness ($\beta = 0.790$, $p < 0.001$) show positive and significant effects on business sustainability, suggesting that the higher the innovation and competitiveness of new products, the more impact on business sustainability. The penetration of a new product ($\beta = 0.290$) also has a positive effect but is marginally significant ($p = 0.051$), which indicates that it has a moderate impact on business sustainability. Customers' needs, while positively associated ($\beta = 0.384$) is not significant ($p = 0.186$), suggesting that it does not have a significant influence when included in the model.

V. DISCUSSION OF FINDINGS

The results of this study reveal that new product penetration has a significant effect on business sustainability (reflected in the high means). In particular, the respondents reveal that such factors as the regular product introductions by leading brands, fast pace of new product inbound, and need to update stock influence mobile phone business sustainability. This suggests that the market environment has short product life cycles and intense competition, which lead to operational and financial challenges for small businesses. The need to constantly update product portfolio raises working capital needs and the risk of inventory write-off. This result is consistent with NPD theory, which suggests that product diffusion and new product introduction are important factors in competition in technology markets. This finding is in line with Iqbal and Suzianti (2021), who discovered that in a rapid innovation environment, firms need to be flexible and responsive in their NPD process.

The study also shows that new product competitiveness has an impact on business sustainability, with the respondents concurring that fast development in product features, intense pricing strategies, and improvements in product functionality affect the competitiveness of existing product offerings, and erode customer loyalty. This suggests that the sources of competitive advantage in the mobile phone market are increasingly innovation and price, rather than relationship-based. The reduction in customer loyalty implies that customers are very sensitive to product enhancements, which leads to increased market instability. This finding is in line with the Schumpeterian theory of innovation, which suggests that innovation promotes "creative destruction", in which new products replace existing ones. The results are consistent with empirical evidence from Sipos et al. (2025) and Omar et al. (2021) that innovation-driven competitiveness improves company performance but also increases competition in the market, especially for firms with low adaptability.

And the level of innovation affects the sustainability of business. This study shows that with technological progress, new features and innovation cycles, the value of current products diminishes and firms struggle to adapt to market evolution. This suggests that innovation not only encourages market expansion but it also results in product obsolescence and raises the costs of business adjustment. The impact on consumer switching behaviour also implies that innovation decreases brand loyalty and enhances the dynamism of markets. This is consistent with the dynamic capabilities view of the firm that suggests firms need to continually reconfigure their resources and capabilities in response to technological changes. This finding also supports the work of Mubarak et al. (2026) and Yusr et al. (2022), which reported that businesses with high innovation and absorptive capacity have a higher level of sustainability.

The regression findings provide more rigorous evidence for such associations. The model is significant and accounts for a large part of the variance in business sustainability ($R^2 = 0.921$), suggesting that new product dynamics play a salient role in determining business sustainability. At the variable level, new product competitiveness and innovation of new products have a positive and significant effect on business sustainability. This suggests that while innovation and competitiveness present a challenge, they also offer opportunities to firms that respond appropriately in terms of strategic actions and capability building. New product penetration exhibits a weakly significant effect, implying that, when other factors are taken into account, its effect is weaker.

Surprisingly, customers' needs show no significant effect, suggesting that in this case, business sustainability is more related to supply-driven innovation than to consumer needs. This finding goes against the grain of traditional market orientation literature, which stresses the importance of customer needs. But it is in line with Ceptureanu et al. (2022) who observed that business performance depends on how well firms can convert customer knowledge into well-organised innovation processes instead of being just driven by customer needs.

VI. CONCLUSION AND RECOMMENDATION

This study demonstrates that the development of new products plays a significant role in business sustainability of mobile phone companies. The findings show that the combined influence of new product penetration, competitiveness and innovation on business sustainability takes the form of elevated competition, faster obsolescence of products, and greater adjustment costs. The regression analysis also shows that new product innovation and new product competitiveness have a positive and significant impact on business sustainability while new product penetration has a negligible impact. This implies that while new product innovation and competitiveness provide business opportunities, they also require adjustment and survival costs, which are especially severe for smaller firms with limited resources. The study concludes that mobile phone business operators should consider proactive product management techniques, such as selective inventory, forecasting and inventory optimisation, to reduce the negative impact of product obsolescence. They should also build innovation response capacity by using market information, enhancing relationships with suppliers, and adopting flexible business models to quickly respond to new product trends.

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