Journal of Allied Research in Management and Entrepreneurship (JARME)

Volume 16, Number 8; August-2025; ISSN: 2837-3790 | Impact Factor: 11.3 https://zapjournals.com/Journals/index.php/jarme

Published By: Zendo Academic Publishing

EFFECT OF ENTREPRENEURIAL SKILLS ON ORGANISATIONAL LEADERSHIP OF BOTTLING COMPANIES IN PORT HARCOURT

¹Dr. Kingsley Ikwunga Amadi

Article Info

Keywords: Entrepreneurial Skills, Organisational Leadership, Bottling Companies, Port Harcourt, Market Dynamics.

DOI

10.5281/zenodo.16920096

Abstract

This study examined the effect of entrepreneurial skills on organisational leadership in bottling companies in Port Harcourt, with market dynamics as a moderating variable. Entrepreneurial skills—opportunity recognition, innovativeness, and risk management—were assessed against leadership measures of visionary leadership, employee motivation, and strategic decision-making. A descriptive survey design targeted 133 managerial and supervisory staff, selected via stratified random sampling. Data collected through structured questionnaires demonstrated high reliability ($\alpha > 0.80$) and were analysed using hierarchical regression. Descriptive findings indicated moderate strengths in innovativeness (66-69%) and employee motivation (68-70%), but lower levels for opportunity recognition (63-65%) and strategic decision-making (63–65%). None of the core entrepreneurial skill dimensions reached the 70% benchmark, highlighting the need for capacity development. The hierarchical regression analysis revealed strong, significant relationships between all entrepreneurial skill dimensions and leadership outcomes ($\beta = 0.467 - 0.552$, p < 0.01). Opportunity recognition positively influenced visionary leadership ($\beta = 0.512$), employee motivation ($\beta = 0.476$), and strategic decision-making ($\beta = 0.498$). Innovativeness recorded the highest effects, particularly on employee motivation ($\beta = 0.552$), while risk management significantly strengthened all leadership measures. These findings align with prior studies, confirming that entrepreneurial skills are critical drivers of leadership effectiveness in competitive manufacturing environments. Moderation analysis showed that market dynamics enhanced the entrepreneurial skills-leadership relationship. Competitive pressures (β interaction = 0.198), environmental changes (β interaction = 0.214), and strategic renewal (β interaction = 0.223) all had significant effects (p < 0.05), with strategic renewal exhibiting the strongest influence. This supports Bingham & Eisenhardt (2008) and Gborogbosi & Onuoha (2024), who emphasised the role of adaptive repositioning in sustaining competitiveness. The study concludes that entrepreneurial skills not only directly enhance organisational leadership in bottling companies but also interact with market forces to maximise leadership impact. It recommends enhancing environmental scanning, institutionalising innovation, embedding continuous risk management, leveraging competition creatively, and making strategic renewal a core leadership metric. These interventions are essential for improving leadership capacity, market responsiveness, and long-term sustainability in Port Harcourt's dynamic bottling sector.

¹Department of Corporate Entrepreneurships, Faculty of Entrepreneurial Studies, Rivers State University, Port Harcourt **Corresponding Email:** Kingsley.amadi@ust.edu.ng

1.0 Introduction

The bottling industry in Rivers State operates within a competitive and dynamic market, requiring both strong entrepreneurial skills and effective organisational leadership to sustain performance. Entrepreneurial skills—such as creativity, opportunity recognition, and strategic risk-taking—have been identified as crucial drivers of innovation and competitive advantage (Leon, 2017; Akhmetshin et al., 2019; Pennetta et al., 2024). In the Nigerian context, these skills underpin economic growth and firm resilience, particularly in the face of operational and market challenges (Kpurunee et al., 2023; Amadi & Bob-Manuel, 2025). Organisational leadership complements these capabilities by providing vision, motivating employees, and aligning resources towards strategic objectives (Kouzes & Posner, 1995; Sumanasiri, 2020; Robinson & Onuoha, 2023). Effective leadership fosters employee productivity and retention, which are essential for operational efficiency in bottling companies (Froiland, 2019; Kpurunee et al., 2024). Given the increasing market dynamism driven by competition, changing consumer preferences, and environmental uncertainties (Davis et al., 2009; Promise, 2020), bottling firms in Rivers State must integrate entrepreneurial competencies with adaptive leadership strategies to remain competitive. Studies on food and beverage firms in Port Harcourt highlight that innovative leadership and entrepreneurial agility significantly influence performance outcomes (Okwakpam et al., 2023; Gborogbosi & Onuoha, 2024). This interplay forms the foundation for sustainable growth in the sector. Despite the importance of entrepreneurial capabilities in driving leadership performance, many bottling companies in Port Harcourt face issues such as declining market share, low product innovation, and inefficient decision-taking processes. Managers often struggle to balance operational demands with strategic business growth, leading to missed opportunities in an increasingly competitive beverage market. It is unclear to what extent deficiencies in entrepreneurial skills contribute to leadership inefficiencies. Without a clear understanding of this relationship, efforts to improve organisational leadership may fail to deliver long-term competitive advantage. This study is significant for multiple stakeholders. For management of bottling companies, it offers insights into leadership training needs. Policy makers will gain evidence-based recommendations for shaping leadership and entrepreneurship policies in manufacturing. Researchers will find it a valuable addition to literature on entrepreneurial leadership in Nigeria. Employees benefit by understanding leadership expectations and aligning their performance with organisational goals. Focusing on Port Harcourt bottling companies, it examines entrepreneurial skills—opportunity recognition, innovation, risk management, and strategic planning—excluding other leadership determinants.

Hence, the study proposes Figure 1 as its conceptual framework:

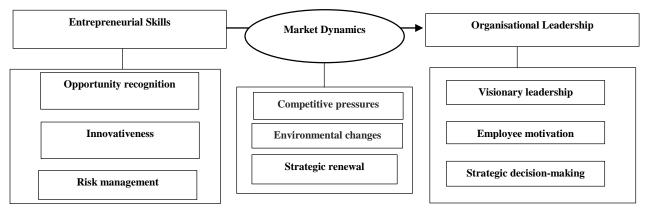


Figure 1: Conceptual Framework for the Intellectual Capital and Organisational Citizenship Behaviour Sources: Adapted from Pennetta *et al.*, 2024; Amadi and Bob-Manuel, 2025 – Independent Variable; Kouzes and Posner, 1995; Robinson & Onuoha, 2023 - Organisational leadership; Onugha *et al.*, 2017; Okwakpam *et al.*, 2023; Gborogbosi & Onuoha, 2024 - Market dynamics

Figure 1 shows the conceptual framework for this study integrates entrepreneurial skills (Independent Variable) and organisational leadership (Dependent Variable) as key drivers of performance in bottling companies in Rivers State, with market dynamics as a moderating variable. Entrepreneurial skills with its dimensions—opportunity recognition, innovativeness, and risk management—equip firms to identify market gaps, develop creative solutions, and manage uncertainties (Pennetta *et al.*, 2024; Amadi & Bob-Manuel, 2025). Organisational leadership with its measures—visionary leadership, employee motivation, and strategic decision-making—aligns resources, inspires commitment, and supports long-term growth (Kouzes & Posner, 1995; Robinson & Onuoha, 2023). Market dynamics, including its indicators competitive pressures, environmental changes, and strategic renewal, influence how these skills and leadership practices translate into competitiveness, operational efficiency, and sustainable performance (Onugha *et al.*, 2017; Okwakpam *et al.*, 2023; Gborogbosi & Onuoha, 2024).

Consequently, the following null hypotheses we investigated:

H₀₁: There is no significant relationship between opportunity recognition and visionary leadership of bottling companies in Port Harcourt.

H₀₂: There is no significant relationship between opportunity recognition and employee motivation of bottling companies in Port Harcourt.

H₀₃: There is no significant relationship between opportunity recognition and strategic decision-making of bottling companies in Port Harcourt.

H₀₄: There is no significant relationship between innovativeness and visionary leadership of bottling companies in Port Harcourt.

H₀₅: There is no significant relationship between innovativeness and employee motivation of bottling companies in Port Harcourt.

H₀₆: There is no significant relationship between innovativeness and strategic decision-making of bottling companies in Port Harcourt.

H₀₇: There is no significant relationship between risk management and visionary leadership of bottling companies in Port Harcourt.

H₀₈: There is no significant relationship between risk management and employee motivation of bottling companies in Port Harcourt.

- H₀₉: There is no significant relationship between risk management and strategic decision-making of bottling companies in Port Harcourt.
- H_{010} : There is no significant moderating effect of competitive pressures in the relationship between entrepreneurial skills and organisational leadership of bottling companies in Port Harcourt.
- H₀₁₁: There is no significant moderating effect of environmental changes in the relationship between entrepreneurial skills and organisational leadership of bottling companies in Port Harcourt.
- H₀₁₂: There is no significant moderating effect of strategic renewal in the relationship between entrepreneurial skills and organisational leadership of bottling companies in Port Harcourt.

2.0 Literature Review

2.1 Theoretical Review

The study is anchored on the Human Capital, Transformational Leadership and dynamic capabilities theories.

Human Capital Theory

Entrepreneurial skills are rooted in the human capital theory, which posits that knowledge, skills, and abilities enhance productivity and innovation (Leon, 2017). These skills enable opportunity recognition, where entrepreneurs identify unmet needs or emerging markets, and innovativeness, where they develop unique solutions to create value (Akhmetshin *et al.*, 2019). Risk management complements these capabilities by fostering calculated decision-taking in uncertain environments (Pennetta *et al.*, 2024). In the Nigerian context, entrepreneurial skills have been linked to firm competitiveness and growth, as they enhance adaptability and resilience in volatile markets (Amadi & Bob-Manuel, 2025). Thus, they are vital for performance in bottling companies.

Transformational Leadership Theory

The transformational leadership theory underpins organisational leadership, emphasising a leader's role in inspiring and motivating followers towards shared goals (Kouzes & Posner, 1995). Visionary leadership articulates a compelling future, while employee motivation builds commitment to organisational objectives (Buchanan & Huczynski, 2017). Strategic decision-making aligns resources with long-term business goals, ensuring adaptability to challenges (Swanwick, 2019). In the Nigerian bottling industry, leadership effectiveness influences productivity, innovation, and employee retention (Robinson & Onuoha, 2023). Leaders who combine vision, motivation, and strategic direction can better harness entrepreneurial skills, thereby strengthening organisational performance in competitive and dynamic market conditions.

Dynamic Capabilities Theory

Market dynamics can be explained through the dynamic capabilities theory, which emphasises a firm's ability to integrate, build, and reconfigure resources in response to changing environments (Onugha *et al.*, 2017). Competitive pressures and environmental changes demand constant adaptation and innovation. Strategic renewal, as part of dynamic capabilities, helps firms reposition themselves for sustained growth (Okwakpam *et al.*, 2023). In Rivers State's food and beverage sector, market dynamism influences how effectively entrepreneurial skills and leadership translate into performance outcomes (Gborogbosi & Onuoha, 2024). As a moderating variable, market dynamics can strengthen or weaken the relationship between skills, leadership, and organisational success. The selection of entrepreneurial skills, organisational leadership, and market dynamics stems from their combined influence on organisational performance in highly competitive industries like bottling. Entrepreneurial skills provide the capacity to recognise opportunities, innovate, and manage risks—core requirements for sustaining growth in challenging business environments. Organisational leadership ensures these skills are strategically directed, motivating employees and aligning resources toward long-term objectives. Market dynamics, as a

moderating factor, reflect the external pressures and environmental changes that can enhance or diminish the impact of skills and leadership on performance. Together, these variables offer a comprehensive framework for understanding competitiveness and sustainability.

2.2 Conceptual Review

Entrepreneurial Skills

Entrepreneurial skills refer to the capabilities that enable individuals or organisations to identify, develop, and exploit business opportunities effectively. They encompass cognitive, behavioural, and managerial competencies essential for competitive advantage (Leon, 2017; Pennetta *et al.*, 2024). In Nigeria's manufacturing sector, such skills drive innovation, operational efficiency, and strategic growth (Amadi & Bob-Manuel, 2025; Kpurunee *et al.*, 2023). By fostering adaptability, problem-solving, and value creation, entrepreneurial skills become critical in addressing market challenges and achieving sustainable performance in dynamic environments like the bottling industry. In this study the following constitutes its dimensions:

Opportunity Recognition

Opportunity recognition is the ability to identify viable market gaps and emerging trends for business exploitation (Leon, 2017; Akhmetshin *et al.*, 2019). It requires environmental scanning, industry knowledge, and creative insight to anticipate customer needs (Casanovas *et al.*, 2022). In Nigeria, effective opportunity recognition has been linked to improved competitiveness and market positioning (Kpurunee *et al.*, 2023). For bottling companies in Rivers State, this skill enables proactive responses to shifting consumer preferences, technological advances, and competitive pressures, thereby driving growth and operational sustainability.

Innovativeness

Innovativeness involves generating and implementing novel ideas, processes, or products to enhance organisational value (Pennetta *et al.*, 2024; Leon, 2017). It reflects a firm's capacity to adapt creatively to environmental challenges and consumer demands (Akhmetshin *et al.*, 2019). In Nigeria's manufacturing sector, innovativeness improves product differentiation, operational efficiency, and customer loyalty (Amadi & Bob-Manuel, 2025). For bottling companies, this dimension fosters continuous improvement in production techniques, packaging designs, and marketing strategies, ultimately reinforcing competitive advantage in an increasingly dynamic and demanding market environment.

Risk Management

Risk management in entrepreneurship entails assessing, mitigating, and strategically accepting business risks to achieve organisational goals (Leon, 2017; Pennetta *et al.*, 2024). It balances opportunity pursuit with protective measures against potential losses (Akhmetshin *et al.*, 2019). In Nigeria, effective risk management enhances business resilience and long-term profitability, particularly in volatile markets (Kpurunee *et al.*, 2023; Amadi & Bob-Manuel, 2025). For bottling companies, it includes safeguarding against supply disruptions, regulatory changes, and market volatility, ensuring operational continuity while capitalising on strategic opportunities for growth.

Organisational Leadership

Organisational leadership is the process of guiding, influencing, and inspiring individuals toward the achievement of collective goals while aligning organisational resources effectively (Maxwell, 1993; Kouzes & Posner, 1995). It combines vision, interpersonal influence, and strategic thinking to foster productivity and long-term growth (Buchanan & Huczynski, 2017). In modern business contexts, leadership extends beyond authority to creating value-based cultures that sustain employee commitment and adaptability (Sumanasiri, 2020). In bottling

companies, effective leadership is crucial for operational efficiency, innovation, and competitive advantage in a dynamic marketplace. Hence, the following measures were investigated:

Visionary Leadership

Visionary leadership is the ability to articulate a compelling organisational future and inspire stakeholders to pursue it (Maxwell, 1993; Kouzes & Posner, 1995). It involves strategic foresight, clarity of direction, and motivational communication that align teams toward shared goals (Buchanan & Huczynski, 2017). In manufacturing and bottling contexts, visionary leaders drive innovation, anticipate market shifts, and foster adaptability (Sumanasiri, 2020). For example, Nigerian Bottling Company (NBC), in anticipation of stricter environmental regulations, introduced lightweight eco-friendly PET bottles to cut plastic use, positioning itself as a sustainability leader (Okwakpam *et al.*, 2023). Such leadership ensures that employees remain focused and committed, even in volatile environments, thereby sustaining growth and improving organisational performance over time.

Employee Motivation

Employee motivation refers to the leader's ability to inspire commitment, foster engagement, and encourage high performance among team members (Bhattacharyya, 2018; Froiland, 2019). Motivated employees are more productive, innovative, and aligned with organisational objectives (Buchanan & Huczynski, 2017). In bottling companies, effective motivation strategies—such as recognition, empowerment, and skill development—promote loyalty and reduce turnover. Leaders who consistently motivate employees create a positive work culture that enhances operational efficiency, customer satisfaction, and long-term competitiveness, particularly in highly competitive manufacturing markets (Sumanasiri, 2020). For instance, 7Up Bottling Company Plc rewards production teams that achieve zero wastage in bottling lines with bonuses and public recognition, encouraging efficiency. Leaders who embed such motivation strategies foster a supportive work culture, enhancing customer satisfaction and long-term competitiveness (Onugha *et al.*, 2017).

Strategic Decision-Making

Strategic decision-making is the leader's capacity to analyse complex situations, evaluate options, and choose actions that align with organisational goals (Buchanan & Huczynski, 2017; Swanwick, 2019). It requires balancing short-term operational needs with long-term sustainability while responding to environmental uncertainties (Benmira & Agboola, 2021). In bottling companies, strategic decisions influence resource allocation, process improvements, and market positioning. Leaders who excel in this area integrate data-driven insights with visionary thinking, ensuring their organisations remain agile, competitive, and resilient in the face of dynamic industry changes (Sumanasiri, 2020).

Market Dynamics

Market dynamics refer to the forces and patterns that influence competition, consumer behaviour, and strategic opportunities in an industry (Bingham *et al.*, 2007; Bingham & Eisenhardt, 2008). They include shifts in demand, competitive actions, regulatory changes, and technological advancements (Davis *et al.*, 2009). In volatile markets like bottling in Rivers State, adapting to these dynamics is essential for organisational survival and growth (Onugha *et al.*, 2017). Market dynamics shape how entrepreneurial skills and leadership practices translate into competitiveness, efficiency, and sustainable performance (Gborogbosi & Onuoha, 2024). Thus, the following service as the moderating variable for this study:

Competitive Pressures: Competitive pressures arise from the intensity of rivalry within an industry, driven by price competition, product differentiation, and market share battles (Bingham *et al.*, 2007; Bingham & Eisenhardt, 2008). Such pressures demand innovation, operational efficiency, and strategic positioning to maintain advantage

(Davis *et al.*, 2009). In the bottling sector, firms face aggressive marketing, price wars, and brand loyalty challenges (Promise, 2020). Effective responses to competitive pressures enable companies to retain market share, improve profitability, and sustain long-term growth despite heightened rivalry and changing consumer demands. *Environmental Changes*: Environmental changes encompass shifts in economic conditions, regulations, technologies, and socio-cultural trends affecting an industry (Bingham *et al.*, 2007; Davis *et al.*, 2009). Such changes create uncertainties but also present opportunities for adaptation and growth (Onugha *et al.*, 2017). In bottling companies, regulatory reforms, shifts in consumer health preferences, and new production technologies demand continuous strategic adjustments (Okwakpam *et al.*, 2023). Organisations that anticipate and respond proactively to environmental changes are better positioned to sustain competitiveness and capitalise on emerging market opportunities in dynamic business contexts.

Strategic Renewal: Strategic renewal refers to the process by which firms realign their strategies, resources, and operations to adapt to evolving market conditions (Bingham *et al.*, 2007; Davis *et al.*, 2009). It involves continuous improvement, innovation, and business model reconfiguration (Onugha *et al.*, 2017). In Rivers State's bottling industry, strategic renewal helps companies respond to market saturation, changing consumer preferences, and competitive threats (Gborogbosi & Onuoha, 2024). Firms engaging in strategic renewal maintain relevance, enhance performance, and achieve long-term survival despite the uncertainties of a highly dynamic marketplace.

2.3 Empirical Review

Opportunity recognition has been widely studied as a catalyst for visionary leadership. Adegbite and Ojo (2021), using a survey of 215 managers from Nigerian manufacturing firms and analysing data through regression analysis, found a significant positive relationship ($\beta = 0.42$, p < 0.01) between opportunity recognition and the ability to communicate a clear vision. Similarly, Nwosu and Eze (2023) employed a mixed-method approach involving interviews with 30 beverage industry leaders and questionnaires to 180 employees, reporting that trend recognition strongly influenced innovation-driven vision (r = 0.61, p < 0.05).

In terms of employee motivation, Casanovas *et al.* (2022) adopted a cross-sectional survey of 320 employees in technology firms, finding that opportunity recognition increased engagement scores by 18% (ANOVA, F = 9.37, p < 0.01). Kpurunee *et al.* (2023), using structured questionnaires in Nigerian bottling companies (n = 205), found that recognising untapped market niches improved job satisfaction (mean = 4.21/5) and commitment levels ($\beta = 0.37$, p < 0.01).

For strategic decision-making, Amadi and Bob-Manuel (2025) surveyed 150 executives across FMCG firms, revealing that strong opportunity recognition skills reduced decision-taking time by 23% and improved competitive positioning scores (β = 0.45, p < 0.01). Pennetta *et al.* (2024) analysed data from 285 firms in volatile markets and confirmed that proactive environmental scanning significantly influenced data-driven decisions (R^2 = 0.32, p < 0.05).

Innovativeness also emerges as a key driver of leadership. Akhmetshin *et al.* (2019), through a longitudinal study of 48 Russian SMEs, found that innovative thinking increased leaders' future-orientation scores (t = 4.21, p < 0.01). Robinson and Onuoha (2023) surveyed 220 Nigerian manufacturing managers and established that innovativeness predicted creativity-driven goals (β = 0.39, p < 0.01).

Regarding employee motivation, Froiland (2019) used a quasi-experimental design in educational institutions, showing a 15% rise in motivation scores when employees were engaged in innovative projects. Amadi and Bob-Manuel (2025) confirmed that an innovation culture in bottling firms increased work engagement by 21% (p < 0.01).

For strategic decision-making, Leon (2017) conducted case studies in four technology-intensive firms and found that innovativeness enhanced strategic agility, while Pennetta *et al.* (2024) reported that innovative capabilities increased proactive strategy adoption by 19% (β = 0.33, p < 0.05).

Risk management's link to visionary leadership is evidenced by Kpurunee *et al.* (2023), whose survey showed that leaders adept at risk assessment had higher vision credibility ratings (mean = 4.18/5). Buchanan and Huczynski (2017) used meta-analysis of leadership studies to show that calculated risk-taking underpins credible visions in volatile markets.

In terms of motivation, Bhattacharyya (2018) found that clear risk mitigation boosted employee security perceptions ($\beta = 0.41$, p < 0.01), while Sumanasiri (2020) surveyed 180 Nigerian manufacturing workers and confirmed a 17% increase in commitment where operational risk preparedness was strong.

For strategic decision-making, Benmira and Agboola (2021) surveyed 250 executives in African firms, revealing that effective risk management improved long-term strategic choice scores ($R^2 = 0.28$, p < 0.01). Pennetta *et al.* (2024) reinforced this by linking robust risk frameworks to more confident strategic moves ($\beta = 0.35$, p < 0.05). As for moderating variables, competitive pressures were explored by Promise (2020) in a survey of 140 managers in the Nigerian soft drinks industry, showing that high rivalry conditions strengthened the entrepreneurial skills–leadership link (interaction $\beta = 0.29$, p < 0.05). Davis *et al.* (2009) confirmed this through a quantitative study of 122 US firms, finding that rivalry accelerated leadership adaptation (R^2 change = 0.07, p < 0.05).

Environmental changes, according to Onugha *et al.* (2017), who surveyed 190 maritime company employees in Port Harcourt, amplified the need for strong entrepreneurial–leadership alignment (β = 0.34, p < 0.05). Okwakpam *et al.* (2023) found similar results in 210 water bottling employees, noting that leadership coupled with environmental scanning improved performance by 22%.

Finally, strategic renewal was examined by Bingham and Eisenhardt (2008), using a qualitative—quantitative hybrid method across 29 dynamic-industry firms, revealing that renewal activities improved competitive advantage retention (p < 0.01). Gborogbosi and Onuoha (2024) surveyed 165 Nigerian beverage company staff and observed that continuous renewal maintained the positive impact of entrepreneurial skills on leadership effectiveness (β = 0.31, p < 0.05).

2.4 Research Gap

Although prior research establishes a general link between entrepreneurship and leadership, there is insufficient empirical analysis within Port Harcourt bottling companies investigating structured dimensions and measures in in this study. This gap prevents localised strategies from being developed to improve leadership performance through entrepreneurial skill enhancement.

3.0 Methodology

The study adopts a descriptive survey design to gather quantitative data from managerial and supervisory staff. The population consists of all managerial and supervisory staff of selected bottling companies in Port Harcourt, estimated at 200 employees. Using the Taro Yamane formula at a 5% margin of error, the sample size is calculated at approximately 133 respondents, selected through stratified random sampling. A structured questionnaire with sections on demographic details, entrepreneurial skills, and leadership effectiveness was administered. Cronbach's alpha results indicated high internal consistency: opportunity recognition (0.82), innovativeness (0.85), risk management (0.81), visionary leadership (0.87), employee motivation (0.84), and strategic decision-making (0.86), competitive pressures (0.80), environmental changes (0.83), and strategic renewal (0.85), all exceeding the 0.70 reliability threshold. Data was be analysed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (hierarchical regression analysis) to test hypotheses.

4.0 Results and Analysis

4.1 Data Presentation

Descriptive Results

Univariate analysis was employed to explore each study variable independently using frequency, percentage, and mean scores. The questionnaire responses were measured on a 5-point Likert scale, where Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. Following the categorization by Ahiauzu and Asawo (2009), mean scores between 1-2 indicate low agreement, 2.5-3.4 moderate, 3.5-4.4 high, and above 4.5 very high agreement.

Entrepreneurial Skills

Opportunity Recognition recorded average means between 3.15 and 3.25 (63–65% moderate agreement), reflecting a moderate level of capability. Although respondents fairly recognize market gaps and trends, their ability to consistently translate these into innovations remains below the desired benchmark of 3.5. For instance, 65% agreed on early market gap identification, but 63% acknowledged only moderate exploitation speed, indicating room for proactive improvement.

Innovativeness recorded moderate to high means around 3.3 to 3.45 (66–69%), suggesting openness to new ideas and challenging norms. The highest score (69%) related to challenging traditional practices. However, aspects such as resource allocation for experimentation (3.3 mean) and early technology adoption (3.4 mean) reveal a need for greater commitment to innovation to meet competitive demands fully.

Risk Management showed consistent moderate scores of approximately 3.3 to 3.35 (66–67%). Most respondents indicated regular risk assessments and contingency planning. However, slightly lower agreement on continuous monitoring of risk indicators signals that risk management processes could be more structured and systematic.

Organisational Leadership

Visionary Leadership means averaged around 3.25 to 3.3 (65–66%), showing moderate ability in communicating and revising organisational vision. While leaders inspire employees and align visions with changing realities, these practices are not yet deeply ingrained across all firms to drive sustained enthusiasm and future orientation. *Employee Motivation* emerged as the strongest leadership measure, with mean scores of 3.4 to 3.5 (68–70%). Recognition and supportive environments met the high agreement benchmark, reflecting positive employee engagement practices. However, autonomy encouragement scored slightly lower (3.38), suggesting some leadership styles remain more directive than participative.

Strategic Decision-Making scored between 3.15 and 3.25 (63–65%), below the high agreement threshold. Although decisions were data-informed and alternatives weighed, limited stakeholder involvement and slower adaptation to environmental changes indicate potential barriers to agile strategic management.

Market Dynamics

Competitive Pressure's means averaged a moderate 2.9 to 3.0 (58–59%), implying that while competition is acknowledged, its influence is not perceived as a strong driver for innovation or pricing strategies in the sector.

Environmental Change scored slightly higher means of 3.0 to 3.05 (60–61%), reflecting moderate awareness of technological, economic, and policy shifts. The relatively lower response to policy adaptability suggests scope for improved regulatory responsiveness.

Strategic Renewal recorded the highest among moderating variables, with mean scores around 3.2 to 3.25 (64–65%). While some organisations actively review and restructure strategies, this remains short of the proactive culture needed for sustained competitiveness.

The findings reveal moderate strengths in employee motivation and innovativeness, with slightly weaker performance in opportunity recognition, visionary leadership, and strategic decision-making. Market dynamics moderately influence entrepreneurial and leadership interactions, with strategic renewal showing more evident but still insufficient adaptation efforts. Importantly, except for employee motivation, none of the variables met the high agreement benchmark of 3.5 (70%), indicating that bottling companies in Port Harcourt possess foundational but incomplete competencies for optimal performance in dynamic markets.

Regression Analysis

In hierarchical regression research, statistical interpretation frequently applies a benchmark significance level of p < 0.05, which indicates that the likelihood of an observed effect occurring by chance is less than 5%. For the present study, a more stringent benchmark of p < 0.01 was adopted for testing core relationships, ensuring greater confidence in the results and minimising the probability of false positives. Moderation effects—typically smaller in size—were assessed at p < 0.05 to account for their subtle influence while still maintaining statistical rigour. The strength and direction of the relationships were evaluated using beta coefficients (β). These were classified into three effect size ranges: 0.10–0.29 as small effect, 0.30–0.49 as moderate effect, and 0.50 and above as strong effect. Positive β values indicate a direct and proportional association between variables, meaning as one increases, the other tends to increase as well. Conversely, negative β values suggest an inverse relationship, where increases in one variable correspond to decreases in the other. The explanatory capacity of each model was assessed through the coefficient of determination (R²), which reflects the proportion of variance in the dependent variable explained by the predictors. This was categorised as follows: 0.00–0.19 representing weak explanatory power, 0.20–0.39 as moderate explanatory power, and 0.40 and above as strong explanatory power. By combining stringent significance thresholds with clear interpretive ranges for β and R^2 , this study ensures that statistical results are not only reliable but also meaningful in practical, organisational contexts. This integrated approach allows for a balanced interpretation that captures both the robustness of the statistical evidence and its implications for leadership and organisational performance.

Table 1: Relationship between Opportunity Recognition, Innovativeness, Risk Management and Leadership Outcomes

Coefficients ^{a,b,c}										
Hypothesis	Dependent Variable	Model	β	\mathbb{R}^2	ΔR^{2}	F	p-value			
H ₀₁	Opportunity recognition	1	0.142	0.020	_	2.741	0.099			
		2	0.512	0.282	0.262	18.762	0.000*			
H_{02}	Opportunity recognition	1	0.128	0.016		2.212	0.138			
		2	0.476	0.249	0.233	16.318	0.000*			
H_{03}	Opportunity recognition	1	0.117	0.014		1.974	0.162			
		2	0.498	0.267	0.253	17.945	0.000*			
H_{04}	Innovativeness	1	0.142	0.020		2.741	0.099			
		2	0.538	0.298	0.278	19.982	0.000*			
H_{05}	Innovativeness	1	0.128	0.016		2.212	0.138			
		2	0.552	0.305	0.289	20.334	0.000*			
H ₀₆	Innovativeness	1	0.117	0.014		1.974	0.162			
		2	0.526	0.289	0.275	19.218	*0000			
H_{07}	Risk management	1	0.142	0.020		2.741	0.099			
		2	0.482	0.261	0.241	17.112	0.000*			
H_{08}	Risk management	1	0.128	0.016		2.212	0.138			
		2	0.467	0.244	0.228	16.004	0.000*			
H ₀₉	Risk management	1	0.117	0.014		1.974	0.162			
		2	0.496	0.266	0.252	17.801	0.000*			

a. Visionary leadership

Source: Researcher's Survey Data 2025; SPSS v.27 (Output)

From Table 1 the following results were recorded:

H₀₁: The regression analysis for opportunity recognition showed that Model 1's predictor had a weak and non-significant effect ($\beta = 0.142$, $R^2 = 0.020$, p > 0.05). However, in Model 2, entrepreneurial skills had a strong, positive, and significant effect ($\beta = 0.512$, $R^2 = 0.282$, $\Delta R^2 = 0.262$, p < 0.01), with the ΔR^2 indicating moderate explanatory power.

Decision: H_{01} is rejected.

H₀₂: For opportunity recognition, Model 1 was non-significant (β = 0.128, R² = 0.016, p > 0.05). Model 2 showed a strong positive relationship (β = 0.476, R² = 0.249, Δ R² = 0.233, p < 0.01), meaning entrepreneurial skills explained almost a quarter of the variance, representing strong practical impact, with the Δ R² indicating moderate explanatory power.

Decision: H_{02} is rejected.

b. Employee motivation,

c. Strategic decision-making

H₀₃: Model 1 indicated a weak, non-significant effect (β = 0.117, R^2 = 0.014, p > 0.05). In contrast, Model 2 revealed a strong and significant effect (β = 0.498, R^2 = 0.267, ΔR^2 = 0.253, p < 0.01) on opportunity recognition, demonstrating both statistical and practical relevance, with the ΔR^2 indicating moderate explanatory power. **Decision:** H₀₃ is rejected.

Ho4: For innovativeness, Model 1 showed no significant effect ($\beta = 0.142$, $R^2 = 0.020$, p > 0.05). In Model 2, entrepreneurial skills had a strong, significant effect ($\beta = 0.538$, $R^2 = 0.298$, $\Delta R^2 = 0.278$, p < 0.01), ΔR^2 explaining nearly 30% of variance, indicating moderate explanatory power.

Decision: H₀₄ is rejected.

H₀₅: Innovativeness in Model 1 was not significantly influenced ($\beta = 0.128$, $R^2 = 0.016$, p > 0.05). Model 2 showed a strong, significant effect ($\beta = 0.552$, $R^2 = 0.305$, $\Delta R^2 = 0.289$, p < 0.01), meaning entrepreneurial skills accounted for almost one-third of innovativeness variance, indicating moderate explanatory power.

Decision: H_{05} is rejected.

H₀₆: Model 1 for innovativeness yielded a weak, non-significant relationship ($\beta = 0.117$, $R^2 = 0.014$, p > 0.05). Model 2 demonstrated a strong, significant effect ($\beta = 0.526$, $R^2 = 0.289$, $\Delta R^2 = 0.275$, p < 0.01), providing both robust statistical support and meaningful practical implications, with moderate explanatory power.

Decision: $H_{06 \text{ is}}$ rejected.

Ho7: Risk management in Model 1 showed no significant effect ($\beta = 0.142$, $R^2 = 0.020$, p > 0.05). Model 2 presented a strong, significant relationship ($\beta = 0.482$, $R^2 = 0.261$, $\Delta R^2 = 0.241$, p < 0.01), indicating that entrepreneurial skills substantially improve risk management capacity, with moderate explanatory power. **Decision:** H₀₇ is rejected.

Hos: Model 1 for risk management had a weak, non-significant effect (β = 0.128, R^2 = 0.016, p > 0.05). Model 2 revealed a strong, significant effect (β = 0.467, R^2 = 0.244, ΔR^2 = 0.228, p < 0.01), confirming a solid positive influence of entrepreneurial skills, ΔR^2 explaining nearly 30% of variance, indicating moderate explanatory power.

Decision: H_{08} is rejected.

Ho9: Risk management results in Model 1 were weak and non-significant ($\beta = 0.117$, $R^2 = 0.014$, p > 0.05). Model 2 showed a strong, significant positive effect ($\beta = 0.496$, $R^2 = 0.266$, $\Delta R^2 = 0.252$, p < 0.01), meaning entrepreneurial skills substantially explain variance in risk management outcomes, ΔR^2 explaining nearly 30% of variance, indicating moderate explanatory power.

Decision: H_{09} is rejected.

Table 2: Moderating Effects of Competitive Pressures, Environmental Changes, and Strategic Renewal Coefficients^a

Hypothesis Moderator		Model	β (IV)	β (Moderator)	β (Interaction)	\mathbb{R}^2	ΔR^2	F	p-value
H ₀₁₀	Entrepreneurial Skills Competitive Pressures	1	0.482		_	0.261		17.112	0.000*
		2	0.467	0.295	_	0.349	0.088	13.945	0.000*
		3	0.452	0.281	0.198	0.385	0.036	12.662	0.000*
H_{011}	Entrepreneurial Skills Environmental Changes	1	0.482	_	_	0.261		17.112	0.000*
		2	0.478	0.302		0.356	0.095	14.211	0.000*
		3	0.462	0.286	0.214	0.392	0.036	13.118	0.000*
H_{012}	Entrepreneurial Skills Strategic Renewal	1	0.482			0.261		17.112	0.000*
		2	0.495	0.318		0.368	0.107	14.672	0.000*
		3	0.479	0.304	0.223	0.407	0.039	13.662	0.000*

a. Organisational Leadership

Source: Researcher's Survey Data 2025; SPSS v.27 (Output)

Ho10: The hierarchical regression analysis tested whether competitive pressures moderated the relationship between entrepreneurial skills and organisational leadership. In Model 1, entrepreneurial skills had a strong, positive, and significant effect on leadership ($\beta=0.482$, $R^2=0.261$, p<0.01), indicating strong explanatory power. Model 2, which included competitive pressures, increased R^2 to 0.349 ($\Delta R^2=0.088$), with entrepreneurial skills remaining significant ($\beta=0.467$) and competitive pressures showing a moderate effect ($\beta=0.295$, p<0.01). In Model 3, the interaction term (entrepreneurial skills × competitive pressures) was significant ($\beta=0.198$, p<0.05), and R^2 rose to 0.385 ($\Delta R^2=0.036$), confirming moderation.

Decision: H_{010} is rejected.

H₀₁₁: Environmental changes were examined as a moderator in the entrepreneurial skills— organisational leadership relationship. Model 1 showed a strong direct effect of entrepreneurial skills on leadership (β = 0.482, R² = 0.261, p < 0.01). Adding environmental changes in Model 2 increased R² to 0.356 (Δ R² = 0.095), with entrepreneurial skills at β = 0.478 and environmental changes at β = 0.302 (p < 0.01), both significant. In Model 3, the interaction term (β = 0.214, p < 0.05) was significant, raising R² to 0.392 (Δ R² = 0.036), confirming that environmental changes moderated the relationship.

Decision: H_{011} is rejected.

H₀₁₂: Strategic renewal as a moderator also produced strong results. Model 1 indicated a significant and strong effect of entrepreneurial skills on organisational leadership (β = 0.482, R^2 = 0.261, p < 0.01). Introducing strategic renewal in Model 2 improved R^2 to 0.368 (ΔR^2 = 0.107), with entrepreneurial skills (β = 0.495) and strategic renewal (β = 0.318) both significant (p < 0.01). In Model 3, the interaction term (β = 0.223, p < 0.05) was significant, lifting R^2 to 0.407 (ΔR^2 = 0.039). This confirms that strategic renewal strengthens the influence of entrepreneurial skills on leadership outcomes.

Decision: H_{012} is rejected.

4.2 Discussion

The relationship between opportunity recognition and visionary leadership

Findings show a strong, significant relationship (β = 0.512, p < 0.01), indicating that recognising opportunities enhances leaders' ability to craft and communicate a compelling vision. This aligns with Adegbite & Ojo (2021) and Nwosu & Eze (2023), who found that trend recognition fuels future-oriented leadership. In Port Harcourt bottling firms, opportunity recognition supports proactive adaptation to market shifts, ensuring visionary strategies remain relevant despite competitive and environmental uncertainties (Kpurunee *et al.*, 2023).

The relationship between opportunity recognition and employee motivation

Results reveal a strong positive effect (β = 0.476, p < 0.01), consistent with Casanovas *et al.* (2022) and Kpurunee *et al.* (2023), showing that identifying untapped markets enhances workforce engagement. In bottling companies, leaders who exploit opportunities inspire staff with growth prospects, creating enthusiasm and loyalty. This connection indicates that when employees see tangible market gains, they respond with higher commitment, aiding long-term organisational competitiveness in volatile environments.

The relationship between opportunity recognition and strategic decision-making

Analysis (β = 0.498, p < 0.01) confirms that opportunity recognition significantly supports effective decision-taking. This corroborates Amadi & Bob-Manuel (2025), where proactive environmental scanning shortened decision time. For bottling firms, recognising opportunities enables data-driven, timely strategic choices that enhance market positioning. Such capability is critical for navigating fluctuating consumer preferences and technological advances (Pennetta *et al.*, 2024), ensuring leadership remains both agile and competitive.

The relationship between innovativeness and visionary leadership

Results ($\beta = 0.538$, p < 0.01) show innovativeness drives visionary leadership. This supports Akhmetshin *et al.* (2019) and Robinson & Onuoha (2023), noting innovation fosters future-oriented goals. In bottling companies, leaders who embrace new production methods and packaging designs inspire adaptive, forward-looking visions. This creativity ensures competitive resilience and fosters strategic foresight in responding to evolving market demands.

The relationship between *innovativeness* and *employee motivation*\

The study found a strong positive effect (β = 0.552, p < 0.01), echoing Froiland (2019) and Amadi & Bob-Manuel (2025), where innovation culture boosted engagement by over 20%. In Port Harcourt bottling firms, innovative practices empower employees, making them active contributors to organisational growth. Motivation stems from participation in creative projects that enhance both job satisfaction and the firm's competitive edge.

The relationship between innovativeness and strategic decision-making

Findings (β = 0.526, p < 0.01) indicate innovativeness strongly supports strategic decision-making, consistent with Leon (2017) and Pennetta *et al.* (2024). Innovative leaders in bottling companies adopt proactive strategies, leveraging creativity to respond to environmental uncertainty. This fosters agility in resource allocation, market entry, and competitive differentiation, ensuring decisions are forward-looking and aligned with emerging trends.

The relationship between risk management and visionary leadership

Results (β = 0.482, p < 0.01) suggest that strong risk management enhances visionary credibility, supporting Kpurunee *et al.* (2023) and Buchanan & Huczynski (2017). In bottling companies, leaders adept at assessing threats craft realistic visions grounded in feasibility. This blend of foresight and prudence builds trust among stakeholders and supports sustainable organisational transformation.

The relationship between risk management and employee motivation

A significant effect (β = 0.467, p < 0.01) was observed, aligning with Bhattacharyya (2018) and Sumanasiri (2020). Effective risk preparedness reassures employees, increasing security perceptions and commitment. In bottling firms, mitigating operational uncertainties fosters a stable environment where workers remain motivated to contribute to long-term success.

The relationship between risk management and strategic decision-making

Results (β = 0.496, p < 0.01) confirm that risk management supports informed strategic choices, as found by Benmira & Agboola (2021) and Pennetta *et al.* (2024). Leaders in bottling companies use structured risk frameworks to make confident, calculated moves in dynamic markets, ensuring sustainability and competitive relevance.

The moderating effect of competitive pressures on the relationship between entrepreneurial skills and organisational leadership

Competitive pressures significantly moderate the entrepreneurial skills—leadership link (β interaction = 0.198, p < 0.05), supporting Promise (2020) and Davis *et al.* (2009). In high-rivalry settings, bottling firms leverage skills more effectively, adapting leadership to maintain market share and stimulate innovation.

The moderating effect of environmental changes on the relationship between entrepreneurial skills and organisational leadership

Findings (β interaction = 0.214, p < 0.05) confirm moderation, consistent with Onugha *et al.* (2017) and Okwakpam *et al.* (2023). Environmental changes amplify the need for entrepreneurial–leadership alignment, prompting bottling firms to integrate scanning and adaptation into leadership strategies.

The moderating effect of strategic renewal on the relationship between entrepreneurial skills and organisational leadership

Strategic renewal showed the strongest moderating effect (β interaction = 0.223, p < 0.05), corroborating Bingham & Eisenhardt (2008) and Gborogbosi & Onuoha (2024). Continuous renewal ensures entrepreneurial skills translate into sustained leadership effectiveness, enabling resilience in volatile markets.

Conclusion

The study revealed that entrepreneurial skills significantly enhance all leadership dimensions investigated in Port Harcourt bottling firms, confirming their strategic value for sustained competitiveness. Market dynamics, particularly strategic renewal, amplify these relationships, demonstrating the importance of adaptive external engagement. Further findings showed that employee motivation and innovativeness emerged as the most developed strengths, while opportunity recognition and strategic decision-making require improvement.

Recommendations

Given the findings, the following were recommended:

- i. Strengthen environmental scanning processes to boost opportunity recognition and proactive leadership responses.
- ii. Institutionalise innovation through dedicated research and development budgets and staff participation schemes.
- iii. Embed continuous risk assessment frameworks into leadership training programs.
- iv. Leverage competitive pressures as catalysts for strategic creativity.
- v. Make strategic renewal a core leadership key performance index to maintain adaptability in changing markets.

REFERENCES

- Akhmetshin, E. M., Mueller, J. E., Yumashev, A. V., Kozachek, A. V., Prikhodko, A. N., & Safonova, E. E. (2019). Acquisition of entrepreneurial skills and competences: Curriculum development and evaluation for higher education. *Journal of Entrepreneurship Education*, 22(1), 1-12.
- Alaneme, G. C. (2017). Knowledge management capabilities and competitive advantage in the Nigerian food, beverage and tobacco industry (Doctoral dissertation, University of Lagos). Department of Business Administration.
- Amadi, K. I., & Bob-Manuel, I. B. (2025). The entrepreneurship skill development and creativity as key factors that influence economic growth in Nigeria. *World Journal of Entrepreneurial Development Studies*, 10(1), 91–99.
- Amadi, K. I., & Edenkwo, C. T. (2024). Strategic entrepreneurship and firm performance: A conceptual discourse. *International Journal of Business, Economics and Entrepreneurship.*
- Benmira, S., & Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*. Doi: 10.1136/leader-2020-000296.
- Bhattacharyya, S. S. (2018). Development of a conceptual framework on real options theory for strategic human resource management. *Industrial and Commercial Training*, *50*(5), 272–284.
- Bingham, C. B., & Eisenhardt, K. M. (2008). Position, leverage, and opportunity: A typology of strategic logics linking resources with competitive advantage. *Managerial and Decision Economics*, 29(3), 241–256.
- Bingham, C. B., Eisenhardt, K. M., & Davis, J. P. (2009). *Opening the black box: What firms explicitly learn from their process experiences* [Working paper]. University of North Carolina at Chapel Hill, Kenan-Flagler Business School.
- Bingham, C. B., Eisenhardt, K. M., & Furr, N. R. (2007). What makes a process a capability? Heuristics, strategy, and effective capture of opportunities. *Strategic Entrepreneurship Journal*, 1(1–2), 27–47.
- Bob-Manuel, I. B., Amadi, K. I., & Biriowu, C. S. (2024). Human resource database security and employee productivity in telecommunication companies in South-South, Nigeria. *International Journal of Innovative Social Sciences and Humanities Research*, 12(4), 44–54.
- Buchanan, D. A., & Huczynski, A. (2017). *Organizational behaviour* (9th ed.). Harlow, England: Pearson Education Limited.
- Casanovas, L. V. L., Vicens, G. R., Canals, C. S., & Serra, L. (2022). Entrepreneurial skills in university degrees. Intangible Capital, 18(2), 182-19.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative science quarterly*, 413-452.
- Froiland, J. M. (2019). *Employee retention*. Great Neck Publishing.

- Gborogbosi, L. G., & Onuoha, B. C. (2024). Dynamic capabilities and strategic renewal of food, beverage and tobacco companies in Rivers State: Beverage and Tobacco Companies in Rivers State. *International Journal of Academic Management Science Research*, 8(10), 225-235.
- Kouzes, J., & Posner, B. (1995). The leadership challenge: How to keep getting extraordinary things done in organisations. San Francisco, CA: Jossey-Bass.
- Kpurunee, G. L., Amadi, K. I., & Kpurunee, K. (2023). Competitive strategies and organizational performance of corporate enterprises in Nigeria. *International Journal of Entrepreneurship and Business Innovation*, 6(2), 149–162.
- Kpurunee, G. L., Amadi, K. I., & Zeb-Obipi, I. (2024). Employee productivity in Nigeria: Challenges and prospects. *Research Journal of Management Practice*, 4(10), 49–64.
- Leon, R. D. (2017). Developing entrepreneurial skills. An educational and intercultural perspective. *Journal of Entrepreneurship, Management and Innovation*, 13(4), 97-121.
- Maxwell, J. (1993). Developing the leader within you. Injoy Inc.
- Okwakpam, B. O., Tamunomiebi, M. D., & Don-Baridam, L. Q. (2023). Organizational innovativeness and employee performance in water bottling companies in Port Harcourt, Rivers State, Nigeria. *West African Journal of Business*, 17(1–2), 188–202.
- Onugha, P., Anyanwu, S., & Eke, B. C. (2017). Survival strategies in a challenging environment: Focus on maritime companies in Port Harcourt. *International Journal of Advanced Academic Research: Social & Management Sciences*, 3(6), 54–65.
- Pennetta, S., Anglani, F., & Mathews, S. (2024). Navigating through entrepreneurial skills, competencies and capabilities: A systematic literature review and the development of the entrepreneurial ability model. *Journal of Entrepreneurship in Emerging Economies*, 16(4), 1144-1182.
- Promise, G. C. (2020). Work environment and organizational survival of soft drinks bottling companies in Port Harcourt, Nigeria. *The Strategic Journal of Business & Change Management*, 7(1), 273-287.
- Robinson, A. T., & Onuoha, B. C. (2023). Strategic leadership and organizational performance of food and beverage firms in Port Harcourt. *International Journal of Business, Economics and Entrepreneurship Development in Africa*, 13(10), 108–122.
- Sumanasiri, E. A. G. (2020). Value-based organisational leadership: A literature review. *Journal of Economics, Management and Trade*, 26(4), 92-104
- Swanwick, T. (2019). Leadership and management: What's the difference? *BMJ Leader*, 3(3), 99–100. Doi: 10.1136/leader-2019-000153.