E-ISSN: 2775-3565

UPH
UNIVERSITAS PELITA HARAPAN

VOL.4, NO.2 SEPTEMBER 2024

MILESTONE

JOURNAL OF STRATEGIC MANAGEMENT

Published by:
Faculty of Economics and Business

E-ISSN: 2775-3565

MILESTONE

JOURNAL OF STRATEGIC MANAGEMENT

VOL. 4, NO.2 SEPTEMBER 2024

Milestone: Journal of Strategic Management is published by the Faculty of Economics and Business, Universitas Pelita Harapan. The aim of Milestone: Journal of Strategic Management is to provide original research articles related to key concepts and theories in the strategic management field and a forum for independent research and analysis on business, strategy, and management.

Milestone: Journal of Strategic Management seeks to reflect a range of views from within the scholarly strategic studies, promote a better understanding of strategic thinking on contemporary national and international themes.

Publishing Information
The journal is published twice a year in April and September

Editorial Address
Faculty of Economics & Business
Universitas Pelita Harapan
Kampus UPH Gedung F Lt 12
Lippo Karawaci, Tangerang 15811
Telp: (021) 5460901 Fax: (021) 54210992
Email: milestone.journal@uph.edu

E-ISSN: 2775-3565

MILESTONE

JOURNAL OF STRATEGIC MANAGEMENT

VOL. 4, NO.2 SEPTEMBER 2024

TABLE OF CONTENTS

Milestone: Journal of Strategic Management Vol. 4, No. 2, September 2024
Faculty of Economics and Business
Pelita Harapan University

POSTULATING THEORY SYNTHESIZATION FOR STRATEGIC ALLIANCE AND COMPETITIVE ADVANTAGE SUCCESS IN NIGERIA

Henry Sonna Ojukwu

Department of Business Administration, Nnamdi Azikiwe University, Nigeria

e-mail: hs.ojukwu@unizik.edu.ng
*(Corresponding Author indicated by an asterisk *)*

ABSTRACT

Irrespective of country and economy, organizations around the globe are constantly scanning for ways to enhance their competitive position for sustained industry performance amidst heightened competition. Rather than competing against each other, these firms view themselves as strategic partners for long-term industry relationships. To this end, the study analyzed how theoretical Synthesization would greatly influence the positional standing of aligning firms. To achieve the study intent, the scoping review approach was employed. Study materials were mainly journal articles sourced from academic search engines and institutional databases. The study clearly states that regarding strategic alliance and competitive advantage, the essence of possessing rare, uncopiable, and non-substitutability organizational resources should be for inter-organizational purposes rather than individualist exploitation.

Keywords: Strategic Alliance; Competitive Advantage; Resource Based-View Theory; Resource Dependence Theory; Resource-Based-Dependence Theory

INTRODUCTION

In the Nigerian business, competition is stiff, intense, and fierce. In recent times, domestic companies have had to compete with renowned multinational companies in a promising economy with a population that exceeds two hundred million people. However, the lack of purchasing power is a significant issue in this rising population. With low purchasing power being an issue, Nigeria has witnessed the exit of multinational corporations and the involuntary closure of domestic businesses due to an unfavorable business environment. The exodus of multinationals from the Nigerian economy has cost the country a N94tn loss of output (Nwafor, 2024). The Nigerian Association of Small-Scale Industrialists reports that Micro, Small, and Medium Enterprises are shutting down operations daily due to the harsh operating economic conditions (Ikpoto, 2023). In a similar report, the Manufacturing Association of Nigeria (MAN) has reported that approximately 767 manufacturing companies ceased operations in 2023, while 335 manufacturing firms are experiencing financial difficulties due to economic challenges, such as fluctuating exchange rates, growing inflation, and general deterioration of the investment environment, are blamed for this development (The Nigerian Business Weekly, 2023). The need for firms to remain competitively operational is crucial for Nigeria's economic growth and development. A strategic alliance has remained a viable source for attaining and sustaining operations and competitive advantage, as studies have shown performance upscale in firms' eventual outcomes (Obioma, 2017).

Strategic alliances have gained popularity due to rising customer expectations, bridging the gap between small businesses and corporations through technology and global connectivity, which allows companies to reach new audiences (Lopez, 2024). Given resource scarcity, Ugwu et al. (2018) revealed that SMEs leverage strategic alliances to benefit from capabilities and competitive advantages they may have yet to achieve. It is never enough for firms to attain a competitive advantage without the mechanisms of sustainability built into achievements. Even with an existing discrepancy in empirical findings, where studies revealed an insignificant

association between strategic alliance and organizational performance (Muteshi & Awino, 2018), some others have registered significant increase in market performance (Mathuki et al., 2019; Akewushola et al., 2018; Junaidu et al., 2019; Nwokocha & Madu, 2020). Nevertheless, Asante and Adu-damage (2018) reiterate that the influences of a firm's strategy, resources, competitiveness, and human resource strategies on sustainable competitive advantage are undeniable, with a substantial impact on firms' performance. To attain a competitive advantage, researchers have emphasized the importance of organizational innovativeness: Michael & Chika (2018) argue that management commitment and innovative strength are core to organizational competitiveness. Quite differently, Gomez-Prado et al. (2022) reveal that market intelligence, product innovation, and pricing capabilities influence competitive advantage. As such, a review of strategic alliances and competitive advantage may seem insufficient without examining the relevance of strategic alliance theories to firms' competitiveness. As a result, the researcher intends to review related theories that explain the importance of firm alliance for competitive advantage, thus offering a sound basis for theory Synthesization, adoption and evaluation given the Nigerian situation.

LITERATURE REVIEW

Strategic Alliance for Sustained Competitive Advantage

Competitive advantage *is* a well-planned strategy that ensures organizations a sustainable stay and survival in an industry. To gain a competitive advantage, firms must proactively move ahead of market rivals to seek market leadership. One viable way to move ahead of the competition is through strategic alliance. Thus, a sustainable competitive advantage *is* achieved continuously by implementing strategies to acquire unique values that competitors do not have (Khouroh et al., 2019). A strategic alliance is an inter-organizational cooperation among firms for improved industry performance and a sustained competitive advantage. This cooperation can also be referred to as a strategic partnership. To gain an advantageous industry position, prospective cooperating firms must view themselves as complementary partners rather than competitors. Strategic alliances and partner relationships are key to market expansion as they are pivotal to unlocking global growth and synergies (Tomasco, 2024). Major companies exploring strategic alliance options seek better product quality, cheaper technology, skilled workforce availability, and lower production costs (Sohrabi et al., 2021). However, while many partnerships begin with big visions and aspirations, not all alliances are strategic (Kalia, 2019). Strategic alliances are different from joint ventures. Strategic alliances move beyond the sphere of business operation to strengthen and fortify business strategies for more significant improvement. Strategic alliance bolsters a core business strategy, creates a competitive advantage, and abates competitors from moving in on a marketplace (Kalia, 2019). In a strategic alliance, organizations may break into a new market segment, expand their customer base, gain a competitive advantage, improve product offerings and grow business (Ezenwa, 2023). Vaidya (2024) reveals that outside strategic collaborations, strategic partners are independent in the rest of their separate business ventures. While strategic alliance is crucial for business success, mutual trust among partners is crucial for survival. However, it is essential to note that strategic alliances also come with potential risks, such as the possibility of alliance failure or the need to share sensitive information with partners.

Central to an inter-organizational alliance is the crucial role played by *trust*. *Trust* is the binding force that ensures the smooth running of strategic alliance businesses. Strategic alliance partners must develop trust, where each partner expects others to play a designated role that spells business success. An essential element that comes into play in alliance formation is

opportunistic behaviour among partners. It is also essential to state that a level of risk is involved in trusting an alliance partner. Communication is the life wire of trust, without which no relation will survive. In the formation phase of strategic alliance, each firm formulates a subjective assessment regarding whether the other firm will behave trustworthily and not act opportunistically (Collier et al., 2022). Cooperation in alliances is not automatic because, without trust, individual firms may be guided by their self-interest before and after joining an alliance (Kanagaretnam & Thevaranjan, 2021). Trust is the expectation held by one firm that another will not exploit its vulnerabilities when confronted with an opportunity to act illegally (Chen et al., 2023). Even though alliances may have a higher degree of opportunistic behaviour by partners relative to integrated firms, many studies have documented cooperative behaviour and potentially costly information sharing among partners (Chang et al., 2020). However, where incompatibility exists among partnering firms, alliance failure is bound to occur. Some highlighted reasons that lead to alliance failure include poor communication, absence of common goal and shared values, profit-driven partnership, unequal contributive effort, difference in risk appetite, and lack of security (Intribe, 2022). Numerous are examples of failed partnerships across multiple industries. Some of these historically failed partnerships are presented in Table 1:

Table 1. Failed Alliance

S/N	Partnering Firms	Start Year	Termination Year	Alliance Intention	Cause of failed alliance
1	McLaren and Honda	2013	2015	To build powerful racing engines for McLaren	Poor engine performance
2	Kraft and Starbucks	1998	2010	Kraft are to package Starbuck's coffee to grocery stores across America	Kraft didn't fulfill its end of the partnership agreement
3	Daimler and Chrysler	1998	2001	To scale and expand market reach	Top competitor took over the US market share by over 40%
4	eBay and PayPal	2002	2021	eBay would use PayPal to pay its sellers.	The desire to offer merchants lower costs and better control over their money resources.

Source: Intribe, 2022

While Table 1 presents instances of failed alliances, there are yet cases of successful alliances in the business arena. Among these is Tesla and its equity strategic alliance with Panasonic that has significantly enhanced its technology innovation, profitability and overall competitiveness, which was observed through the business and financial analyses, including the growing inputs and outputs of technology innovation, increasing ROCE and better turnover ratios (Chen, 2022). Muthoka et al. (2021) revealed that collaborative alliances among manufacturing SMEs in Kenya are crucial for industry success and that alliance performance depends on the level of collaboration. In Enugu state, Nigeria, Nwokocha & Madu (2020) revealed that strategic alliance led to sales growth, market share, profitability, product success, and high labor productivity. However, while some alliance failures are internally caused, others are externally mutilated. Internally failed alliances are caused by defaulting parties failing to execute their part of the operational agreement. On the other hand, externally caused alliances are those whose failed outcomes were influenced by uncontrollable environmental

elements. Nevertheless, the need to review theories on which strategic alliances are built is vital for predicting the future of a successful alliance

RESEARCH METHOD

Objectively, this study aims to review strategic alliance theories, examine their shortcomings, and propose a theoretical merger, adoption, and evaluation that would suit the Nigerian business environment. A scoping review approach was deemed necessary to achieve this intent, where secondary data provided the basis for arriving at the study findings. Scoping reviews are secondary research material synthesizing evidence by combining information from different sources on a particular topic (Silindile, 2024). The exploratory nature of the scoping review renders it appropriate for this study. Secondary data were adequately sourced from reliable sources, thus avoiding the use of irrelevant study documents. Furthermore, only academic repositories were consulted for material extraction and professional usage to ensure the reliability and validity of selected study documents. Online prints were utilized in the process. In the results and discussion of study materials, variables of interest were examined in their thematic disposition.

RESULTS AND DISCUSSION

Relevancy and Limitations of Strategic Alliance Theories

The theories to discuss and evaluate their relevancy are resource-based theory, knowledge-based theory, transaction cost theory, and resource dependence theory.

Resource Based Theory

Firms must obtain rents or economic returns to survive in a competitive environment to obtain a sustainable competitive advantage (Sukma, 2018). An understanding of the Resource Based View (RBV) is crucial to attain competitive advantage. Companies can receive "economic rent" or an above-average return by achieving enduring competitive advantage (Lubis, 2022). RBV Theory explains how an organization may use its resources, also known as its organizational capabilities, such as organizational routines, mechanisms, structures, and processes (Yuga & Widjaja, 2020). In other words, with the availability of strategic resources, competitive advantage becomes attainable. The resource-based theory of competitive advantage argues that the long-term success of business innovation depends on the internal resources of the firm offering it (Holdford, 2018). However, in a dynamic business environment like Nigeria, adopting the RBV theory is problematic. Yuga & Widjaja (2020) reveal that in an unstable business environment, the static nature of the RBV becomes a problem since it requires a long process to build the required resources. Umati & Alamanos (2023), RBV limitation is summarized as being unable to predict firm success in a rapidly dynamic business environment; the theory is untestable, which is negatively affected by lack of quality studies; many of the resources that authors claim yield competitive advantages such as non-substitutability and inimitability are in itself rare; finally, RBV ignores the role of exogenous resources thereby neglecting the impact of endogenous resources in attaining competitive advantage. Adekunle & Owolabi (2022) reveal that Nigerian firms are faced with various resource-based challenges, such as the inability to identify and classify a firm's resources, lack of the required knowledge to identify the firm's capabilities, failure to identify the resources inputs to each capability, and the complexity of each capability. Also identified

is the need for more appraisal of the rent-generating potential of resources and capabilities and incompetence in selecting a strategy that best exploits the firm's resources and capabilities.

Knowledge-Based Theory

Knowledge has driven performance beyond organizational boundaries in today's dynamic business environment. Fu (2022) explains that organizational knowledge has become a valuable asset that has received special treatment from management, unlike other resources. Despite the importance of knowledge to organizational performance, being an intangible asset, knowledge must be managed just like other tangible resources. A large organization's capability to utilize and create knowledge is crucial to a sustainable competitive advantage. Thus, the knowledge-based view focuses on embedding knowledge in each organization member (Sayyadi & Provitera, 2023). Hence, in the management of knowledge, tacit knowledge embedded among employees is an essential contributor to a competitive advantage compared to explicit Knowledge (Sayyadi & Provitera, 2023). A major challenge in tacit knowledge occurs during the employee exit period. A significant obstacle to depending on the knowledge-based view is the form of the available knowledge. It becomes problematic if available knowledge is tacitly domiciled in the knowledge holders' technical arsenal. It may also become a problem if the knowledge holder is unwilling to share knowledge. Looking at the Nigerian environment, knowledgeable employees are leaving their work organizations and exiting Nigeria in search of promising economies. These exits negatively impact organizational performance in ways that are detrimental to survival. Regarding Nigeria's health and education sector, Okwara (2023) argues that the implications of brain drain on Nigeria's health and educational systems are enormous, as Nigeria will continue to suffer from a declining labor force in the health and educational systems.

Transaction Cost Economics Theory

Transaction Cost Economics (TCE) theory has played an essential role in understanding when it is more efficient for a transaction between two parties to occur within the market or an organization (Nagle et al., 2021). This theory argues that three important governance structures are the blueprints for organizing business activities: Markets, Long-term Contracts, and Hierarchical Organizations (Stijn, n.d.). Transaction costs make contractual relationships inherently hazardous (Valentinov & Roth, 2024). Transaction cost theory is built on assumptions of bounded rationality and human opportunistic behavior. Bounded rationality reveals that rational behavior has limits based on the knowledge the person making the decision has at the time (Universitas of Sunderland, 2021). In other words, alliance partners may need to gain accurate knowledge about alliance partners, which most likely affects their behavior. While bounded rationality is the inherent imperfection in human beings even when trying to be rational, opportunist behavior is the deliberate intent to give inaccurate information during the negotiation and implementation of economic transactions. The proponent of the transaction cost theory, Oliver Williams, explains opportunist behavior as incidents in which individuals behave cunningly, looking out for their interests and feeling little or no qualms about breaking previous promises made when things no longer continue to go according to plan.

Resource Dependence Theory

Possessing fundamental business skills and resources may provide a competitive advantage. However, it usually needs to be improved to supply the required resources that sustain operational flow, thereby requiring establishing external relationships with outside organizations for operational sustenance. Resource dependence theory (RDT) concerns how

organizational behavior is influenced by external resources the organization utilizes for its sustenance (Hrzone, n.d.). The Resource Dependence Theory explains that firms establish strategic collaborations to minimize environmental dependence and uncertainty by focusing on negotiating dependence relationships (Zehir et al., 2019). Power and market dynamics are indispensable contributors to the discussion of resource dependence theory. These two crucial variables, to a large extent, ensure that the flow of inter-organizational resources is sustained over time. For firms to cope with market dynamics and the balance of power, they need to increase their level of coordination and control process by seeking opportunities to decrease uncertainty and purposefully manage dependence by structuring their exchange relationships, establishing formal and semi-formal links with compatible businesses (Salam et al., 2017).

In other words, the theory examines the relationship between organizations and the products they need to operate (Janse, 2023). These resources take the form of raw materials, financing, and employees. Research on resource dependency theory has advanced the view that actors who have control of resources exert power, especially when there is a high dependency (Oketcho, 2023). RDT was developed in the USA and has been criticized for being US-centric (Nicky, 2020). Over-dependence on external resources becomes problematic, especially when the resource holder turns opportunistic. To curb this, firms concerned about excessive dependence on powerful resource providers can look for alternative resources that are substitutes, even though imperfect (Chinyoka, 2020). Given the country's multidimensional turbulence, resource dependence theory is no longer suitable for the Nigerian business environment. This is based on the criticism of the RDT theory, which is argued on the premise that the theory sometimes emphasizes external constraints over internal dynamics and that it lessens applicability in a highly dynamic or digital market where resource flows are complex and less predictable (Utami & Alamanos 2023). Furthermore, Heatly (2018) reveals that some of the shortcomings of this theory include the following: subjecting a firm to the risk of complete external control, pressuring managers to seek alternative means of survival continuously, and finally, the likelihood of negatively impacting employee retention.

Theory Synthesization

The multidimensionality of the Nigerian Business environment renders it hostile to local and foreign investors alike. The unsustainability of business operations and unstable policies have yet to help business success either. Organizational struggle is real in Nigeria, where firms relentlessly formulate and twerk strategies for operational efficiency amidst economic turmoil. These, however, have yielded little or no results in most cases. The discussed theories have been identified as enhancers of strategic alliance, as they explain the need for firms' collaboration for improved efficiency and operational sustainability. These individual theories have not excelled in Nigeria's business environment because they lack the strength to function independently. Therefore, for sustained performance and competitiveness, the researcher proposes a theoretical merger as the basis of firm establishment. These two theories are the Resource-based View and Resource dependence theories. This can be mathematically expressed as: RBVT + RDT = RBDT……. (1)

Where:

RBVT means Resource Based View Theory

RDT means Resource Dependence Theory

RBDT means Resource Based - Dependence Theory

In theorizing strategic alliance and firms' competitive advantage in Nigeria, resource-based theory and resource-dependence theory should integrate for the emergence of resource-based-dependence theory. Bearing in mind that organizations operate in a highly competitive

environment characterized by erratic dynamism, the goal of the focal organizations becomes to attain capabilities that enable them to harness and configure their internal resources to suit the demands of the external environment, thereby strengthening their capability in developing and sustaining a degree of competitive advantage over competitors. As the turbulence increases, the probability of firms' involuntary exit increases. Hence, the postulation of the RBDT would serve as a shield that prevents increased involuntary exit. To achieve this intent, new entrants would be encouraged to seek alliances with existing firms before they enter an industry. Alternatively, RBDT would encourage "pair firm" entry for long-term operational sustenance in the Nigerian environment. In summary, an entry should be based on satisfying these conditions:

1. For new market entrants, prospective firms are advised to conduct a thorough market scan to identify operational firms whose culture would be a perfect fit for new entrants.
2. Also, prospective owners who do not want to form an alliance with an already existing firm should consciously seek alliances with other prospective entrants for resource sharing, strategic dependence, and operational longevity.

CONCLUSION

This study evaluates the relevancy of the firm's resource-based view and resource dependence theory in attaining competitive advantage through strategic alliances. From the literature review, there is a need to synthesize theories that better explain the concept of interdependence. Going further, the resources available to organizations deplete as competition increases, so their inadequacy may not sustain them amidst global competition. Therefore, prompting the need to create an organizational inter-dependency (RDT) is the tenet of the hybrid theory of Resource Based View Dependence Theory (RBVT). In creating this interdependency, an alliance aims to achieve and sustain competitive advantage. However, this study clearly states that regarding the strategic alliance and competitive advantage, the essence of possessing rare, uncopiable, and non-substitutability organizational resources should be for inter-organizational dependence rather than individualist organizational exploitation. A significant limitation to adopting the synthesized theory is the unavailability of empirical evidence from on-field operations. As such, this theory hybrid may need a more general application. Therefore, the need to empirically investigate the relevance of this theoretical hybrid becomes paramount for alliance success that prevents involuntary business exit in Nigeria.

REFERENCES

Adekunle, O., & Owolabi, B. (2022). RCE based theory on entrepreneurship in Nigeria. *International Journal of Management Science and Business Analysis, 24*(7), 159–174.

Akewushola, R. O., Tijani, A. A., & Adelekan, S. A. (2018). Strategic alliance and firm performance: A focus on service industry. *Crawford Journal of Business & Social Sciences, 8*(2), 84–91.

Asante, B. E., & Adu-Damoah, M. (2018). The impact of a sustainable competitive advantage on a firm’s performance: Empirical evidence from Coca-Cola Ghana limited. *Global Journal of Human Resource Management, 6*(5), 30–46. http://www.eajournals.org/

Chang, H., Fernando, G. D., Srinivasan, D., & Triparty, A. (2020). Productivity spillovers in supply chain networks. *International Journal of Accounting Auditing and Performance Evaluation, 16,* 230–248. https://doi.org/10.1504/IJAAPE.2020.112713

Chen, R. R., Chen, K., & Ou, C. X. J. (2023). Facilitating inter-organizational trust in strategic alliances by leveraging blockchain-based systems: Case studies of two Eastern Banks. *International Journal of Information Management, 68,* 102–521 https://doi.org/10.1016/j.ijinfomgt.2022.102521

Chen, Y. (2022). The impact of strategic alliance on corporate performance: Evidence from Tesla. *ICEMED: Proceedings of the 2022 2nd International Conference on Enterprise Management and Economic Development 2022, 219,* 206–212 https://doi.org/10.2991/aebmr.k.220603.036

Chinyoka, S. (2020). The Effects of Resource Dependence and resource-based theories on bricolage in social enterprises. *International Journal of Economics, Business and Management Research, 4*(1), 85–95.

Collier, Z. A., Wood, M. D., & Henderson, D. A. (2022). Balancing risk and trust for strategic alliance formation decisions. *Journal of Strategy and Management, 15*(4), 509–523. https://doi.org/10.1108/JSMA-03-2021-0067

Ezenwa, J. (2023, Agustus 23). *Strategic alliance.* Linkkedln. https://www.linkedin.com/pulse/strategic-alliance-joseph-ezenwa/

Fu, Q. (2022). How innovation is created: A conceptual framework from a knowledge-based view. *Proceedings of the 23rd European Conference on Knowledge Management, ECKM 2022, 23* (1), 406–414. http://dx.doi.org/10.34190/eckm.23.1.629

Gómez-Prado, R., Alvarez-Risco, A., Cuya-Velásquez, B. B., Arias-Meza, M., Campos-Dávalos, N., Juarez-Rojas, L., Anderson-Seminario, M. D. LM., Del-Aguila-Arcentales, S., & Yáñez, J. A. (2022). Product innovation, market intelligence and pricing capability as a competitive advantage in the international performance of startups: case of Peru. *Sustainability, 14*(17), 1–21. https://doi.org/10.3390/su141710703

Heatly, S. (2018, November 21). *The low-down on resource dependence theory.* Perkbox. https://www.perkbox.com/uk/resources/blog/the-low-down-on-resource-dependence-theory

Holdford, D. A. (2018). Resource-based theory of competitive advantage – a framework for pharmacy practice innovation research. *National Library of Medicine, 16*(3), 1–11. https://doi.org/10.18549%2FPharmPract.2018.03.1351

Hrzone. (n.d.). *What is Resource Dependence Theory (RDT)? Resource Dependence Theory (RDT) definition.* https://hrzone.com/glossary/what-is-resource-dependence-theory-rdt/

Ikpoto. E. (2023, October 06). *SMEs closing shops on daily basis, says NASSI.* PUNCH. https://punchng.com/smes-closing-shops-on-daily-basis-says-nassi/

Intribe. (2022, July 13). *Brand fails: The worst partnership ever.* Intribe. https://www.intribe.co/blog/brand-fails-the-worst-partnerships-ever

Janse, B. (2023, August 29). *Resource dependence theory (RDT).* Toolshero. https://www.toolshero.com/management/resource-dependence-theory-rdt/

Junaidu, A. S., Bature, G., & Zuru, L. N. (2019). Strategic alliance and performance of textile industry: Empirical evidence from Kano, Nigeria. *International Journal of Research and Scientific Innovation, 6*(5), 238–245.

Kalia, V. (2019, August 13). *Strategic alliance: What is it, types, benefits & why you need it.* WorkSpan. https://www.workspan.com/blog/strategic-alliance-definition

Kanagaretnam, K., &Thevaranjan, A. (2021). The value of trust and fairness in alliances: an economic perspective. *Theoretical Economics Letters, 11*(2), 166–185. http://dx.doi.org/10.4236/tel.2021.112012

Khouroh, U., Abdullah, F., & Handayani, K. (2019). The role of strategic alliance in mediating the relationship between conservational dynamism and sustainable competitive advantage. *International Journal of Scientific & Technology Research, 8*(9), 469–475

Lopez, I. (2024, April 8). *What is a strategic alliance? How to make it work.* ReferralRock. https://referralrock.com/blog/strategic-alliances/

Lubis, N. W. (2022). Resource based view (RBV) in improving company strategic capacity. *Research Horizon, 2*(6), 587–596. https://doi.org/10.54518/rh.2.6.2022.587-596

Mathuki, P. M., Ogutu, M., Ndemo, B., & Pokhariyal, G. P. (2019). The link between strategic alliances and performance of Kenyan manufacturing firms in the East African community market. *International Journal of Contemporary Applied Research, 6*(6), 67–91.

Michael, I., & Chika, C. A. (2018). Small and medium scale enterprises and industrial growth in Nigeria. *International Journal of Small Business and Entrepreneurship Research, 6*(6), 1–13. http://dx.doi.org/10.36108/unizikjb/8102.10.0290

Muteshi, D. C., & Awino, Z. B. (2018). Strategic alliances and performance of food and beverage manufacturing companies in Kenya. *DBA Africa Management Review, 8*(1), 86–98. http://journals.uonbi.ac.ke/damr

Muthoka, R., Kilika, J., & Muathe, S. (2021). Strategic alliance among small and medium enterprises: Firm-based motives in the manufacturing sector in Kenya. *International Journal of Economics, Commerce and Management, 9*(11), 334–359.

Nagle, F., Seamans, R., & Tadelis, S. (2021). *Transaction cost economics in the digital economy: A research agenda*. Harvard Business School. https://www.hbs.edu/ris/Publication%20Files/21-009_93af5aea-aa7e-4985-8d7a-7cb65cb51c7a.pdf

Nicky, N. (2020, March 26). *Resource Dependence Theory (RDT)*. Prezi. https://prezi.com/3am9urmfnjse/resource-dependence-theory-rdt/

Nwafor, A. (2024, June 17). *Multinationals exit costs Nigeria N94tn in five years*. PUNCH. https://punchng.com/multinationals-exit-costs-nigeria-n94tn-in-five-years/

Nwokocha, V., & Madu, I. A. (2020). Strategic alliance and its influence on the performance of small- and medium-scale enterprises in enugu state, Nigeria. *Global Journal of Emerging Market Economies, 12*(1), 1–18. http://dx.doi.org/10.1177/0974910119896634

Obioma, O. (2017). Review of public administration and management aligning small and medium enterprises for competitiveness in Nigeria: The role of strategic alliance. *Review of Public Administration and Management, 5*(2), 1–8. http://dx.doi.org/10.4172/2315-7844.1000215

Oketcho, W. (2023, December 9). *Resource dependency theory explained*. Research Consultant Uganda. https://researchconsultuganda.com/2023/12/09/resource-dependency-theory-explained/

Okwara, E. C. (2023). A review of the implications of brain drain on nigeria's health and educational systems. *Mediterranean Journal of Social Sciences, 14*(5), 8–15. http://dx.doi.org/10.36941/mjss-2023-0028

Salam, A. M., Ali, M., & Kan, K. O. S. (2017). Analyzing supply chain uncertainty to deliver sustainable operational performance: Symmetrical and Asymmetrical Modeling approaches. *Sustainability, 9* (12), 1–17. http://dx.doi.org/10.3390/su9122217

Sayyadi, M., & Provitera, M. J. (2023, March 5). *Resource-based and knowledge-based theory of competitive advantage: How to compete on resources*. The European Financial Review. https://www.europeanfinancialreview.com/resource-based-and-knowledge-based-theory-of-competitive-advantage-how-to-compete-on-resources/

Silindile, N. (2024). *Scoping reviews*. https://ched.uct.ac.za/sites/default/files/content_migration/ched_uct_ac_za/1072/files/Scoping%2520reviews.pdf

Sohrabi, R., Rahmani, M., & Roshani, S. (2021). Strategic alliance and partnership in organizations: An overview of foundations. *Turkish Journal of Computer and Mathematics*, *12*(1), 546–562

Stijn, M. (n.d.). *Transaction cost economics*. Open Educational Resources Collective. https://oercollective.caul.edu.au/principles-strategic-management-accounting/chapter/chapter-2-transaction-cost-economics/

Sukma, A. (2018). Perspektif the resource based view (RBV) dalam membangun competitive advantage. *Ad-Deenar: Jurnal Ekonomi dan Bisnis Islam, 1*(1), 75–89. http://dx.doi.org/10.30868/ad.v1i01.229

The Nigerian Business Weekly. (2024, March 10). *In Nigeria, 767 manufacturing businesses closed operation, leaving N350 billion worth of unsold goods in 2023*. Linkedin. https://www.linkedin.com/pulse/nigeria-767-manufacturing-businesses-closed-1x3qf/

Tomasco, R. (2024, Januari 30). *Unlocking global growth: The power of strategic alliances and partner relationships.* Reesmarxglobal. https://reesmarx.com/blog-post/unlocking-global-growth-the-power-of-strategic-alliances-and-partner-relationships/

Ugwu J. N., Maduagwu, E. N., & Onoh, N. C. S. (2018). Leveraging strategic alliance in partnering for competitiveness: The place of small businesses in Nigeria. *Journal of Multidisciplinary Discoveries, 26*(26), 43–49. https://europub.co.uk/articles/-A-324276

University of Sunderland. (2021, March 12). *Bounded rationality: To jab or not to jab.* Bounded Rationality. https://london.sunderland.ac.uk/about/news-home/research-news/bounded-rationality/

Utami, H., & Alamanos, E. (2023). Resource-based theory: A review. In S. Papagiannidis (Eds.), *TheoryHub Book* (pp. 93–108). https://open.ncl.ac.uk/ISBN:9781739604400

Vaidya, D. (2024, May 24). *Strategic alliances*. WallStreetMojo https://www.wallstreetmojo.com/strategic-alliances/

Valentinov, V., & Roth, S. (2024). Relationality in transaction cost economics and stakeholder theory: A new conceptual framework. *Business Ethics, The Environment & Responsibility, 33*(5), 535–546. http://dx.doi.org/10.1111/beer.12652

Yuga, A., & Widjaja, A. W. (2020). Is the RBV theory important for MSMEs?: Competitive advantage analysis of tokopedia seller with resource based theory views. *SSRN, 20,* 1–14. https://dx.doi.org/10.2139/ssrn.3581838

Zehir, C., Findikli, M., & Çeltekligil, K. (2019). Resource dependence theory, firm performance and producers-suppliers relationships. *The European Proceedings of Social & Behavioural Sciences*, 160–172 https://dx.doi.org/10.15405/epsbs.2019.01.02.14

Milestone: Journal of Strategic Management Vol. 4, No. 2, September 2024
Faculty of Economics and Business
Pelita Harapan University

MARKETING INNOVATIONS AND PERFORMANCE OF INSURANCE COMPANIES IN NIGERIA: MODERATING ROLE OF INSTITUTIONAL SUPPORT

Yinka Calvin Ojeleye[1)*], Hauwa Abdullahi Mustapha[2)], Saheed Adesunkanmi Oyede[3)]

[1,2)] *Department Of Business Administration, ABU Business School Ahmadu Bello University, Nigeria*
[3)] *Department of Insurance, University of Jos, Nigeria*

e-mail: calojeleye@gmail.com
*(Corresponding Author indicated by an asterisk *)*

ABSTRACT

The adoption of marketing innovations can contribute to the sustainability of a firm. However, research on the types of marketing innovations and their effects is limited. The study examined the dimensions of marketing innovations, their effects on performance of insurance firms, and how institutional support moderates those effects. The population of the study 504 management staff from 56 insurance companies, a sample size of 223 was determined using the Taro Yamane formula for finite population. Empirical data were collected and used to validate the model. Significant positive relationships are identified among each dimension of marketing innovation and performance. The findings are explained through the theoretical lens of resource-based view. Results show that both product and process innovation significantly contribute to the performance of insurance companies. Moreover, the relationship between process innovation and firm performance is significantly moderated by institutional support this is because with a favorable regulatory framework and activities aimed at encouraging innovation in the insurance business, institutional support is critical in easing the adoption and implementation of process changes. Whereas institutional support did not moderate the relationship between product innovation and firm performance. The study recommends that to maximize the significant positive effect of product innovation, Nigerian insurance firms should prioritize market research and client feedback. This study contributes to the literature because it elaborates the conceptualization of marketing innovation and presents the dynamics of institutional support and firm performance. It also provides practical implications on how insurance firms can utilize marketing innovations to achieve business sustainability.

Keywords: Product Innovation; Process Innovation; Institutional Support; Performance; Resource-Based View

INTRODUCTION

The insurance business is essential in every economy. It is a critical component of the financial services industry in practically all emerging and developed nations. Insurance, as a financial middleman, contributes significantly to any country's economic development and encourages businesses to perform efficiently (Oloyede et al., 2023). It is built on the notion of risk, and risk is present in all aspects of human existence. Risk and insurance are inextricably linked, since insurance cannot exist without risk. Insurance is in business to help other companies survive. Behind the need for risk coverage, the insured agrees to pay a premium to the insurer. Depending on the length and breadth of the insurance market, premium savings may represent a significant portion of capital creation, increasing the amount of credit in the economy and facilitating financial intermediation. The insurance industry has thus become a veritable sub-sector for financial intermediation, as industry operators use premium income collected from policyholders to extend loans to deficit economic units such as governments, corporate organizations, and other borrowers with interest payments due at maturity. As a consequence, these activities boost the insurance sub-sector's contribution to GDP as well as a nation's economic growth (Apergis & Poufinas, 2020).

In light of this, Oloyede et al. (2023), argued that the value of insurance to any nation's economy cannot be underestimated. They stressed that no nation could achieve significant progress without the existence of a robust insurance sector. The size and maturity of an

economy's insurance industry is one of the indices for measuring its progress (Oloyede et al., 2023). Under the umbrella of the financial sector, the insurance sector plays a pivotal role in regulating funds to different industries, thereby contributing significant inflows to economic and financial growth (Shawar & Siddqui, 2019). This makes the insurance industry in any country necessary (Takon et al.,2020). Sadly, in Nigeria this industry faces several challenges, including poor penetration rate, market distortion, high inflation rates, varied government laws, unethical activities, and fraudulent inclinations on the part of both the insured and insurance practitioners. No wonder, the sector contributes little to the nation's GDP (Takon et al., 2020). Hence, it is vital to conduct a thorough investigation of the industry's operations. Moreover, Garcia et al. (2023), stressed that a systematic study is required in this domain owing to the requirement for organizations to innovate and capture more and more territory in the face of globalized competition and greater contribution to the economy. Therefore, insurance firms should recognize the need of exploring, exploiting, and deploying marketing innovation and inventive tactics in order to grow and remain competitive in a changing business environment, since this puts into question the role of innovation strategies taken by insurance companies.

The insurance industry is crucial to every economy, playing a significant role in financial intermediation. Despite its importance, the Nigerian insurance sector faces numerous challenges including low penetration rates, market distortions, and regulatory issues (Oloyede et al., 2023). These challenges have limited the sector's contribution to Nigeria's GDP and overall economic growth. In light of these issues, innovation within the insurance industry becomes essential. Marketing innovations, in particular, hold potential for enhancing firm performance. However, research into the specific impacts of marketing innovations, such as process and product innovations, on the performance of insurance firms remains sparse. This gap in the literature underscores the need for a systematic investigation into how these innovations can be leveraged to improve firm performance in the Nigerian context. This study aims to investigate the dimensions of marketing innovations and their implications on the performance of insurance firms in Nigeria. Additionally, it explores how institutional support moderates these relationships, providing a comprehensive understanding of the dynamics at play. By focusing on the Nigerian insurance industry, this research seeks to provide actionable insights for industry practitioners and policymakers to enhance firm performance through strategic innovations and supportive institutional frameworks.

LITERATURE REVIEW

This section discusses the concepts, empirical review and theoretical framework.

Concept of Firm Performance

Schütz et al. (2020), defined firm performance as the process by which an organization accomplishes its objectives by the calibre and volume of excellent work produced by people and groups. To Le & Ikram (2022), it is the degree to which a company meets its objectives. It was defined by Alvarez & Fuentes (2018) as a company's capacity to earn a profit, optimise returns on investments, and uphold a sound financial position. According to Taouab & Issor (2019), generating value for stakeholders includes a company's ability to make money, satisfy customers, engage employees, and practice corporate social responsibility. It was further defined by Taouab & Issor (2019), as the capacity to function effectively and efficiently while optimizing resource utilization and attaining desired results. According to this study, an organization's success is measured by its capacity to satisfy goals, reach targets, and maintain its competitive edge in the market. All of these definitions emphasize that an organization's

capacity to develop new ideas and put them into practice will determine how well it performs overall and how long it can remain competitive in the market.

Concept of Market Innovation

Marketing innovation is a key aspect in increasing a company's profitability (Yulianto & Supriono, 2023). Market innovation is actively implementing new marketing tactics, company models, or distribution channels to reach clients in fresh or unique ways (Jeong & Chung, 2023). To quantify innovation, a company must break down its marketing function into component elements and provide a system for analyzing the interplay between those parts. By doing so, decision-makers will finally be able to connect marketing costs to shareholder value and understand how to link marketing activities back to the value generated for the firm.

Marketing innovation is described as the implementation of new marketing methods that need considerable modifications in packaging, design, placement, product promotion, and price strategy (Yelmi et al., 2021). Marketing strategy is essential in every corporate organization, and in order to compete in a global market, resources must be accessible and effectively employed. Marketing innovation for a company aims to meet market requirements, improve market share, and boost shareholder value (Yelmi et al., 2021). Thus, helping businesses grow faster and more successfully, eventually making them more profitable than non-innovators (Surya et al., 2021). This study defines marketing innovation as the process of creating and implementing new and effective marketing strategies, tactics and tools to reach and engage with target audiences.

Although, the Organization for Economic Co-operation and Development [OECD] (2005) categorized innovation being implemented by firms into four (4): product, process, organizational, and marketing. Furthermore, the scope of change associated with innovation may be expressed in terms of entire newness or considerable improvement. In accordance with the paper's purpose, this empirical research employs two aspects of innovation: process innovation and product innovation as two dimensions of marketing innovations.

Concept of Process Innovation

Ojenike (2024), defined process innovation as changes in the ways of producing or developing products, including new logistics, new raw material, new production lines, new production processes/methods, and new technology. Process innovation is viewed as a change in the delivery and manufacture of commodities that significantly increases the value contributed to investors (Oanh, 2019). It is a method for increasing organizational efficiency and effectiveness of a procedure to achieve set goals. To achieve process innovation, a company may embrace new technology, purchase new equipment, educate its personnel, and reorganize its processes. Specifically, it is concerned with how production or service activities are carried out; it alters or enhances the way organization’s function (Yulianto & Supriono, 2023). Process innovation generates further productivity increase at all levels. Furthermore, technology-based product quality enables firms to generate better achievements in innovation (Yulianto & Supriono, 2023). Research repeatedly shows that organizations with greater levels of inventive aptitude actively participate in process innovation, which leads to increased operational efficiency, cost savings, and productivity (Raimi & Tariq, 2022; Jeong & Chung, 2023). It involves the process of carrying out sequential activities or task of transforming creative ideas to products/services (Mashal, 2018). Process-oriented innovativeness is concerned with the creation of or improvement in techniques and the development in process or system. Its dimensions involve innovativeness in technology, skill, techniques, systems and procedures, which are used in the process of transforming inputs into outputs (Ekeh, 2023).

This study defines process innovation as the implementation of new or significantly improved processes, methods or techniques to enhance the efficiency, effectiveness and quality of an organization's operations. By embracing process innovation, organizations can achieve operational excellence, stay competitive and drive growth.

Concept of Product Innovation

Product innovation is a critical success driver because it allows businesses to grow into new markets and helps them find ways to earn a lot of money. Bagna et al. (2021) claim that product innovations have a positive long-term impact on stock market performance. Furthermore, the impact persists over time. Product innovation may be defined as either the introduction of a new product unique to the company or the introduction of a new product into the market (Ramadani et al., 2019). Additionally, this innovation is seen as a possible cause of inconsistency between competing enterprises functioning in a market and organizational performance (Imran & Jingzu, 2022). According to Ramadani et al. (2019), product innovation may enhance the efficiency of businesses' resource utilization, raise return on investment and sales, generate new markets, and boost corporate value. Firms can also consider pursuing continuous complete product or service changes, legacy structures, and business processes to boost sales growth, assure financial stability, improve customer experience, and combat rising competition (Ramadani et al., 2019). This study defines product innovation as the development and launch of new products, services or improved versions of existing ones which provide unique value to customers and differentiate a company from its competitors.

Meanwhile, plethora of studies (Ayinaddis, 2023; Okundi & Muchemi, 2022; Fiiwe et al., 2022; Ismanuat et al., 2021; Onogwu & Ja'afaru, 2020; Horvat et al.,2019; Akpoviroro et al., 2019) found that process innovation had significant effect on firm's performance., among others, revealed that process innovation had a favorable and substantial influence on company performance. On the contrary, Yulianto & Supriono (2023) and Issau et al. (2021) discovered no significant association between process innovation and company performance. Thus, establishing contradictions in literature. In the same vein, several studies, including Ayinaddis (2023); Okundi & Muchemi (2022); Bari et al. (2022); Ismanu et al. (2021); Onogwu & Ja'afaru (2020); Horvat et al. (2019); Herman et al. (2018), discovered that product innovation had a favorable and substantial influence on business performance. In contrast, Yulianto & Supriono (2023) and Issau et al. (2021) discovered no significant association between product innovation and firm performance. As a result of the aforementioned inconsistencies in the relationship between product and process innovation and firm performance, as well as the need to fill this literature gap, this study introduced institutional support as a moderator to strengthen the relationship, as proposed by Baron & Kenny (1986).

Concept of Institutional Support

Igalla et al. (2021) defined institutional support as a wide reflection of government and agency support, which includes established policies, programs, financial support, technical support, and other types of help. According to institutional theory, the efficiency of business innovation is affected by both the organization's internal resources and the external institutional environment (Lee & Yoo, 2019). It plays an essential role in resource allocation and other economic activities inside the company's social interaction network (Ji et al., 2019). Yang et al. (2022) contended that the more institutional backing enterprises have, the more likely they are to dedicate resources to innovative, aggressive, and risky activities. At the same time, institutional support may have a signal influence both inside and outside the organization, enhancing members' confidence and companies' proclivity to engage in creative activities,

increasing management's readiness to follow a performance-based approach. This research defines institutional support as the resources, policies, and services that an organization or institution provides to help its entity succeed. Organizations may encourage success, innovation, and growth by providing institutional support.

Process Innovation and Firm Performance

In relation to process innovation and firm performance, a study conducted by Horvat et al. (2019) in various industrial sectors in Malaysia revealed that process innovation is positively related to firm performance. Process innovation stems from internal production goals, and that includes reducing production costs and increasing the quantity and quality of output (Yulianto & Supriono, 2023). Process innovation has a significant influence on corporate performance (Torfing, 2019). Sometimes a company's creative operations are carried out completely by the organization, and other times enterprises must work with other firms (Torfing, 2019). According to Yulianto & Supriono (2023), process innovation is a concept applied to both the production and distribution sector, achieved through significant changes in the techniques, materials and or computer programs used by a firm. These aim to reduce production or distribution costs, improve quality, or produce or distribute new or significantly improved products and firm performance. Akpoviroro et al. (2019), found that process innovation had significant effect on firm's performance. Process innovation results in extra productivity growth at every level. Moreover, technology-based product quality makes it easier for businesses to achieve superior results in innovation. Considering the information presented above, we recommend the hypothesis stated below:

H1: Process innovation has a significant effect on Insurance firms' performance in Nigeria.

Product Innovation and Firm Performance

Product innovation can be categorized as either the launch of a new product exclusive to the firm or the launch of a new product in the marketplace (Ramadani et al., 2019). In addition, these innovations are considered a potential resource of inconsistency between the competing firms operating within a market and organizational performance (Imran & Jingzu, 2022). Product innovation can be used to strategically differentiate an organization's product offerings in the marketplace, thereby meeting market demand, building customer loyalty, and improving firm performance (Yulianto & Supriono, 2023). According to the findings of Harjadi et al. (2020), product innovation positively influences firm performance. Studies conducted similarly and demonstrated the same related results were conducted by Lee et al. (2019), who concluded that organizations that innovated new products and had significant growth in sales from those products were less likely to be affected by the phenomenon known as cannibalization, and those firms also noticed an improvement in their performance. Several researchers, like Christa & Vivy (2021); Liu & Atuahene-Gima (2018); Su (2023); Herman et al. (2018), concluded that product innovation has a beneficial influence on the performance of the firms. Therefore, product innovation creates continuous profit, thereby improving the related performance measures of an organization. In addition, creativity is seen as essential, and its relationship to leadership and business entrepreneurship cannot be overstated (Skare et al., 2022). Considering the information presented above, we recommend the hypothesis stated below:

H2: Product innovation has a significant effect on Insurance firms' performance in Nigeria.

Institutional Support as a Moderator

Moreover, Moreira et al. (2022), suggested that institutional support can be employed as a moderation or mediation variable. Nuseir et al. (2022), found that institutional support moderates E-learning, M-learning, D- learning and students' performance in educational institutions. Similarly, Ojeleye et al. (2023), discovered that institutional support moderates the effect of gender diversity on firm performance. Thus, the current study posited that, while marketing innovation I.E., process and product innovations positively drive firm performance, the inclusion of institutional support as a resource for insurance companies may accentuates the interaction between product and process innovation and firm performance based on the moderation typology of Baron & Kenny (1986) and Gardner et al. (2017). However, despite the study's assumption that market innovation is positively associated to firm performance, there is no agreement on the direction of this connection, and previous research has shown inconclusive findings. The link between market innovation and firm performance is not straightforward; rather, it is complicated. Market innovation has been extensively identified in numerous studies, although the existing data seems to concentrate mostly on the direct influence of innovation on firm performance (Ayinaddis, 2023; Yulianto & Supriono, 2023; Okundi & Muchemi, 2022; Bari et al., 2022). However, the purpose of this research is to fill this gap. As such, the research investigated the role of institutional support in moderating the connection between product innovation, process innovation, and insurance firms' performance.

H3: Institutional support significantly moderates the relationship between process innovation and Insurance firms' performance in Nigeria

H4: Institutional support significantly moderates the relationship between product innovation and Insurance firms' performance in Nigeria.

The Resource-Based View

The study is underpinned by the Resource-Based View (RBV) theory. According to the RBV theory, a firm's competitive advantage and performance are largely driven by its unique set of resources and capabilities (Peng, 2001; Bogodistov & Wohlgemuth, 2017). In the instance of Nigerian insurance businesses, this theory indicates that organizations might attain higher performance by effectively using innovation-related resources and competencies. This might involve expenditures in technology, human capital development, and strategic alliances to foster both product and process innovation (Bari et al., 2022). Furthermore, the RBV theory underscores the significance of matching these resources and skills to the firm's strategic goals and external market circumstances (Hanggraeni et al., 2019). By applying the RBV theory to the study of innovation in Nigerian insurance companies, researchers can investigate how firms use their internal resources and capabilities, as well as external institutional support, to drive innovation initiatives and, ultimately, improve their market competitiveness and performance.

Conceptual Framework

Figure 1 diagrammatically displays the study's conceptual framework. The moderator and predictor variables are institutional support (IS), process innovation (PCI), and product innovation (PDI), which influence the criterion variable firm performance (FPER).

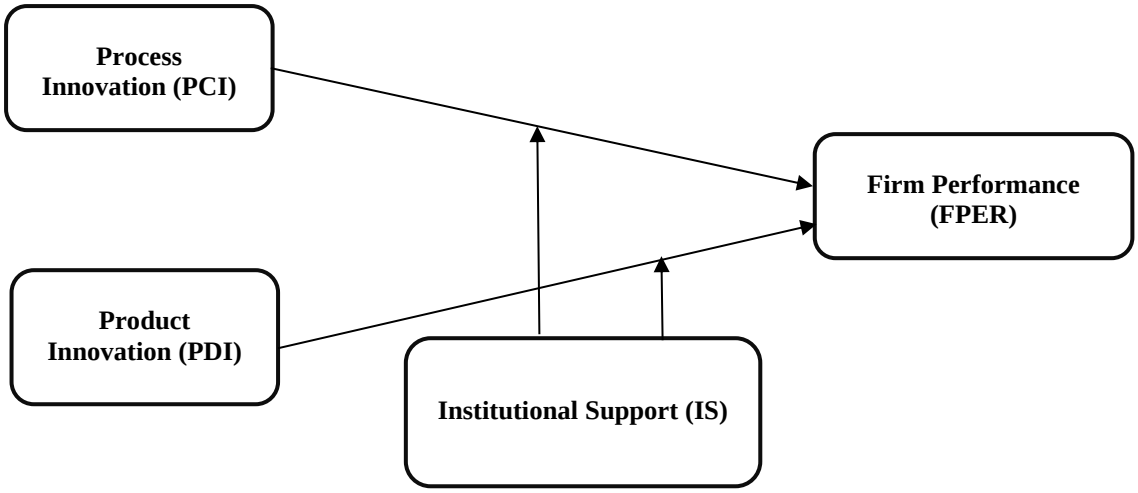


Figure 1: Conceptual Framework

RESEARCH METHOD

The methodology of a study gives a picture of the processes and techniques employed by the researchers to collect, clean and process the data.

Research Design

The study adopted a quantitative research design, using both survey and cross-sectional research methods. The study is quantitative research because analyses and investigates linkages, behaviors, or occurrences using a systematic approach using numerical data. It depends on systematic procedures such polls or experiments and finds patterns, test ideas, and generates generalizations about larger populations using statistical methodologies (Hair et al., 2022). This approach offers measurable insights that might direct theory development and decision-making since it aims for correctness and objectivity.

Data from players in Nigeria's insurance industry was gathered via questionnaires, enabling for quantitative examination of issues such as process innovation, product innovation, institutional support, and performance. The cross-sectional approach allowed for the evaluation of correlations between variables at a certain moment in time, allowing the research to make conclusions regarding the impact of these factors on insurance business performance in Nigeria during the specified period.

Population of the Study

According to the National Insurance Commission (NAICOM) website, Nigeria has fifty-six (56) listed insurance businesses that were in existence as of January 31, 2023. In this study, the population consists of the managerial employees from insurance companies in Nigeria. These include Managing Director, Executive Director Technical, Head of Technical Underwriting, Head of Reinsurance, Chief Financial Officer, Head of Audit, Head of ERM, Chief Risk Officer (CRO) (Risk and Compliance) and Head of Human Resource/Admin. As a result, this study focused on the managerial level as the unit of analysis since the researchers considered they would be in the greatest position to have appropriate knowledge about the firm's performance and marketing strategies. The population consisted of 504 executives from 56 insurance firms, determined by choosing 9 management staff from each company: (9 management staff * 56 insurance companies = 504).

Sample Size

Furthermore, the sample size of 223 was calculated using Taro Yamane's finite population formula. Meanwhile, to account for partial questionnaire completion, non-response or invalid questionnaire, Israel (2013) proposed expanding the sample size by 10% to 30%. As such, the research raises the previously calculated sample size of 223 by 10% (1.10*223=245) to 245 based on the discretion of the researchers. Additionally, the study employed a simple sampling technique to distribute questionnaires to respondents, ensuring that everyone had an equal chance of being chosen. Only 216 (88%) of the 245 questionnaires sent were returned, with 203 (83%) correctly filled out and used in the study.

Instruments

Instruments from previous studies were adapted and used in the study. In other words, the study employed validated scales from scholars with excellent psychometric properties to measure the study's constructs. First, Process Innovation was measured employed Preciso (2021) Innovation Process Scale. Sample of item is "Our firm works according to a documented and efficient innovative process". The reported Cronbach's alpha is 0.912. depicting that the instrument is consistent and appropriate for the study. Product Innovation was measured using modified 10-item scale of Alegre et al. (2006). Sample of item is "We are constantly replacing products being phased out". The Cronbach's alpha ranges between 0.772 to 0.857. It shows that the instrument is reliable and appropriate for this study. Institutional Support was measured using O'Driscoll (2000) 4-item Social Support Scale. Sample of item is "Government provides helpful information about proving our business". The reported Cronbach's alpha is 0.89. Lastly, performance was measured utilizing 8-item Firm Performance Scale of Spillan & Parnell (2006). Sample of item is "Our sales goals have been achieved" with reported Cronbach's alpha of 0.764. showing the internal consistency and appropriateness of the instrument. Meanwhile all the instruments were measured on a 5-point Likert Scale (5-strongly agree to 1-strongly disagree).

RESULTS AND DISCUSSION

Data Analyses

To ensure that the data was correct, preliminary evaluations were performed using Statistical Software for Social Sciences (SPSS) version 24, which included replacing missing values, common method bias, multicollinearity, checking for normality, and reducing non-response bias. In a nutshell, the dataset was found eligible for further investigation. SmartPLS 3.3.8 was also used to calculate the measurement and structural models, which are the two core models of PLS path modelling.

Measurement Model

Hair et al. (2019), reported that building a measurement model entails identifying constructs and creating indicators that fairly represent these constructs. The approach begins with precisely specifying and spotting the latent variables to measure. After that, researchers choose observable indicators for every construct and indicate the interactions among them in the measuring model. Statistical tests such as Confirmatory Factor Analysis (CFA) help to evaluate the validity and reliability of these indicators thereby guaranteeing their proper measurement of the desired constructs. These tests help to improve the model by means of which its fit and validity are enhanced, therefore producing a strong measurement model supporting correct and reliable research results.

The measurement model includes an investigation of item loading for the reflective constructs, reliability (Composite reliability and Cronbach's alpha), and validity (convergent and discriminant tests). Items that loaded 0.500 or above were maintained after the item loadings were reviewed and those below were deleted as suggested by Hulland (1999). Items FPER2, PD15, PDI7 and PDI10 were deleted owing to loading below 0.5 threshold. They were deleted because they had no variance of the model.

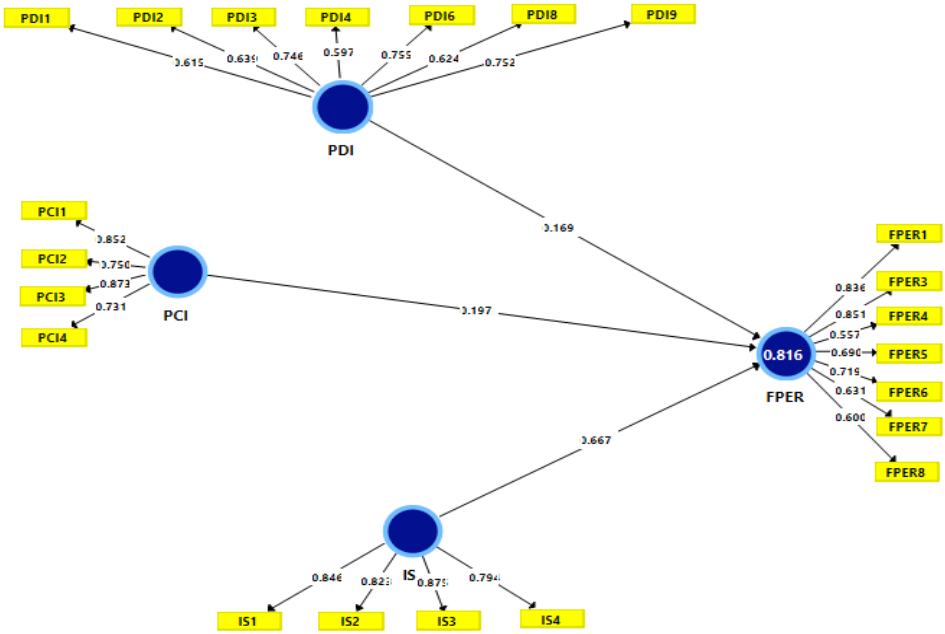


Figure 2. Measurement Model
Source: Authors' systemization of SmartPLS output (2024)

The composite reliability (CR) used to assess internal consistency fulfilled the satisfaction requirement of 0.70, with the lowest result being 0.856 and the highest being 0.902. Similar to this, Cronbach's alpha (CA) ranged from 0.803 to 0.855. Table 1 shows a list of these:

Table 1. Item Loadings, Reliability and Convergent Validity (Average Variance Extracted)

Constructs	Indicators	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Firm Performance	FPER1	0.836	0.826	0.871	0.518
	FPER3	0.851			
	FPER4	0.557			
	FPER5	0.690			
	FPER6	0.719			
	FPER7	0.631			
	FPER8	0.600			
Institutional Support	IS1	0.846	0.855	0.902	0.697
	IS2	0.823			
	IS3	0.875			

	IS4	0.794			
Process Innovation	PCI1	0.852	0.817	0.879	0.646
	PCI2	0.750			
	PCI3	0.873			
	PCI4	0.731			
	PDI1	0.615			
	PDI2	0.639			
Product Innovation	PDI3	0.746	0.803	0.856	0.531
	PDI4	0.597			
	PDI6	0.755			
	PDI8	0.624			
	PDI9	0.752			

Source: Authors' systemization of SmartPLS output (2024)

Furthermore, in research, discriminant validity is crucial as it guarantees that a measurement instrument or concept is unique from other variables, therefore verifying that it faithfully measures what it is meant to without overlap (Hair et al., 2021). Since it helps to avoid the confining of several constructs and supports the credibility and integrity of the measuring instrument, this validity is absolutely essential for guaranteeing the correctness of study results (Hair et al., 2022). Discriminant validity strengthens theory development and increases practical applications by proving that constructions are distinctively different from one another, therefore producing more exact and successful treatments or solutions. Henseler et al. (2015) Heterotrait-Monotrait (HTMT) ratio was used in this research to confirm discriminant validity. The HTMT ratio for empirically dissimilar constructs is 0.85, which is lower than the conservative figure of 0.90 for conceptually comparable constructs. Table 2 shows that the values of intercorrelation are smaller than the criteria. As a result, the study's results support the claim that discriminant validity may be proved using any threshold.

Table 2. Discriminant Validity using Heterotrait-Monotrait Ratio

Constructs	FPER	IS	PCI	PDI
FPER				
IS	0.620			
PCI	0.731	0.607		
PDI	0.811	0.738	0.492	

Source: Authors' systemization of SmartPLS output (2024)

Structural Model

To evaluate the study's hypotheses, a structural model was used. To test the relationship, 5000 bootstrapping tests were run in total. Furthermore, the predictive relevance and effect size were also examined. Predictive relevance was utilized to determine the study model's practical value. The effect size was used to determine how each individual predictor variable contributed to the variation in the dependent variable.

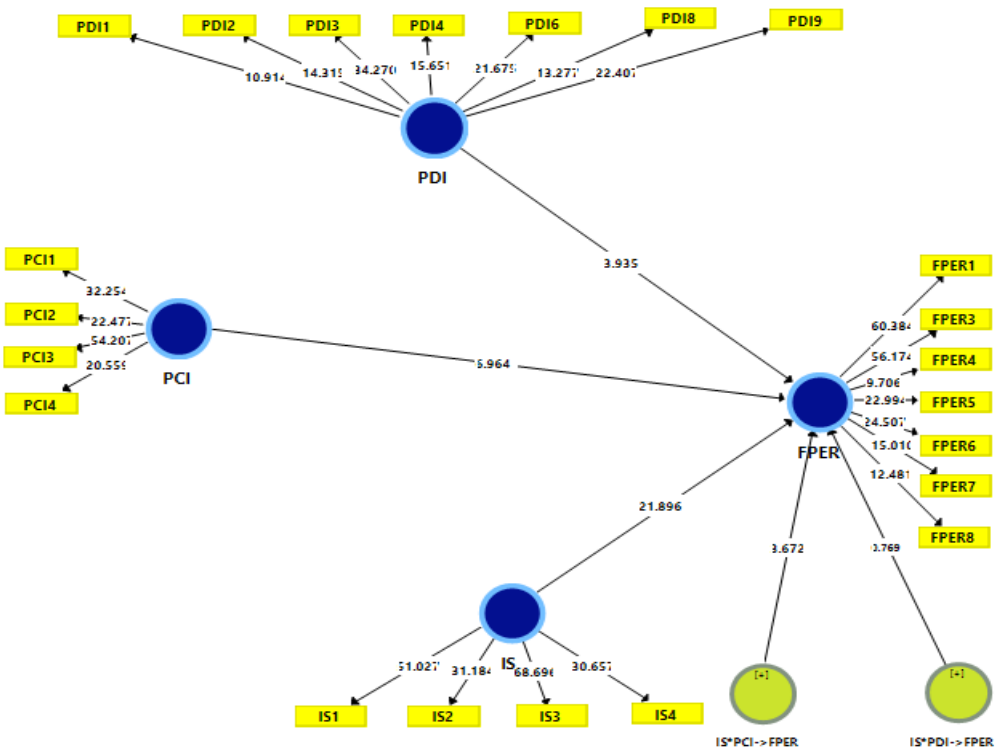


Figure 3. Structural Model
Source: Authors' systemization of SmartPLS output (2024)

Test of Hypotheses

Table 3. Test of Direct and Moderating Effect

Hypotheses	Relationship	Beta	STDEV	T-statistics	P Values	Decision
H_1	PCI -> FPER	0.217	0.031	6.964	0.000	Supported
H_2	PDI -> FPER	0.158	0.040	3.935	0.000	Supported
H_3	IS*PCI->FPER	-0.094	0.026	3.672	0.000	Supported
H_4	IS*PDI-> FPER	0.018	0.027	0.769	0.442	Not Supported
	R^2=0.816		Q^2= 0.371			

Source: Authors' systemization of SmartPLS output (2024)

The first hypothesis (H_1) shows that there is a significant positive effect of process innovation (PCI) insurance firm performance (FPER), as demonstrated by a beta value of 0.217, a T-statistics of 6.964, and a p-value of 0.000. This suggests that increased process innovation has a favorable influence on the performance of Nigerian insurance businesses. Therefore, the first hypothesis is supported. Similarly, the second hypothesis (H_2) shows a positive and significant influence of product innovation (PDI) on performance (FPER), with a beta of 0.158, a T-statistics of 3.935, and a p-value of 0.000. This implies that increasing product innovation has a beneficial impact on the performance of insurance businesses in Nigeria. As such, the second hypothesis is likewise supported. The third hypothesis (H_3) investigates the moderating role of institutional support (IS) on the relationship between process innovation (PCI) and performance (FPER). The beta value of 0.094, T-statistics of

3.672, and p-value of 0.000 all suggest a substantial positive moderating impact. This suggests that institutional support significantly moderated the relationship between process innovation and the performance of Nigerian insurance businesses. As a consequence, the third hypothesis is also supported. However, the fourth hypothesis (H_4), which examines the moderating effect of institutional support (IS) on the relationship between product innovation (PDI) and performance (FPER), yields a beta value of 0.018, a T-statistics of 0.769, and a p-value of 0.442, indicating a nonsignificant moderating effect. This implies that, although institutional support may have a good effect on the link between process innovation and performance, it has no meaningful effect on the association between product innovation and performance. Hence, the fourth hypothesis was rejected.

R-square (R^2) is a statistic that gauges the degree of variability of the dependent variable (FPER) under explanation by the independent variables. An R2 value of 0.816 suggests that around 81.6% of the variation in insurance company performance can be explained by the variables in the model—process innovation, product innovation, and institutional support. This suggests that the model has a strong degree of explanatory power, thereby suggesting that the performance of Nigerian insurance companies is much influenced by these elements. Chin (1998) claims the R2 value to be high.

Additionally, Q-squared (Q^2) is a measure of the model's prediction accuracy (Hair et al., 2019). It determines how effectively the model predicts the dependent variable (performance) given the independent factors (process innovation, product innovation, and institutional support). A Q^2 score of 0.371 implies that the model's predicted accuracy is about 37.1%. In other words, using the factors included in the research, the model may somewhat correctly predict insurance firm performance in Nigeria.

Effect Size

The research assessed the independent variables' effect size (f^2) on the dependent variable. This is undertaken to ascertain which of the predictor factors best fits the dependent variable. Cohen (1988) defines small, medium, and large effects as (f^2) values of 0.02, 0.15, and 0.35. According to the study in Table 4, process innovation and institutional support moderating process innovation have small effect size. Process innovation has medium effect size whereas institutional support has large effect size while moderating influence of institutional support towards product innovation has no effect size.

Table 4. Effect Size (f^2)

Constructs	f^2	Effect Size
IS	0.679	Large
PCI	0.152	Medium
PDI	0.091	Small
IS*PCI	0.101	Small
IS*PDI	0.012	Nill

Source: Authors' systemization of SmartPLS output (2024)

Discussions

Process innovation has had a significant beneficial effect on the performance of Nigerian insurance companies. This is consistent with the previous studies of (Onogwu & Ja'afaru, 2020; Okundi & Muchemi, 2022; Fiiwe et al., 2022). Insurance companies in Nigeria have improved their efficiency, cut operating expenses, and raised client satisfaction by using

innovative procedures such as digitization of operations, task automation, and the use of sophisticated analytics. These innovations reduce internal operations, speed up claims processing, and allow for faster replies to client concerns, all of which contribute to better service delivery (Fiiwe et al., 2022). Moreover, process innovation allows insurance companies to respond more quickly to market developments, efficiently manage risks, and retain a competitive edge in Nigeria's dynamic insurance industry. As a result, the adoption of innovative procedures has become critical in generating development, profitability, and sustainability for insurance businesses in Nigeria.

Product innovation has had a significant and positive influence on the performance of Nigerian insurance companies. This is in tandem with past studies of (Onogwu & Ja'afaru, 2020; Okundi & Muchemi, 2022; Bari et al., 2022). Insurers have expanded their market reach, attracted new clients, and fostered stronger customer loyalty by introducing groundbreaking insurance products customized to fit consumers' changing requirements and preferences. Innovative insurance products, such as micro-insurance designed for low-income earners, health insurance packages with complete coverage, and customizable plans targeted to certain demographics, have helped to reach previously neglected portions of Nigeria's population. Diversifying product offerings not only improves the value proposition for clients, but it also helps insurance firms expand their revenue and compete in the market. Furthermore, product innovation promotes distinction in a competitive market environment, establishing insurance companies as industry leaders and fostering long-term sustainability and profitability in Nigeria's insurance business.

In the case of Nigerian insurance businesses, institutional support, although beneficial, did not significantly moderate the relationship between product innovation and performance. Despite supportive legislative frameworks and activities aimed at encouraging innovation in the insurance industry, institutional support's influence as a moderating factor remains minimal. While regulatory assistance may help with the deployment of novel goods to some level, its impact on improving the performance results of such innovations may be statistically insignificant. This suggests that, while institutional support fosters product innovation, other factors such as market dynamics, organizational capabilities, and competitive pressures are more important in determining the performance outcomes of innovative endeavors in Nigeria's insurance industry. As a consequence, although institutional support is good, its moderating influence on the relationship between product innovation and performance may not be statistically significant, showing the complexity of variables affecting the innovation-performance nexus in Nigeria's insurance industry.

However, in the context of Nigerian insurance companies, institutional support plays an important and beneficial role in strengthening the relationship between process innovation and performance. With a favorable regulatory framework and activities aimed at encouraging innovation in the insurance business, institutional support is critical in easing the adoption and implementation of process changes. Regulatory frameworks that foster digitalization, automation, and efficiency gains help insurance companies overcome hurdles to innovation and accept radical changes in their operational operations. Additionally, institutional support offers access to resources, experience, and incentives, encouraging insurance firms to engage in process innovation. As a result, institutional support's synergistic effect amplifies the positive impact of process innovation on performance outcomes such as operational efficiency, cost reduction, customer satisfaction, and competitive advantage, resulting in sustained growth and profitability for Nigerian insurance companies.

Implications

The favorable and considerable benefits of both product and process innovation on insurance company performance in Nigeria have important practical implications for the sector. Product innovation, which involves developing fresh insurance offers customized to consumers' different demands, may boost market competitiveness, attract new clients, and create higher customer satisfaction and loyalty. At the same time, process innovation allows insurance companies to simplify operations, save costs, and enhance customer delivery by using efficient processes and smart technology. Furthermore, the moderating influence of institutional support on the connection between process innovation and performance enhances these advantages. With supporting regulatory frameworks and incentives, insurance businesses may better traverse innovation hurdles, get access to resources, and align innovation activities with strategic goals. This mix of product and process innovation, aided by institutional support, enables Nigerian insurance businesses to not only adapt to changing market circumstances, but also flourish, resulting in sustained industry growth, profitability, and client value.

Applying the Resource-Based View (RBV) theory to the study of innovation in Nigerian insurance businesses has various theoretical implications. First, the RBV viewpoint emphasizes the relevance of internal resources and competencies in promoting organizational innovation. In this context, the research might look at how Nigerian insurance companies use their particular resources, such as technology infrastructure, human capital, and organizational culture, to drive product and process innovation. Second, RBV highlights the importance of competitive advantage in obtaining higher performance. The research might look at how innovative activities help insurance businesses establish unique skills that allow them to distinguish themselves from rivals and successfully seize market possibilities. Furthermore, RBV highlights the dynamic character of resources and capabilities, implying that they must be constantly developed and adjusted to changing market circumstances. Thus, the research may investigate how Nigerian insurance companies develop their innovation strategies over time in order to remain competitive and perform well in a changing insurance business environment. Overall, the study's RBV approach may provide light on the processes by which innovation promotes competitive advantage and performance outcomes for Nigerian insurance businesses.

CONCLUSION

This research highlights the importance of innovation, both in processes and products, in driving performance in the Nigerian insurance sector. The study found that process and product innovation significantly influence firm performance. Particularly, while process innovation improves operational efficiency and lowers costs, product innovation broadens offers and attracts new customers, hence increasing market competitiveness. Furthermore, the research underscores the role of institutional support in moderating the connection between process innovation and performance but did not strengthen the relationship between product innovation and firm performance. The Nigerian insurance sector may capture the full potential of innovation by collaborating with regulatory agencies, industry stakeholders, and insurers to traverse shifting market environments, answer changing client requirements, and achieve long-term success. As the sector evolves, insurance businesses will need to rely on innovation and supporting regulatory frameworks to compete in Nigeria's fast changing economic climate. Based on the research findings, the study recommends the following:

1. To capitalize on the beneficial and significant effect of process innovation on performance, Nigerian insurance companies should prioritize digital transformation. Firms that embrace

modern technologies such as AI and automation may simplify processes, decrease costs, and improve customer service, earning a competitive advantage in the market.

2. To maximize the positive and substantial effect of product innovation, Nigerian insurance firms should prioritize market research and client feedback. Understanding client wants and preferences enables organizations to create bespoke insurance products that connect with the target market, resulting in enhanced customer satisfaction and loyalty while retaining industry competitiveness.
3. To take advantage of the favorable and a significant moderating influence of institutional support on the relationship between process innovation and insurance company performance in Nigeria, collaborative efforts across regulatory agencies, industry stakeholders, and insurers should be prioritized. Clear standards, incentives, and expedited clearance procedures for innovative activities may be implemented, creating an atmosphere that promotes process innovation adoption. This collaborative strategy would allow insurers to increase operational efficiency, save costs, and, ultimately, improve performance in the Nigerian insurance industry.

Limitations and Suggestions for Further Studies

Firstly, employing a cross-sectional design restricts the investigation to a single point in time, impeding the ability to establish causal relationships or track changes over time. This limitation hinders the depth of understanding regarding the dynamics within the insurance industry, as it fails to capture the temporal nuances influencing performance and practices.

To address these limitations and advance the understanding of the Nigerian insurance industry, future research endeavors should consider alternative methodological approaches and broaden the scope of investigation. Longitudinal studies would enable researchers to track changes in insurance practices and performance over time, offering a more nuanced understanding of industry dynamics.

In addition, researchers could conduct comparative analyses to identify variations in performance and practices across different regions or sectors within the Nigerian insurance industry. Qualitative research methods, such as interviews and focus groups, could complement quantitative data by providing deeper insights into the underlying factors influencing insurance practices. Moreover, in-depth case studies on specific insurance companies would offer valuable insights into unique challenges, strategies, and performance indicators. Finally, international comparisons could provide valuable benchmarks and identify best practices from other countries, informing policy and industry reforms in Nigeria.

REFERENCES

Akpoviroro, K. S., Amos, A. O., & Oladipo, A. O. (2019). The impact of process innovation on organizational performance. *Economica*, *15*(2), 115–132. https://journals.univ-danubius.ro/index.php/oeconomica/article/view/5236/5217

Alegre, J., Lapiedra, R., & Chiva, R. (2006). A measurement scale for product innovation performance. *European Journal of Innovation Management*, *9*(4), 333–346. https://doi.org/10.1108/14601060610707812

Alvarez, R., & Fuentes, R. (2018). Minimum wage and productivity: Evidence from Chilean manufacturing plants. *Economic Development and Cultural Change*, *67*(1), 193–224. https://doi.org/10.1086/697557

Apergis, N., & Poufinas, T. (2020). The role of insurance growth in economic growth: Fresh evidence from a panel of OECD countries. *The North American Journal of Economics and Finance. 53*(1), 101–217. https://doi.org/10.1016/j.najef.2020.101217 h

Ayinaddis, S. G. (2023). The effect of innovation orientation on firm performance: Evidence from micro and small manufacturing firms in selected towns of Awi Zone, Ethiopia. *Journal of Innovative Entrepreneurship, 12*(26), 1–19. https://doi.org/10.1186/s13731-023-00290-3

Bagna, E., Ramusino, E. C., & Denicolai, S. (2021). Innovation through patents and intangible assets: Effects on growth and profitability of European companies. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(4), 2–19. https://doi.org/10.3390/joitmc7040220

Bari, A., Ismail, H. B., Islam, M. T., & Bari, A. (2022). The impact of marketing innovation on economic development in Nigeria: A literature review. *Journal of System and Management Sciences, 12*(6), 468–486. https://doi.org/10.33168/JSMS.2022.0628

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037//0022-3514.51.6.1173

Bogodistov, Y., & Wohlgemuth, V. (2017). Enterprise risk management: A capability-based perspective. *Journal of Risk Finance, 18*(3), 234–251. https://doi.org/10.1108/JRF-10-2016-0131

Chin, W. W. (1998). Modern methods for business research. In G. A. Marcoulides (Eds.), *The partial least squares approach to structural equation modelling* (pp. 295–336). London: Lawrence Erlbaum Associates.

Christa, U. R., & Vivy, K. (2021). The effect of product innovation on business performance during Covid 19 pandemic. *Uncertain Supply Chain Management, 9*(1), 151–158. http://dx.doi.org/10.5267/j.uscm.2020.10.006

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Lawrence Erlbaum Associates.

Ekeh, L. O. (2023). The effect of process innovation on growth of medium enterprises in Nigeria. *Journal of International Conference Series, 1*(3), 77–110.

Ernest, O. E., & Sule, J. G. (2020). Influence of innovation on the performance of small and medium-scale enterprises in Kogi State. *Journal of Asian Business Strategy, 10*(1), 122–132. https://doi.org/10.18488/journal.1006.2020.101.122.132

Fiiwe, J. L., Egele, A. E., Ozo, J. U., & Komene, G. L. (2022). Impact of innovativeness dimension of entrepreneurial marketing on the financial performance of small and

medium scale enterprises in Nigeria. *Global Academic Journal of Economics and Business*, *4*(6), 182–193. https://doi.org/10.36348/gajeb.2022.v04i06.003

Garcia, L. J., Junior, G. B., & Silva, J. C. R. P. (2023). Innovation and marketing strategy: A systematic review. *International Journal of Innovation*, *11*(3), 1–24. https://doi.org/10.5585/2023.23150

Gardner, R. G., Harris, T. B., Li, N., Kirkman, B. L., & Mathieu, J. E. (2017). Understanding "it depends" in organizational research: A theory-based taxonomy, review, and future research agenda concerning interactive and quadratic relationships. *Organization Research Methods*, *20*(4), 610–638. https://doi.org/10.1177/1094428117708856

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Thousand Oaks: Sage.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 1–24. https://doi.org/10.1108/EBR-11-2018-0203

Hanggraeni, D., Slusarczyk, B., Sulung, L. A. K., & Subroto, A. (2019). The impact of internal, external and enterprise risk management on the performance of micro, small and medium enterprises. *Sustainability*, *11*(7), 1–17. https://doi.org/10.3390/su11072172

Harjadi, D., Fatmasari, D., & Nurhasanah, A. S. (2020). Market orientation and product innovation to increase competitive advantages and its impact on marketing performance. *AlAmwal: Jurnal Ekonomi dan Perbankan Syari'ah*, *12*(1), 12–21. http://dx.doi.org/10.24235/amwal.v1i1.5457

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*, 115–135. https://doi.org/10.1007/s11747-014-0403-8

Herman, H., & Hady, H., Arafah, W. (2018). The influence of market orientation and product innovation on the competitive advantage and its implication toward small and medium enterprises (UKM) Performance. *International Journal of Science and Engineering Invention*, *4*(8), 8–26. http://dx.doi.org/10.23958/ijsei/vol04-i08/02

Horvat, A., Behdani, B., Fogliano, V., & Luning, P. A. (2019). A systems approach to dynamic performance assessment in new food product development. *Trends in Food Science & Technology*, *91*, 330–338. https://doi.org/10.1016/j.tifs.2019.07.036

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, *20*(2), 195–204. https://doi.org/10.1002/(SICI)1097-0266(199902)20:2%3C195::AID-SMJ13%3E3.0.CO;2-7

Igalla, M., Edelenbos, J., & Meerkerk, I. V. (2021). Institutionalization or interaction: Which organizational factors help community-based initiatives acquire government support?. *Public Administration, 99*(4), 803–831. https://doi.org/10.1111/padm.12728

Imran, M., & Gao, J. (2022). Green organizational culture, organizational performance, green innovation, environmental performance: A mediation-moderation model. *Journal of Asia-Pacific Business, 23*(2), 161–182. http://dx.doi.org/10.1080/10599231.2022.2072493

Ismanu, S., Kusmintarti, A., & Riwajanti, N. I. (2021). The effects of product innovation, process innovation and government policy on SMEs performance: Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, *8*(12), 305–311. https://doi.org/10.13106/jafeb.2021.vol8.no12.0305

Israel, G. D. (2013). *Determining sample size*. University of Florida: IFAS Extention.

Issau, K., Acquah, I. S. K., Gnankob, R. I., & Hamidu, Z. (2021). Innovation orientation and performance of small and medium-sized enterprises (SMES) in Ghana: evidence from manufacturing sector. *Innovation & Management Review*, *19*(4), 290–305 http://dx.doi.org/10.1108/INMR-07-2020-0092

Jeong, S. W., & Chung, J. E. (2023). Enhancing competitive advantage and financial performance of consumer-goods SMEs in export markets: How do social capital and marketing innovation matter?. *Asia Pacific Journal of Marketing and Logistics*, *35*(1), 74–89. https://doi.org/10.1108/APJML-05-2021-0301

Ji, H., Xu, G., Zhou, Y., & Miao, Z. (2019). The impact of corporate social responsibility on firms' innovation in China: The role of institutional support. *Sustainability*, *11*(22), 1–20. https://doi.org/10.3390/su11226369

Le, T. T., & Ikram, M. (2022). Do sustainability innovation and firm competitiveness help improve firm performance? Evidence from the SME sector in Vietnam. *Sustainable Production and Consumption*, *29*, 588–599. https://doi.org/10.1016/j.spc.2021.11.008

Lee, K., & Yoo, J. (2019). How does open innovation lead competitive advantage? A dynamic capability view perspective. *PLoS ONE*, *14*(11), 1–18. https://doi.org/10.1371/journal.pone.0223405

Lee, R., Lee, J.-H., & Garrett, T. C. (2019). Synergy effects of innovation on firm performance. *Journal of Business Research, 99,* 507–515. https://doi.org/10.1016/j.jbusres.2017.08.032

Liu, W., & Atuahene-Gima, K. (2018). Enhancing product innovation performance in a dysfunctional competitive environment: The roles of competitive strategies and market-based assets. *Industrial Marketing Management*, *73*, 7–20. https://doi.org/10.1016/j.indmarman.2018.01.006

Mashal, A. (2018). Do non-financial factors matter for SME's performance? Case from Jordan. *International Journal of Business and Social Science*, *8*(4), 156–167. http://dx.doi.org/10.4172/2151-6219.1000323

Moreira, A., Navaia, E., & Ribau, C. (2022). Moderation effects of government institutional support, active and reactive internationalization behavior on innovation capability and export performance. *Economies*, *10*(8), 1–17. http://dx.doi.org/10.3390/economies10080177

Nuseir, M. T., Aljumah, A. I., & Refae, G. A. E. (2022). The influence of e-learning, m-learning, and d-learning on the student performance: Moderating role of institutional support. *ACIT: 2022 International Arab Conference on Information Technology*, 1–9. https://doi.org/10.1109/ACIT57182.2022.9994193

O'Driscoll, M. (2000). Work and family transactions. In P. Koopman-Boyden, A. Dharmalingam, B. Grant, V. Hendy, S. Hillcoat-Nalletamby, D. Mitchell, M. O' Driscoll, & S. Thompson (Eds.), *Transactions in the Mid-life Family* (pp. 92–112). Population Association of New Zealand: Hamilton

Oanh, N. T. (2019). The relationship between innovation capability, innovation type and innovation performance in FDI enterprises in Vietnam. *International Journal of Economics and Finance*, *11*(8),1–28. http://dx.doi.org/10.5539/ijef.v11n8p28

OECD. (2005). *Oslo manual: Guidelines for collecting and interpreting innovation data (3rd ed.)*. OECD. https://doi.org/10.1787/19900414

Ojenike, J. O. (2024). Innovation strategy and performance of selected small and medium scale enterprises in Lagos state. *International Journal of Business and Management Invention*, *13*(5), 151–161. https://doi.org/10.35629/8028-1305151161

Okundi, S. M., & Muchemi, A. W. (2022). Marketing innovation strategy and entrepreneurial performance of small and medium enterprises in Nakuru East Town Sub-County. *International Journal of Business Management, Entrepreneurship and Innovation*, *4*(2), 35–47. http://dx.doi.org/10.35942/jbmed.v4i2.261

Oloyede, J. A., Folorunsho, A. & Ogamien, O. F. (2023). The impact of insurance on economic growth in Nigeria. *Nigerian Journal of Banking and Financial Issues*, *9*(1), 1–9.

Peng, M. W. (2001). The resource-based view and international business. *Journal of Management*, *27*, 803–829. https://doi.org/10.1177/014920630102700611

Preciso, A. M. D. (2021). *Creating and refining a questionnaire to assess firm-level innovativeness: a study on a multinational company.* U. PORTO

Raimi, L., & Tariq, M. U. (2022). Managing the digital workplace in the post-pandemic. In F. Ozsungur (Eds.), *Digital innovation in the workplace* (pp. 115–125). Routledge. https://doi.org/10.4324/9781003283386

Ramadani, V., Hisrich, R. D., Abazi-Alili, H., Dana, L. -P., Panthi, L., & Abazi-Bexheti, L. (2019). Product innovation and firm performance in transition economies: A multi-stage estimation approach. *Technological Forecasting and Social Change, 140*, 271–280. https://doi.org/10.1016/j.techfore.2018.12.010

Schütz, K., Kässer, M., Blome, C., & Foerstl, K. (2020). How to achieve cost savings and strategic performance in purchasing simultaneously: A knowledge-based view. *Journal of Purchasing & Supply Management*, *26*(2), 1–15. https://doi.org/10.1016/j.pursup.2019.04.002

Shawar, K., & Siddiqui, D. A. (2019). Factors affecting financial performance of insurance industry in Pakistan. *Research Journal of Finance and Accounting*, *10*(5), 29–41. https://ssrn.com/abstract=3381835

Skare, M., Blanco-Gonzalez-Tejero, C., Crecente, F., & del Val, M. T. (2022). Scientometric analysis on entrepreneurial skills-creativity, communication, leadership: How strong is the association?. *Technological Forecasting and Social Change*, *182*, 1–17. https://doi.org/10. 1016/j.techfore.2022.121851

Spillan, J., & Parnell, J. (2006). Marketing resources and firm performance Among SMEs. *European Management Journal*, *24*(2–3), 236–245. https://doi.org/10.1016/j.emj.2006.03.013

Su, Y. H. (2023). The effect of product innovation, CSR, environmental sustainability and technology innovation on firm performance: A mediated moderation model. *Economic research-Ekonomska istraživanja*, *36*(2), 1–25. https://doi.org/10.1080/1331677X.2023.2180417

Surya, B., Menne, F., Sabhan, H., Suriani, S., Suriani, S., & Idris, M. (2021). Economic growth, increasing productivity of SMEs, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 1–37. https://doi.org/10.3390/joitmc7010020

Takon, S. M., John, J. I., Ononiwu, E., & Mgbado, M. (2020). Determinants of the cost of financial intermediation in Nigeria's reconsolidated and post-consolidated banking sector. *Journal of International Economics and Financial Management*, *5*(1), 30–41.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, *15*(1), 93–104. http://dx.doi.org/10.19044/esj.2019.v15n1p93

Torfing, J. (2019). Collaborative innovation in the public sector: The argument. *Public Management Review*, *21*(1), 1–11. https://doi.org/10.1080/14719037.2018.1430248

Yang, J., & Yu, M. (2022). The influence of institutional support on the innovation performance of new ventures: The mediating mechanism of entrepreneurial orientation. *Sustainability*, *14*(4), 1–15. https://doi.org/10.3390/su14042212

Yelmi, A., Yahaya, Y., Muhammed, A., & Oyikwu, L. G. (2021). The impact of marketing innovation on the performance of small and medium enterprises in Nigeria. *Socio-Economic Challenges, 5*(3), 98–105. https://doi.org/10.21272/sec.5(3).98-105.2021

Yulianto, E., & Supriono, S. (2023). Effect of open innovation on firm performance through type of innovation: Evidence from SMES in Malang City, East Java, Indonesia. *Cogent Business & Management, 10*(3), 1–23. https://doi.org/10.1080/23311975.2023.2262671

Milestone: Journal of Strategic Management Vol. 4, No. 2, September 2024
Faculty of Economics and Business
Pelita Harapan University

SUPPLY CHAIN DISRUPTION AND SUSTAINABILITY OF PHARMACEUTICAL FIRMS IN ANAMBRA STATE, NIGERIA

Solomon Uchehukwu Eze

Department of Business Administration, Nnamdi Azikiwe University, Nigeria

e-mail: su.eze@unizik.edu.ng
*(Corresponding Author indicated by an asterisk *)*

ABSTRACT

The pharmaceutical sector, in Nigeria plays a role in the nations' healthcare system by supplying medications to the people. However pharmaceutical companies in the Anambra State have been facing obstacles recently due to disruptions in their supply chains. This research investigates how supply chain disruptions impact the sustainability of firms in Anambra State. A mixed-methods approach, involving qualitative interviews with industry experts and quantitative analysis of operational data, identifies the main causes of supply chain disruptions and their effects on this firm's long-term success. The research reveals that supply chain disruptions result from factors such as delays in customs clearance, inconsistent regulatory policies, currency fluctuations, inadequate transportation infrastructure and issues with supplier reliability. Interviews with industry experts highlighted customs delays as a disruption while quantitative analysis showed a 20% increase in times for imported pharmaceuticals along with a 15% rise in delivery delays and a 10% increase in product returns due to transportation challenges. Moreover, inefficiencies in inventory management were observed, leading to a 5% rise in holding costs and a 3% decrease in turnover rates due to supply chains. Challenges related to suppliers involved issues, with delivery reliability and product quality leading to a 10% extension in supplier lead times and a 5% uptick, in returns. The findings highlighted a direct correlation between these supply chain issues and decreased profitability, operational efficiency, and the ability to meet patient needs, emphasizing the urgent need for improvements to enhance the resilience of the pharmaceutical supply chain in Anambra State.

Keywords: Supply Chain Disruption; Pharmaceutical Industry; Sustainability; Anambra State; Nigeria

INTRODUCTION

The Nigerian pharmaceutical industry has a big impact on the country's healthcare. It gives people the medicines they need. But this key industry has run into big problems with getting supplies where they need to go. Anambra State, in southeast Nigeria, has quite a few drug companies. These firms have taken a hit from these problems, which are part of a bigger worldwide trend affecting supply chains in many fields. What we know shows that more people see how fragile drug supply chains are. Global issues like COVID-19 political fights, and money troubles have made things worse. A study by Takawira & Pooe (2024) points out that COVID-19 messed up drug supply chains all over. It took longer to get things and keeping enough stuff on hand got harder (Takawira & Pooe, 2024). In the same way, Moosivand et al. (2017) looked at a bunch of research. They found that trusting suppliers and moving stuff around are big issues for drug companies. These problems make it tough to run things.

Despite the growing research in this area, a big gap still exists in our understanding of Nigerian pharmaceutical supply chains in Anambra State. This study aims to fill this gap by taking a deep look at what causes supply chain problems for local companies. We found several key issues: long waits at customs, changing government rules, bad roads, and unreliable suppliers. These problems make it hard for companies to get important medicines where they need to go. These issues have big effects and match what we see happening in supply chains around the world. For instance, Durugbo & Al-Balushi (2022) points out that supply chains need to be stronger to handle unexpected problems. It's more important than ever to see and connect all parts of a supply chain as global buying and selling networks get more complex.

These ideas matter in Nigeria where linking local supply chains with global ones brings both problems and chances to get better.

This research fills a big gap in the studies by looking at the specific problems faced by drug companies in Anambra State. It also puts these issues in the context of worldwide trends in supply chain management. To grasp what causes supply chain problems and what they mean is key to creating good plans. These plans aim to make the drug sector in Anambra State stronger and able to last longer. The main goals are:

1. To identify the key drivers of supply chain disruptions experienced by pharmaceutical firms in Anambra State
2. To examine the implications of these disruptions on the financial, operational, and regulatory sustainability of these firms.
3. To explore potential strategies and interventions to enhance the resilience and sustainability of the pharmaceutical supply chain in Anambra State.

LITERATURE REVIEW

Supply Chain Disruptions in the Pharmaceutical Industry

The pharmaceutical industry is characterized by complex and globally interconnected supply chains that are vulnerable to a wide array of disruptions. Recent studies show that natural disasters, political unrest economic shifts, and tech failures can throw these supply chains into chaos (Bahadori et al., 2024; Takawira & Pooe, 2024). The COVID-19 pandemic has made it even more crucial to understand these breakdowns, as they affect healthcare systems across the world. In Nigeria, research has uncovered several key sources of supply chain problems in the drug sector. Issues like import troubles, poor roads and transport bad stock management, and unreliable suppliers have come to light (Atadoga et al., 2024). These problems can lead to shortages of key drugs late deliveries, and higher costs to run things. This, in turn, makes it harder for people to get the essential medicines they need to stay healthy (Olaniran et al., 2022; Amadi & Tsui, 2019).

Sustainability of Pharmaceutical Firms

Sustainability in the pharmaceutical industry covers many areas, including money, operations, and rules. Zabolotnyy & Wasilewski (2019) defined financial sustainability of a firm as the ability to generate value for owners and provide continuity of operations in the long-term, using an optimal combination of investments and sources of financing. In the pharmaceutical industry, operational effectiveness impacts product quality, cost, delivery, and flexibility. Regulatory sustainability involves applying common standards and strategies of management and carrying out measures to guarantee the steady working of companies that try to reinforce their positions in a constantly changing environment (Asif, 2022). Supply chain problems can have a big impact on these parts of sustainability. Higher costs due to delays in getting materials and making products can hurt a company's finances. At the same time, running out of stock and having quality control issues can make operations less efficient and cause problems with the following regulations (Amadi & Tsui, 2019; Zabolotnyy, & Wasilewski, 2019).

Research Gap and Contribution

While existing literature has examined the challenges faced by the pharmaceutical industry in Nigeria, including various supply chain disruptions, there remains a dearth of empirical research focusing specifically on the impact of these disruptions on the sustainability

of pharmaceutical firms in Anambra State. This study seeks to address this research gap by providing an in-depth analysis of the supply chain disruptions experienced by pharmaceutical firms in the region and their implications for long-term viability and performance. This research aims to provide useful information to help policy makers, industry players, and scientists develop better and long-lasting supply chain management methods for Nigeria's drug sector. The results will shed light on the specific problems companies in Anambra State face and lead to strategies that strengthen their ability to handle ongoing disruptions

RESEARCH METHOD

Qualitative Phase

For the qualitative part of the study, we held detailed interviews with key people in the drug industry in Anambra State. We chose participants from:

1. Pharmaceutical Firm's Executives: This group includes people in top jobs like CEOs, COOs, and supply chain managers who know a lot about how their companies work and what problems they face.
2. Industry Specialists: People from regulatory agencies and professional groups gave insights on the bigger picture of the drug industry, including rules that cause headaches and industry norms.
3. Logistics and Transport Service Providers: These stakeholders shared views on the supply chain's delivery problems and how these affect drug companies.

Interview Process

The interview was conducted using a semi-structured format. This approach gave room to explore topics while making sure that the key questions about supply chain disruptions and sustainability were covered. Each interview took about 45 to 60 minutes. With the participant's consent, the sessions were recorded for the purpose of data collection. After that, the recordings were transcribed and analyzed

The study analyzed the qualitative data using thematic analysis. This process involved coding the transcripts to identify common themes and patterns related to what causes supply chain disruptions, how they affect sustainability, and possible ways to build resilience. Data was examined multiple times, which allowed new themes to surface as were examined. For the quantitative part of the study, data was gathered from a group of pharmaceutical companies in Anambra State. Our sample included 50 pharmaceutical firms, which we chose using stratified sampling to make sure we had a mix of different types and sizes of companies in the industry. Structured questionnaire was used to collect primary data from participants on the areas under study. This information was used to examine the connections between supply chain disruptions and sustainability outcomes.

The Statistical Package for the Social Sciences (SPSS) was employed to analyze our data. Firstly, descriptive statistics which include frequency table and mean were ascertained while regression analysis was used to examine how supply chain problems affected companies' financial health and day-to-day operations. This helped to pinpoint the main causes of these disruptions.

Data Analysis

Table 1. Key Themes Identified from Qualitative Interviews

Theme	Description	Supporting Quotes
Supply Chain Disruptions	Factors causing disruptions, including regulatory changes, logistics issues, and market volatility.	“Regulatory changes often catch us off guard."
Impact on Financial Performance	Effects of disruptions on revenue, profitability, and liquidity.	"Our profits have dropped significantly during recalls."
Operational Challenges	Issues related to inventory management, production efficiency, and delivery timelines.	"We struggle to maintain inventory levels during disruptions."
Strategies for Resilience	Recommendations for improving supply chain resilience, such as diversifying suppliers and investing in technology	"Investing in better logistics can save us in the long run."

Table 2. Quantitative Findings on Supply Chain Disruptions and Firm Sustainability Indicators

Indicator	Mean Value (Before Disruption)	Mean Value (During Disruption)	Statistical Significance (p-value)
Revenue (Naira)	10,000,000	7,500,000	<0.01
Profitability (%)	15%	8%	<0.05
Liquidity Ratio	2.5	1.5	<0.01
On-Time Delivery (%)	90%	70%	<0.01
Inventory Turnover	5.0	3.0	<0.01

The table above presents indicators assessing the performance of a pharmaceutical firms before and during a disruption, along with their statistical significance

1. Revenue (Naira): The mean revenue decreased from 10,000,000 Naira before the disruption to 7,500,000 Naira during the disruption, with a statistically significant change ($p < 0.01$), indicating a substantial drop in revenue due to the disruption.
2. Profitability (%): Profitability fell from 15% to 8% during the disruption, with a p-value of less than 0.05, suggesting a significant negative impact on profitability.
3. Liquidity Ratio: The liquidity ratio declined from 2.5 to 1.5, and the change is statistically significant ($p < 0.01$), indicating that the company's ability to meet short-term obligations has worsened during the disruption.
4. On-Time Delivery (%): On-time delivery percentages dropped from 90% to 70%, with a p-value of less than 0.01, signifying a significant decrease in the company's delivery performance during the disruption.
5. Inventory Turnover: The inventory turnover rate decreased from 5.0 to 3.0, and this reduction is statistically significant ($p < 0.01$), indicating that the company is managing its inventory less efficiently during the disruption.

The study revealed that all indicators show a decline in performance during the disruption, with statistically significant changes highlighting the serious impact of the disruption on revenue, profitability, liquidity, delivery performance, and inventory management. The integration of qualitative and quantitative findings demonstrates a clear link between supply chain disruptions and the sustainability of pharmaceutical firms in Anambra

State. The themes identified in the qualitative phase provide context for the quantitative data, revealing specific areas where firms can enhance resilience

RESULTS AND DISCUSSION

Paul et al. (2020) examined pharmaceutical supply chains and identified regulatory compliance and logistics as major disruption factors, sharing a similar focus on regulatory issues but placing less emphasis on operational challenges. Kanike (2023) studied the factors disrupting supply chain management in manufacturing industries and found that supply chain disruptions resulted in significant drops in profitability, which is consistent with the current study's findings on profitability decline. Atadoga et al. (2024) highlighted the importance of technology in enhancing supply chain resilience within healthcare logistics in Nigeria, aligning with the current study's emphasis on technology investment as a resilience strategy. Finally, Omaliko et al. (2021) reported similar declines in liquidity during disruptions in West African pharmaceutical firms, a finding that the current study corroborates with specific liquidity ratios.

Findings

Key Drivers of Supply Chain Disruptions

The qualitative interviews with industry stakeholders revealed several key drivers of supply chain disruptions experienced by pharmaceutical firms in Anambra State:

1. Importation Challenges: A significant proportion of the raw materials and finished products used by pharmaceutical firms in Anambra are imported, and these firms have faced difficulties in securing reliable and timely shipments due to port congestion, customs delays, and foreign exchange fluctuations.
2. Transportation Infrastructure Deficiencies: The region's inadequate transportation infrastructure, such as poor road networks and limited air cargo capacity, has made it challenging for pharmaceutical firms to efficiently distribute their products across the state and the country.
3. Inventory Management Challenges: Pharmaceutical firms in Anambra have struggled to maintain optimal inventory levels due to the unpredictability of supply chains, leading to stock-outs and disruptions in the availability of essential medicines.
4. Supplier Reliability Concerns: Pharmaceutical firms often rely on a network of suppliers for various inputs, but the unreliability of some suppliers has resulted in disruptions and delays in the production and distribution of their products.

The quantitative analysis of financial and operational data corroborated these findings, demonstrating the significant impact of these supply chain disruptions on the performance and sustainability of pharmaceutical firms in Anambra State.

Implications for Pharmaceutical Firm Sustainability

The supply chain disruptions experienced by pharmaceutical firms in Anambra State have had far-reaching implications for their financial, operational, and regulatory sustainability.

1. Financial Sustainability: The increased costs associated with supply chain disruptions, such as expedited shipping, higher inventory carrying costs, and production delays, have put a significant strain on the financial resources of these firms, undermining their profitability and long-term viability.
2. Operational Sustainability: The inability to consistently provide a reliable supply of essential medicines has led to dissatisfaction among healthcare providers and patients,

potentially eroding the reputation and market share of these pharmaceutical firms. Additionally, the disruptions have made it more challenging for these firms to maintain efficient production and distribution processes.

3. Regulatory Sustainability: Pharmaceutical firms must adhere to strict regulations regarding the quality and safety of their products, but supply chain disruptions have made it more difficult to maintain compliance, exposing these firms to the risk of regulatory penalties and product recalls.

CONCLUSION

This study has provided a comprehensive examination of the impact of supply chain disruptions on the sustainability of pharmaceutical firms in Anambra State, Nigeria. The findings indicate that importation challenges, transportation infrastructure deficiencies, inventory management issues, and supplier reliability concerns are key drivers of these disruptions, with significant implications for the financial, operational, and regulatory sustainability of the affected firms.

To enhance the resilience and long-term viability of the pharmaceutical sector in Anambra State, a multi-faceted approach is required, involving supply chain diversification, infrastructure investment, inventory management optimization, supplier relationship management, and supportive regulatory and policy interventions. Collaborative efforts among industry stakeholders, policymakers, and academic researchers will be crucial in developing and implementing these strategies.

The insights from this study can inform the decision-making processes of pharmaceutical firms, industry associations, and government agencies in Anambra State, as well as contribute to the broader academic discourse on supply chain management and sustainability in the pharmaceutical industry. Further research is needed to explore the generalizability of these findings to other regions of Nigeria and to investigate the long-term impacts of these interventions on the pharmaceutical sector's resilience and performance.

Recommendations

Based on the insights from the qualitative and quantitative analyses, the study identifies several potential strategies and interventions to enhance the resilience and sustainability of the pharmaceutical supply chain in Anambra State:

1. Diversification of Supply Sources: Pharmaceutical firms should consider diversifying their supplier base, both domestically and internationally, to reduce their reliance on a single source of supply and mitigate the impact of disruptions.
2. Investment in Transportation Infrastructure: Collaboration between the pharmaceutical industry, the government, and other stakeholders to invest in the development of transportation infrastructure, such as roads, railways, and air cargo facilities, could significantly improve the efficiency and reliability of product distribution.
3. Inventory Management Optimization: Implementing advanced inventory management techniques, such as demand forecasting, safety stock optimization, and supply chain visibility tools, can help pharmaceutical firms maintain optimal inventory levels and respond more effectively to disruptions.
4. Supplier Relationship Management: Strengthening relationships with suppliers and implementing supplier performance monitoring and risk management processes can help pharmaceutical firms identify and address reliability issues in a proactive manner.

5. Regulatory and Policy Support: Policymakers and regulatory authorities should consider developing targeted initiatives and incentives to support the pharmaceutical industry in Anambra State, such as tax credits for investments in supply chain resilience and streamlined import/export procedures.
6. The adoption of these strategies can help pharmaceutical firms in Anambra State enhance the resilience and sustainability of their supply chains, ultimately improving the availability and accessibility of essential medicines in the region.

REFERENCES

Amadi C., & Tsui E. K. (2019). How the quality of essential medicines is perceived and maintained through the pharmaceutical supply chain: A perspective from stakeholders in Nigeria. *Research in Social and Administration Pharmcy, 15*(11), 1344–1357. https://doi.org/10.1016/j.sapharm.2018.11.011

Asif, K. (2022). The impact of procurement strategies on supply chain sustainability in the pharmaceutical industry. *South Asian Journal of Social Review, 1*(1), 53–64. https://doi.org/10.57044/SAJSR.2022.1.1.2203

Atadoga, A., Osasoma, F., Amoo, O. O., Farayola, O. A., Ayinla, B. S., & Abrahams, T. O. (2024). The Role of IT in enhancing supply chain resilience: A global review. *International Journal of Management & Entrepreneurship Research, 6*(2), 336–351. http://dx.doi.org/10.51594/ijmer.v6i2.774

Bahadori, M., Teymourzadeh, E., Bahariniya, S., Tahernezhad, A., & Poorheidari, G. (2024). Factors affecting the pharmaceutical supply chain: A systemic review. *Health Scope, 13*(2), 1–9. https://doi.org/10.5812/healthscope-140816

Durugbo, C. M. & Al-Balushi, Z. (2022). Supply chain management in times of crisis: A systematic review. *Management Review Quarterly, 73*, 1179–1235. https://doi.org/10.1007/s11301-022-00272-x

Kanike, U. K. (2023). Factors disrupting supply chain management in manufacturing industries. *Journal of Supply chain Management Science, 4*(1–2) 1–24. http://dx.doi.org/10.18757/jscms.2023.6986

Moosivand, A., Ghatari, A. R., & Rasekh, H. R. (2017). Supply chain challenges in pharmaceutical manufacturing companies: Using qualitative system dynamics methodology. *Iranian Journal of Pharmaceutical Research, 18*(2), 1103–1116. https://doi.org/10.22037/ijpr.2019.2389

Olaniran, A., Brigs, J., Pradhan, A., Bogue, E., Schreiber, B., Din, H. S., Hurkchand, H., & Ballard, M. (2022). Stock-outs of essential medicines among community health workers (CHWs) in low- and middle-income countries (LMICs): A systematic literature review of the extent, reasons, and consequences. *Human Resources for Health, 20*(58), 1–-10 https://doi.org/10.1186/s12960-022-00755-8

Omaliko, E. L., Amnim, A., Okeke, P. C., & C., F. (2021). Impact of Covid-19 pandemic on liquidity and profitability of firms in Nigeria. *International Journal of Academic Research in Business and Social Sciences, 11*(3), 1331–1344. http://dx.doi.org/10.6007/IJARBSS/v11-i3/9229

Paul, S., Kabir, G., Ali, S. M., Zhang, G. (2020). Examining transportation disruption risk in supply chains: A case study from Bangladeshi pharmaceutical industry. *Research in Transportation Business & Management, 37*, 100–485. https://doi.org/10.1016/j.rtbm.2020.100485

Takawira, B., & Pooe, R. I. D. (2024). Supply chain disruptions during COVID-19 pandemic: Key lessons from the pharmaceutical industry. *South African Journal of Business Management, 55*(1),1–10. https://doi.org/10.4102/sajbm.v55i1.4048

Zabolotnyy, S., & Wasilewski, M. (2019). The concept of financial sustainability measurement: A case of food companies from Northern Europe. *Sustainability*, *11*(18), 1–16. https://doi.org/10.3390/su11185139

Milestone: Journal of Strategic Management Vol. 4, No. 2, September 2024
Faculty of Economics and Business
Pelita Harapan University

SETTLING INTERNAL STRENGTHS AND EXTERNAL DEPENDENCIES: A CONCEPTUAL FRAMEWORK INTEGRATING RDT AND RBV THEORIES FOR ORGANIZATIONAL SURVIVAL

Daniel Ong Kim Kui1)*, Anton Wachidin Widjaja2), Rudy Pramono3)

[1,3)] *Fakultas Ekonomi dan Bisnis, Universitas Pelita Harapan, Indonesia*
[2)] *Faculty of Business, President University, Indonesia*

e-mail: ongkimkui@gmail.com
*(Corresponding Author indicated by an asterisk *)*

ABSTRACT

The purpose of this study is to explore the integration of two mainstream theories of strategic management rooted in resource Dependency Theory (RDT) and Resource-Based View (RBV) in utilizing the internal strengths and external dependencies of companies. This study will explore the area of theory integration by using a literature review method that involves the collection, analysis and synthesis of influential publications on both theories, semi-systematic literature review is carried out with narrative analysis techniques. The results of the study provide a conceptual framework in understanding organizational strategy and to gain stability in managing the main sources of competitive advantage and dependency of the organization. Studies of how organizations are leveraging their internal strengths, and external dependencies can reveal improvement trends and under-explored areas in strategic management research. The implications of exploring the integration of these two key perspectives will enhance the prospect of using both theories together in strategic planning, organizational behavior and decision-making, and serve as an integration view for managers to engage in process utilization. Internal forces and external dependencies are rooted in two mainstream theories: Resource Dependency Theory (RDT) and Resource Based View (RBV). This study explores the area of integration of these theories using a literature review method that involves the collection, analysis, and synthesis of existing influential publications from both theories. The implications of this research provide a conceptual framework in understanding organizational strategy and to gain stability in managing the main sources of competitive advantage and dependency of the organization.

Keywords: Literature review; Resource Dependence Theory (RDT); Resource-based View (RBV); Integration; Conceptual Framework

INTRODUCTION

Resource Dependence Theory (RDT) and Resource-based View (RBV) are both important theories in strategic management. They focus on different perspectives of resources with each of their significance for organizations. The problem of acquiring and maintaining resources would be relatively easy to overcome when organization has full control of their operation, but this seems to not be realistic since central to this control is the concept of control over critical resources that are VRIN or valuable, rare, imperfectly imitable, and not substitutable (Mat et al., 2022). This VRIN model later became one of Barney's most important contributions influential in RBV theory (Mat et al., 2022). Yet, there is no organization that does not depend on other organizations, but rather they are constrained by some interdependencies with other organizations. At this point, RDT suggests organizations respond to external interdependencies or otherwise will lead to the organizational survival problem (Fiorini et al., 2018). Resources are necessary to seize opportunities and respond to threats, and for business this is simply the rate of net change and the ability to increase its income stably (Putra et al., 2021). Financial sustainability resulting from resources function is intrinsic and core goal of every profit and nonprofit organization, it serves as the key factors that will drive positive change and encourage the shift of a business model (Costa, 2023).

No organizations are autonomous, even seemingly self-contained organizations need to have some transactions with their environment and organizations don't operate in vacuum, not self-contained or self-sufficient (Robertson, 2024). Organizations are both effects and are affected by their environment (Arbogust, 2020), and organizations change overtime in strategies include structures or in many other areas, strive to decrease others' power over them and to improve their power over others. While RBV stands as one side of the coin of organizations' existence, RDT stands at the other side advocating the resource dependence argument and interorganizational relations. The question of which resources should be acquired and maintained are suggested by RBV in the focus that only resources contributing to the planning and implementation of strategies that increase efficiency and effectiveness alone is referred to as firm resource and it relies on ownership of specific essential resources with value and inimitable character (Lubis, 2022). While both theories assert that organizations have responsibility to create value through managing its resources and interdependencies on external and internal contingencies, this indicates that the integrating view provides a constructive frame to study further, for being not only questioning on which resources, but also on which dependencies (or stakeholders) take precedence over others (Freeman & Dmytriyev, 2017).

Prior literature has identified the research gap for integrating RDT and RBV as particularly productive and the emerging business uncertainties entail the integration of multiple perspective while retaining the clarity of each theoretical perspectives (Nayek et al., 2022), the identification serves as the purpose of this study. The problem formulation in this research is that the interaction between organizational strategy formulation and its environment is complex and cannot be defined in a single theoretical approach (Nayak et al., 2022). Therefore, this research has an agenda to shape the theoretical approaches of RDT and RBV in an integrated conceptual framework using literature review with examination over selected articles in RDT and RBV. The narrative synthesis of this literature review method brings to the analysis of the integrated conceptual framework as the research finding to provide valuable insights into the conceptualization of organization strategy (Madanaguli et al., 2023). This study will also discuss theoretical complementarity of how organizations can leverage internal strengths while also managing external dependencies for survival. For a business to survive, besides the importance to understand the context of internal analysis like how to configure and coordinate its resources through activities that produce added value and making organization resilience (Mehta et al., 2024), recognition of market with homogenous economic, political and social backgrounds is also necessary (Valaskova, 2022). Finally, the conceptual framework highlights the constructive view for integrating these two mainstream theories of resources to support the organization-environment relations to satisfy the client and society (Comănescu et al., 2018).

LITERATURE REVIEW

Study on RDT has a long way of integration with other theories especially with agency theory where the separation of control and ownership can cause numerous problems in managing the external dependencies, yet the strategic management field is far from converging (Durand et al., 2017). Beyond the agency proposition, RDT and agency theory suggest that the use of integrated approach between agency and resource-based theories can mitigate the issues of resources utilization by its agents (Akram & Ul Haq, 2022). Moreover, when the agency problem arrives with the problem of different attitudes toward risk perception between principal and the agent in the increasing of globalization and information technology that becoming driving factors for competitiveness (Bakri et al., 2024). The integration also

correspondent to group magnitude where larger board size can minimize the agency problem because can more effectively monitor and control agent's opportunistic behavior (Bakri et al., 2024), and the support of strategic factors that enable the internationalization through board's human capital resources (Purkayastha et al., 2021), as well as to support the structure and actions of the board in times of governmental regulatory change and the condition where manager have opportunity to make self-interested decisions (Yan et al., 2021). Furthermore, studies on organizational external stakeholders and their influence on the organization's strategy and operation had contrasted the perspective of open system with the traditional view of closed system and looking at firm-centered perspective where the focus is on the performance of its value capture opportunities (Lehtinen et al., 2019). The open system view organizations as interdependent entities that constantly interact with and are influenced by external environment like suppliers, customers, regulatory bodies, including competitors. The idea that competitors should at one point of time cooperate with one another and bring promising opportunities has continue to gain traction since it was initially explored in the 1990s (Bradenburger & Nalebuff, 2021). The open system approach also highlights coalition behavior as a way for organizations to respond to pressure from the environment, by agreeing to interest demands and establishing coalitional relationships (Febrianti et al., 2024).

Despite the differences between RDT and RBV, some scholars argue that there is overlap between them and therefore both theories could and should be combined, and both are used in decision making as the strategic management theories should have grown to fulfill the internal and external needs of organizations (Mong et al., 2021). The association of RDT to other theories has two kinds of relationships, one is the vertical dimension where RDT explicitly draw more general concepts and the horizontal dimension where RDT extend along with other theories in terminology and content, the last one is the most obvious and exists with RBV and industrial organization theory for competitive advantage (Nayak et al., 2022). The overrunning with RBV terminologically and in content draws attention to integrating both in the center piece of theoretical core that the control over crucial resources is the most important factor for organizational survival. Along with RDT that has a stronger external perspective, RBV caters a more internal perspective where companies gain sustainable competitive advantage by implementing strategies that utilize their internal strengths, through responding to opportunities in the environment with neutralizing external threats and avoiding internal weaknesses as well as adapt to current situations with the right strategies that could result in a positive effect on organizational performance (Mat et al., 2022).

RDT although discussing how organizations manage dependencies on external resources, stemmed from a situational perspective for understanding organizations process like the role of its managers (agents), one response to a given situation, the context of that behavior, and suggest collaboration in the supply chain to seek higher performance gains in the long run (Kim et al., 2020). The context is important in the analysis because organizations are seen as an open system as explained earlier yet still influenced by external factors. The core concepts of RDT are that the social context is matter, organizations must have strategy to enhance their autonomy over dependencies and last is the concept of power in which not just having rationality or efficiency, but more importantly is control over internal and external environment and actions (Akram & Ul Haq, 2022). Cleary this identifies that major themes in strategic management field has widening scope with one based upon RDT and the other one centered upon RBV while both possesses unifying believe concerning resources to be observed. This shows that the varied of strategic management field has been extended by the development of its own concepts, theories, and research stream (Durand et al., 2017), including the resource-based view and resource dependence theory stakeholder theory (Freudenreich et at., 2020), the

concept of competitive advantage as well as other theory of competition like Resource-Advantage (RA) theory (Luis et al., 2019), and Resource-Value-Process (RVP) theory of book *Creating and Sustaining Successful Growth, the Innovators' Solution* (Kasali, 2023). From all the above theoretical background, this study reviews and analyzes the opportunity for integration of RBV and RBT as shown below in area with dash type line:

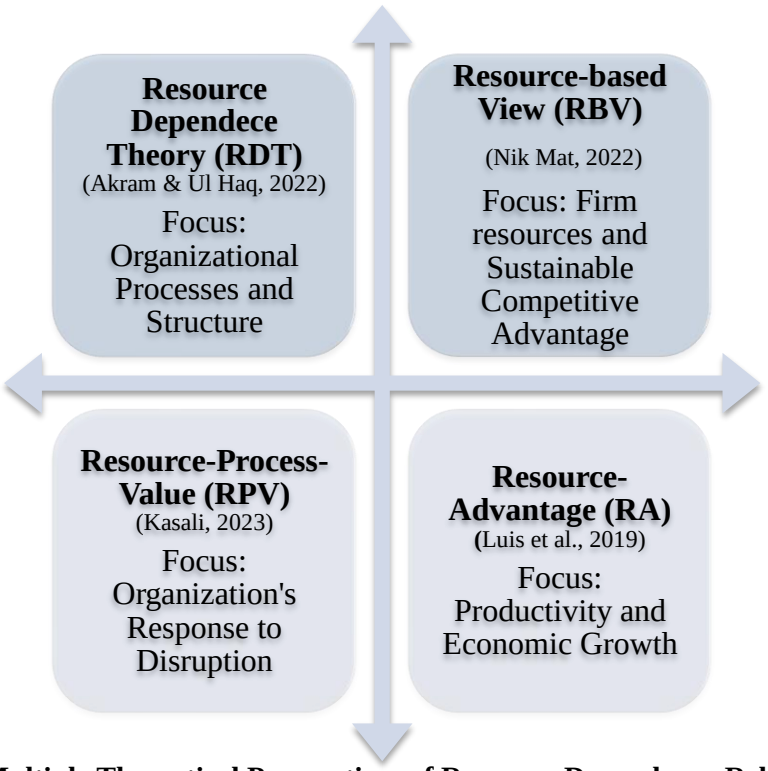


Figure 1. Multiple Theoretical Perspectives of Resource Dependency Relationships
Source: Author, 2024

RESEARCH METHOD

Building research on existing knowledge of strategic management theory has been discussed widely in a lot of different disciplines and this task is increasingly becoming more and more complex, this is why using a literature review as a research method is considered relevant (Snyder, 2019). A purely systematic literature review may not be suitable as review of all articles in the domain on RDT and RBV may not be possible, therefore a semi-systematic literature review is conducted. Collecting, analyzing and synthesizing previous research are well suited for scoping the existing literature to identify the prominent integration themes. Semi-systematic or narrative review is designed for topics that have been conceptualized differently and studied by various groups within diverse disciplines follows scientific procedure to replicate studies conducted by other researchers. The method is used in this qualitative research with narrative analysis technique, which technique can be broadly defined as a procedure for this study. The contribution of this literature review research is useful to map and understand relevant previous research discussion for a conceptual analysis that allows for consolidation upon fragmentation of knowledge. The perceived weakness of this literature review method is lack of maximizing scope in analyzing the identified particulars for synthesizing them either in textual or tabular or both. Below figure shown the selected literatures in semi-systematic or narrative method in the research:

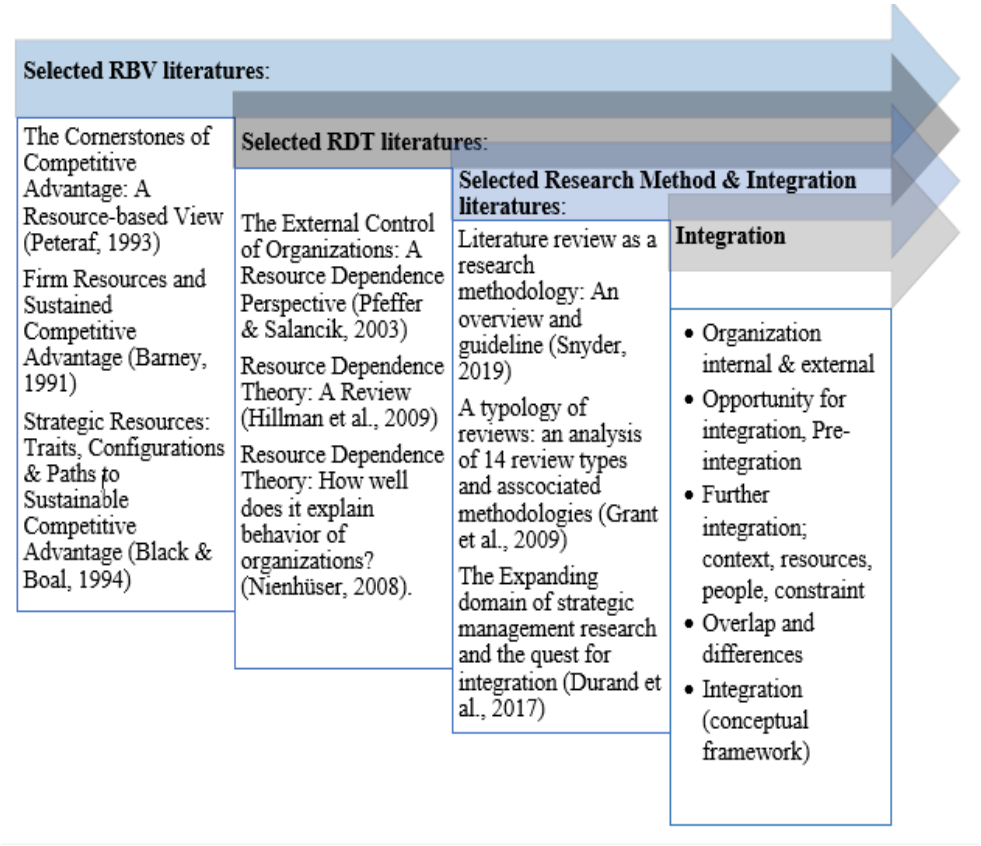


Figure 2. Selected Articles for Semi-Systematic/Narrative Method
Source: Author, 2024

RESULTS AND DISCUSSION

Organization's Internal and External Perspectives

The internal process of an organization is the most visible and subject to redesigning when things go wrong or do not meet the expectations of the shareholders. Managers are to be transferred or removed for being assessed accountable for the organizations' unwanted outcomes. The internal perspective tends to see that problems can be overcome by changing people or other resources within organizations and as a set of relationships among individuals (Freudenreich et al., 2020). The concept of the significant actor as key to success or survival might first drive to the discussion of leadership topic, but Pfeffer & Salancik (2003) had long noted that reason for expecting in the individuals is less effect on organizational outcomes than would in an organization's context although among individuals who affect or affected by business operation (Freudenreich et al., 2020). While the context here is the organizational environment, it is the external basis for judging organizational effectiveness and therefore makes the concept of environment become important in this discussion. Every event may confront the activities or outcomes, but not every event affects organization and organization also do not respond to every event.

One of the most important influences of the response to environment is the organization itself with its resources to achieve competitive advantage (Nayak et al., 2022). The other concept important to understand organization-environment relationships is constraint,

constraint is present when response to a situation is not random, and constraint on behavior are considered restricting innovation and adaptation. In article Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process viewed innovation as is not intellectual achievement, but as a social phenomenon namely leadership operates in entrepreneurial activities and market power and seeking obsessively for innovation advantage (Yueh, 2023).

The inside-out and outside-in perspectives of Lepoutre (2008) helps to reckon that the basic proposition for building sustained competitive advantage of an organization is on both internal as critical element and on external forces as the crucial component effecting competitive advantage. RDT stresses the external environment by explaining actions and reactions with distribution of power and control outside organization to the demands of the external environment with preparedness which refer to sensing possible threats and risks as well as awareness of solutions (Mehta et al., 2024). RDT explains market behavior of organizations, that is the power, and power itself is explained also in organizational structures and corporate governance with its critical responsibility for value creation (Akram & Ul Haq, 2022). Further, Pfeffer's RDT demonstrates the importance of exchange and power relations in and around organizations, with emphasis on power and attentive expression of repository about strategies available to organizations in creating value (Akram & Ul Haq, 2022).

While RBV is focus on internal view with scarce and inimitable, superior resources or heterogeneity within an industry, durability of the heterogeneity or sustaining the resources inimitable, and imperfect mobility to prevent cost from offsetting the income derived from resources (Barney, 1991; Peteraf, 1993), it is also recognizing the importance of causal ambiguity and information processing system to be the source of competitive advantage (Barney, 1991). The competitive heterogeneity resources proposed by RBV had been revisited in prior research to be the comparative firm advantage (downward to the firm level) likewise the comparative advantage the nation level (Madhok et al., 2010). Below is the pre-identifying of opportunity for integration from both propositions:

Table 1. The Convergence Ideas Used by RBV, Organization Internal and External Perspective

Basic ideas	RDT propositions	RBV propositions	The convergence, ideas used by RBV
Environment as a source of uncertainty and constraint	ENVIRONMENT: . Organizations or its subunits controlling resources that other actors need have power over these actors . The larger the dependency on resources the more likely to meet the demands of who control the resources	RESOURCES: The source of competitive advantage are physical capital, human capital, and organizational capital as resources that are VRIN (valuable, rare, imperfectly imitable, and not substitutable)	The resource-based model (Strengths & Weaknesses) and the industry attractiveness model (Opportunities & Threats). (Barney, 1991)
Environment and external distribution of power	POWER & CONTROL: . The more organization is dependent, the higher the amount of uncertainty and the more it will try to reduce the uncertainty . Uncertainty triggers off strategies to reduce uncertainty	SUSTAINED COMPETITIVE ADVANTAGE: The source of sustained competitive advantage must focus on resources that are heterogeneity and immobility	The five competitive forces model (Rivalry among existing firms; potential entrants, supplier, buyer, substitutes) Porter (1998) Both views influence organizational and

Basic ideas	RDT propositions	RBV propositions	The convergence, ideas used by RBV
			industry level of strategies on Merger and Acquisition
Environment and internal distribution of power	POWER & CONTROL: . Stakeholders are not only to be found outside; actors/sub-units most able to cope with the organization's critical problems acquire power in organization . Actors/sub-units try to extend their power over their contribution to safeguard of resource	SUSTAINED COMPETITIVE ADVANTAGE: The source of sustained competitive advantage are resources that are VRIN (valuable, rare, imperfectly imitable, and not substitutable), this includes broad range of organizational, social and individual phenomena	These resources are subject of a great deal of research of Organizational Theory and Organizational Behavior Barney (1991)

Source: Pfeffer & Salancik, 2003; Nienhüser, 2008; Barney, 1991; Porter, 1998

Explanation on Table 1. will be discussed in the section below together with the basic concepts for a contextual perspective as the primary ideas.

The Basic Concepts for A Contextual Perspective; Environment, Resources and Constraint

An integrated interactional approach as shown in the far-right column of "Opportunity for Integration" is derived from and engaging in both theories, developed to address the problem of uncertainty and constraint from environment. The integration model can be explained by pointing back to the postulation in *The External Control of Organizations: A Resource Dependence Perspective* 's Pfeffer & Salancik (2003), that is to explore it from the basic idea necessary for understanding and designing organizational action. The four measures that organization can deliberate over to settling its internal strengths and external dependencies using RDT and RBV integrating framework are structured below, this is a further identifying of possible integration following the above pre-identifying:

1. RDT: It starts with understanding the context of organization, that is the environment. The environment has constant change, new organizations enter and other exit, when this change takes place, organization face either of not surviving or of changing their activities as response to this environment factor or context (Pfeffer & Salancik, 2003).
   RBV: Organization obtains sustained competitive advantages by implementing strategies that exploit their internal strengths while avoiding internal weaknesses, responding to environmental opportunities and external dependencies that threat organization (Barney, 1991).
   Integration: The context that provides internal and external analysis is the integration area of both perspectives. The importance of context for both theories bring convergence as a sign of the field's vitality.
2. RDT: Questions about how resources come to be acquired are most of the time neglected, organizations have been focused on the problem of using resources rather than the problem of acquiring them. A good deal of organization behavior put the existence of resources first then the use of it. The use of resources always presupposes their existence; therefore, organization must first clarify which resources are the critical ones and the real problem is where the resources come from (Pfeffer & Salancik, 2003; Nienhüser, 2008; Wronka &

Szymaniec, 2012) and secure the way to acquire it so that the missing of that resource will not endanger operation.

RBV: Resource-based work has focus on two critical factor which to preserve the heterogeneity, there must be forces which limit competition for that source of resources, and there must be mechanism to protect organizations from imitation and preserve their resources stream (Hoopes & Madsen, 202).

Integration: The resources, responding to the question of which resources (the critical one) and where or how to acquire it (the source) and how to maintain it possession so that remain in control of the organization thus providing organization a power over other organization is the integration area of both perspectives.

3. RDT: Organizations are after all composed of people; the importance of people is logical inference drawn from their presence. The concept of the omnipotent actor has led to the search of the unique set of skills and talents that can produces success for the organization (Pfeffer & Salancik, 2003), and to control management's opportunistic behavior due to more set of skilled and talented individual that may endanger organization (Bakri et al., 2024). The ability of management to act is also limited by resources and bounded rationality applies to managers (Nienhüser, 2008), and those who possess great power tent to select someone to fill a position who can maintain and enhance their power, thus powerful external stakeholders will influence the filling of critical positions in the organizations for their control (Nienhüser, 2008).

   RBV: Rather than being not discussed at RBV, the people and social of organization in resource-based model is anticipated in a more firm integration by a rich source of findings and theories concerning rare, non-imitable and non-substitutable resources in organizations (Barney, 1991), information processing system can be a source of sustained competitive advantage, including an efficient flow of information among managers, the ability to digest and analyze large amount of information in short time, and ability to share efficiently and effectively (Barney, 1991).

   Integration: The organization behavior and the people who become the actors (agents) that enable an organization to plan and execute its competitive strategy including how to lead the information processing among managers adds crucial force to the execution of the strategy shown consolidation of both perspectives.

4. RDT: Another important concept within RDT analysis is the constraint, behavior is naturally constrained by tangible realities, social phenomena, information flow, rationality, as well as by personal preference. When organizational actions are constrained and the contextual factors do predict organizational outcomes and activities, then managers can adjust and facilitate the organization's accustoming to its context to reduce the uncertainties cause by the constraint, the proposition is to implement the right strategy (Pfeffer & Salancik, 2003; Nienhüser, 2008).

RBV: Firm resources with a wide variety may be socially complex, differences caused by interpersonal relations among managers, firm's culture, firm's reputation perceived by suppliers and customers may add value to organization. RBV supports imperfectly imitable resources that may be very complex social phenomena. When competitive advantage is based in such complex social phenomena, the ability of other firms to imitate these resources is significantly constrained (Barney, 1991).

Integration: Dealing with the constraint itself has become the focus of both perspectives, while one seeking to build power from resources control to reduce uncertainty, the other seek to build inimitable path of learning that is not possible for competitor to copy or only possible for competitor to understand partly (not perfectly) specify how socially complex resources and

its constraint has become unifying language to response to threats and uncertainty. Environment can clearly constraint action, but teams can mold their environments as external perspectives look at the interplay between team and environment (Ancona, 1991).

A Conceptual Framework, Integrating RDT and RBV

The work of integrating will first look at how both perspectives are different and in what areas they overlap. Exploring the integration needs a comparative table and, in more detail, study will probably need a cross-analysis, but due to the limitation of this research, this work will only highlight the essential areas where these theories have differences but also opportunity for integration. The essential areas are as shown in below comparative table:

Table 2. Essential Area of Differences to Integration between RDT and RBV

Essential areas	Differences		Opportunity for Integration
	RDT	RBV	
Perspective, environment context	External environment	Internal resources & capabilities	Which firm can do it better? Environment (those controlled by other firm), competition assumed to include current and potential competitors poised to enter the industry
Unit of analysis	Organizations and its external environment (manage external dependencies, e.g. merger, acquisition, strategic alliances)	Organizations and its internal resources & capabilities, individual firms	Efficiency relative to competition between two firms. Analyzing firm's opportunities & threats in its competitive environment
Competition focus	Industry level with strategic movement	Resources, firm level with unique competency	Organizational capabilities and dynamic capabilities
Key concepts	Power, control, managing dependencies with external environment	Firm resources that VRIN (valuable, rare, inimitable, and non-substitutable	What can be done better by which firm? Prescribe competitive heterogeneity that led to comparative advantage model to control the competing firm
Constraint	External, who own critical resources, and who's in control?	Internal, which resources, and from where?	External and internal analysis of resource-based model and environmental models of competitive advantage
Theoretical foundation	Sociology of organizations and theory of power	Economics, heterogeneity resources, and competitive advantage	Reconciling different theories which allows to view through a common lens, rather than competing theories

Source: Barney, 1991; Peteraf, 1993; Hamel & Prahalad, 2003; Pfeffer & Salancik, 2003; Nienhüser, 2008; Madhok, 2010, Durand et al., 2017; Teece, 2022

As explained earlier, the context is considered the most important factor in understanding organization and its environment, and the possibly integration framework will start to examine how these both perspective of RDT and RBV can interplay in shaping the future market leadership. The basic concepts of a contextual perspective for organizations (Pfeffer & Salancik, 2003) are critical as market leadership today might not be market leadership tomorrow. The context for today's world is that the old motor of growth like land, capital, and natural resources is no longer matter most, the quantitative assets has been replaced by a qualitative feature to the quality, organization, motivation and self-discipline of the actors of

people in organization (McRae, 1994). What today questions might not be relevant in the future, and organizational success towards future must be driven by a point of view about the future of the industry: how do they want this industry to be shaped in five or ten years ahead, and whose view of the future is driving the organization's agenda, is it our organization or the competitors? (Hamel & Prahalad, 2003). As explained earlier, the context is considered the most important factor in understanding organization and its environment, and the possibly integration framework will start to examine how these both perspectives can interplay in the basic concepts for a contextual perspective for organizations and for maintained (Pfeffer & Salancik, 2003). The context for today's world and applicable to organizations too is that the old motor of growth like land, capital, and natural resources is no longer matter most, the quantitative assets has been replaced by a qualitative feature to the quality, organization, motivation and self-discipline of the actors of people in organization (McRae, 1994).

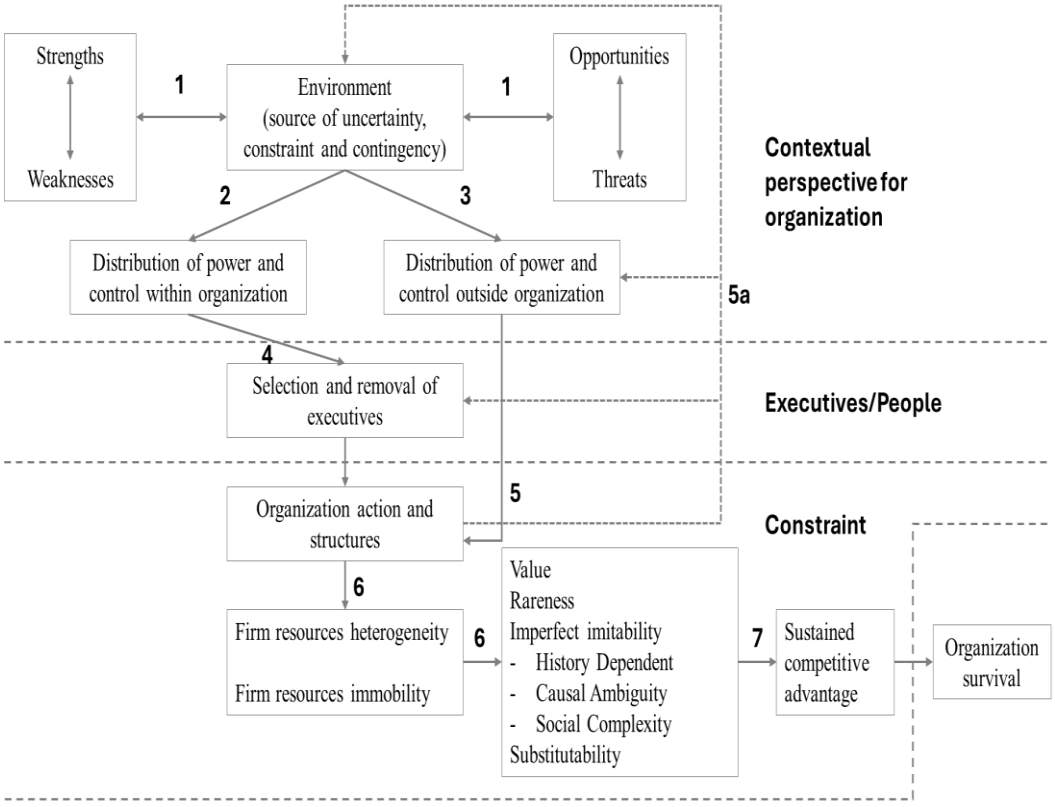


Figure 3. The Integration Conceptual Framework of RDT And RBV
Source: Barney, 1991; Pfeffer & Salancik, 2003; Nienhüser, 2008

Explaining The Integration, A Conceptual Framework

The integration that addresses future landscape of industry and who's is in control and in power of the resources and competition explained in the framework that promoting cohesiveness. The range of processes again will start at the contextual perspective with steps 1-3. Step 1 depicts the connection between environment and the analysis of SWOT, that is from the perspective of resource-based model and industry attractiveness model. RDT suggests that the environment might provide the critical resources needed by organizations, to be able to understand one must first clarify which and where to acquire those resources with all other conditions supported including the management, financial resources and creative resources (Comănescu et al., 2018). RBV analyzing not only an organization opportunities and threats in

its competitive environment, but also has attempted to describe the environmental conditions, the five competitive forces of Porter (1980) describe the attributes of an attractive industry very well (Barney, 1991).

Step 2 represents internal distribution of power with stressing the RBV focus of social and individual phenomena in organizational broad range (Barney, 1991) and one of the main hypotheses of RDT that the sub-units in organization are most able to cope with a critical problem is the one who acquires power. Step 2 leads to step 4 when organizations must configure and reconfigure its structure by selection and removal of executives. Members of the powerful sub-units will influence information seeking criteria so that it can contribute to reduce the uncertainty (Nienhüser, 2008). Step 3 explain that the management has a mechanism that functions to perceive and interpret the environment, three functions mentioned in Pfeffer & Salancik (2003) and Nienhüser (2008) work, that is the scapegoat function, decision making function and legitimizing function. The three functions guiding the organization action and structures and by the relationship of step 5 and 5a the framework describe how action in return effect the executive team reconfigure and affect the distribution of power and control outside organization as well as impacting the overall contextual environment as the strategy to reduce dependencies.

Steps 6 and 7 are obviously the formal strategic planning as the action of organizations relating the resource heterogeneity and immobility as the source of competitive environment with VRIN resources as the source of sustained competitive environment (Barney, 1991) and comparative advantage introduced at the early discussion of this study. Evaluating these steps as the organization various strategic planning process may help resolve some conflicting results from organizations action and structures thus creating causal ambiguity for competitors. The framework provides three areas highlighted with the executives or people in the center to better explicit the role of managers (executives), while about the contextual perspective and constraint have been explored in the early discussion. The role of managers is somehow not most developed in the resource-related processes, managers strategic choice is as important as what an organization does with its resources and which resources it possesses, meaning that the full value of resources for creating competitive advantages is realized only when resources are managed effectively (Sirmon et al., 2012).

CONCLUSION

The conceptual framework has introduced the efforts of organizations to reduce dependencies on external sources while settling it internal strengths in a relationship between the two-mainstream resource-related theories of strategic management. To better explain the role of managers or executives (people) in this framework has also become a growing stream of work emerging from the join perspective of these two theories. Stakeholders' perspective was brought in as the framework put the contextual perspective covering all aspects that influence the organizations as the starting point to understand and finally to make decision on organizations' future. The two strategic management theories, the Resource Dependence Theory (RDT) and the Resource-based View (RBV) has contributed a lot to the business and management research, and the quest for integration has set a period of consolidation without ignoring of the field's richness as shown in the fragmentation of the theories (Durand et al., 2017).

Theoretical and Managerial Implications

1. Although RDT and RBV are two distinct theoretical perspectives in strategic management with its own focus and underlying assumptions, approaching the analyzing of similarity and studying how they both consolidate has increase the prospect of using both theories together or which orientation is dominate in strategic planning, organizational behavior and decision making (Wronka & Szymaniec, 2012).
2. By exploring the integration of these two major perspectives in strategic management, future study and exploration can additionally investigate and apply RDT and RBV in sector-specific applications to understand how this integration manifest in various unique environment including at non-profits organization.
3. Work on resource management distinguishes the process and the resources being managed, the process refers to managerial capabilities (Sirmon et al., 2012), this conceptual framework will serve as integration view for managers to engage in structuring, bundling and leveraging that process.

Limitation and Future Research

1. Review of past research is a useful mechanism for fostering integration within strategic management field and such synthesis can assist future research to distinguish novel contribution from reformulation of existing knowledge (Durand et al., 2017). This research may not be advanced enough to contribute to the integration due to its limitation in empirical measurement and therefore the integration work provided is likely only to be piecemeal.
2. Strategic management is not the only field that evolves toward a single paradigm, the quest for integration continues to find shared theoretical beliefs and values over fragmentation. This study, however, may come with summary but still it only provides contribution and conclusions that are open to bias since the selected literature might just support subjective worldview of the author (Grant et al., 2009).
3. More work is needed as the resource management framework advanced; other scholars has developed resource orchestration which derived from the research of resource-related and dynamic capabilities theories, therefore different strategies at the corporate and business levels still require to add richness to current theories (Sirmon et al., 2012).
4. This study may not be very update with the advancement and the latest quest for research information in the field of strategic management especially in these two theories with its application in business as well as in nonprofit organization since there are still many recent studies conducted both in quantitative and qualitative methods, however this study add another view that the integration and integration of resource-based perspective is the most relevant approach dominantly to analyze the success or failure of organizations thus providing solutions on the how to proceed with competitiveness and to avoid the weaknesses might come across.

REFERENCES

Akram, F., & Ul Haq, M. A. (2022). Integrating agency and resource dependence theories to examine the impact of corporate governance and innovation on firm performance. *Cogent Business and Management, 9*, 1–22. https://doi.org/10.1080/23311975.2022.2152538

Ancona, D. G. (1991). *The changing role of teams in organizations: Strategies for survival*. MIT Working.

Arbogust, M. (2020). *Why do nonprofits fail? A quantitative study of form 990 information in the years preceding closure.* School of Public Service Theses and Dissertations. https://doi.org/10.25777/n8yg-9475

Bakri, M. A., Ayub, N., & Gazali, H. M. (2024). Integrating agency and resource dependency theories: the moderating effect of board size on the relationship between dividends and firm value in Malaysia. *Future Business Journal, 10*(37), 1–10. https://doi.org/10.1186/s43093-024-00324-6

Barney, J. B. (1991). *Firm resources and sustained competitive advantage*. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Black, J. A., & Boal, K. B. (1994). Strategic resources: Traits, configurations and paths to sustainable competitive advantage. *Strategic Journal Management, 15*, 131–148. https://doi.org/10.1002/smj.4250151009

Bradenburger, A., & Nalebuff, B. (2021). *The rules of co-opetition*. Harvard Business School Publishing.

Comănescu, E. L., Radu, I. A. P., Stan, C. P., & Ponea, M. G. (2018). Competitiveness of companies in the competitive environment – the essential question of performance management. *Journal of De Gruyter International Conference Knowledge-based Organization, 24*(1), 273–278. https://10.1515/kbo-2018-0043

Costa, J. F. F. E. (2023). *The impact of the resource-based view and sustainability on luxury fashion: A bibliometric review analysis.* Repository ISCTE Business School. https://repositorio.iscte-iul.pt/bitstream/10071/29162/1/Master_julia_fonseca_costa.pdf

Durand, R., Grant, R. M., & Madsen, T. L. (2017). The expanding domain of strategic management research and the quest for integration. *Strategic Management Journal, 38,* 4–16. http://dx.doi.org/10.1002/smj.2607

Febrianti, D., Oktarini, K. W., & Firza, E. (2024). The external control of organization; A resource dependence perspective (the book review). *Journal of Management, Entrepreneur and Cooperative, 3*(1), 13–24. https://doi.org/10.56869/jmec.v3i1.534

Fiorini, P. D. C., Seles, B. M. R. P., Jabbour, C. J. C., Mariano, E. B. & Jabbour, A. B. L. D. S. (2018). Management theory and big data literature: From a review to a research agenda. *International Journal of Information Management, 43,* 112–129. https://doi.org/10.1016/j.ijinfomgt.2018.07.005

Freeman, R. E., & Dmytriyev, S. (2017). Corporate social responsibility and stakeholder theory: Learning from each other. *Journal of Symphonya Emerging Issues in Management, 2*(1), 7–15. https://doi.org/10.4468/2017.1.02freeman.dmytriyev

Freudenreich, B., Freund, F. L., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics, 166,* 3–18. https://doi.org/10.1007/s10551-019-04112-z

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Journal Compilation, 26,* 91–108. https://10.1111/j.1471-1842.2009.00848.x

Hamel, G. & Prahalad, C. K. (2003). *Competing for the future*. HBR, OnPoint.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management, 35*(6), 1404–1427. https://doi.org/10.1177/0149206309343469

Hoopes, D., & Madsen, T. L. (2022). A dynamic theory of the strategic firm. *Strategic Management Review, 3*(2), 1–32. http://dx.doi.org/10.1561/111.00000049

Kasali, R. (2023). *Disruption.* Jakarta: PT Gramedia Pustaka Utama.

Kim, S. T., Lee, H. H., & Hwang, T. (2020). Logistics integration in the supply chain: A resource dependence theory perspective. *International Journal of Quality Innovation, 6*(5), 1–14. https://doi.org/10.1186/s40887-020-00039-w

Lehtinen, J., Aaltonen, K., & Rajala, R. (2019). Stakeholder management in complex product systems: Practices and rationales for engagement and disengagement. *Journal of Industrial Marketing Management, 79,* 58–70. https://doi.org/10.1016/j.indmarman.2018.08.011

Lepoutre, J. (2008). *Proactive environmental strategies in small businesses: Resources, institutions and dynamic capabilities.* Ghent University.

Lubis, N. W. (2022). Resource Based View (RBV) in improving company strategic capacity. *Research Horizon Journal, 2*(6), 587–596. https://doi.org/10.54518/rh.2.6.2022.587-596

Luis, G. J., Medina, P. S. S., & Pichardo, R. D. (2019). Environmental innovation: advancing the resource-advantage theory of competition. *International Journal of Management and Marketing Research, 12*(1), 23–36.

Madanaguli, A., Parida, V., Sjödin, D., & Oghazi, P. (2023). Literature review on industrial digital platforms: A business model perspective and suggestions for future research. *Journal of Technological Forecasting and Social Change, 194,* 1–17. https://doi.org/10.1016/j.techfore.2023.122606

Madhok, A., Li, S., & Priem, R. L. (2010). The resource-based view revisited: Comparative firm advantage, willingness-based isolating mechanisms and competitive heterogeneity. *European Management Review, 7,* 91–100. https://10.1057/emr.2010.6

Mat, N. H. N., Jaafar, S. M., & Mohamad, A. S. (2022). Dealing with uncertainty: An analysis of VRIN resources for SME's business survival. *International Journal of Business and Society, 23*(1), 542–559. https://doi.org/10.33736/ijbs.4629.2022

McRae, H. (1994). *The world in* 2020. Boston: Harvard Business School Press.

Mehta, M., Pancholi, G., & Saxena, A. (2024). Organizational resilience and sustainability: A bibliometric analysis. *Cogent Business and Management, 11*(1), 1–15. https://10.1080/23311975.2023.2294513

Mong, S. G., Mohamed, S. J., Misnan, M. S., & Palis, P. (2021). Integrating resource-based view and performance improvement theory in developing maintenance management continuous improvement model: A conceptual framework. *Journal Estudios de Economia Aplicada, 39*(4), 1–13. http://dx.doi.org/10.25115/eea.v39i4.4479

Nayak, B., Bhattacharyya, S. S., & Krishnamoorthy, B. (2022). Integrating the dialectic perspective of resource-based view and industrial organization theory for competitive advantage – A review and research agenda. *Journal of Business and Industrial Marketing, 38*(3), 656–679. https://doi.org/10.1108/JBIM-06-2021-0306

Nienhüser, W. (2008). Resource dependence theory: How well does it explain behavior of organizations?. *Management Revue, 19,* 9–32. https://hdl.handle.net/10419/78991

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal, 14,* 179–191.

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective.* Stanford University Press.

Porter, M. E. (1980). *Competitive strategy, techniques for analyzing industries and competitors, with a new introduction*. The Free Press.

Porter, M. E. (1998). *Competitive advantage, creating and sustaining superior performance*. The Free Press.

Purkayastha, A., Karna, A., Sharma, S., & Bhadra, D. (2021). Board's human capital resource and internationalization of emerging market firms: Toward in integrated agency-resource dependence perspective. *Journal of Business Research, 135,* 391–407. https://doi.org/10.1016/j.jbusres.2021.06.064

Putra, I. G. C., Wiagustini, N. L. P., Ramantha, I. W., & Sedana, I. B. P. (2021). Financial sustainability based on resource-based view theory and knowledge-based view theory. *Academy of Accounting and Financial Studies Journal, 25*(2), 1–15.

Robertson, C. (2024). *The Relationship between an organization and its environment.* Marketing for Golf Management. https://creativecommons.org/licenses/by-nc-sa/4.0/

Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. (2012). Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects. *Journal of Management, 37*(5), 1390–1412. http://dx.doi.org/10.1177/0149206310385695

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research, 104,* 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Teece, D. J. (2022). Strategy dynamics and the theory of the firm: Homage to Richard Rumelt. *Strategic Management Review, 3*(2), 265–294. https://dx.doi.org/10.1561/111.00000044

Valaskova, K., Gajdosikova, D., & Kramaric, T. P. (2022). How important is the business environment for the performance of enterprises? Case study of selected European countries. *Central European Business Review, 11*(4), 85–110. https://doi.org/10.18267/j.cebr.300

Wronka, F. A., & Szymaniec, K. (2012). Resource based view and resource dependence theory in decision making process of public organization – Research findings. *Journal Management Versita, 16*(2), 16–29. https://doi.org/10.2478/v10286-012-0052-2

Yan, C. C., Hui, Y. Z., & Xin, L. (2021). The relationship between board size and firm performance. *E3S Web of Conference, EDP Sciences, 257,* 1–6. https://doi.org/10.1051/e3sconf/202125702079

Yueh, L. (2023). *Belajar dari 12 ekonom besar dunia.* Jakarta: PT. Gramedia Pustaka Utama.

Milestone: Journal of Strategic Management Vol. 4, No. 2, September 2024
Faculty of Economics and Business
Pelita Harapan University

PREDICTION OF HEALTH INSURANCE PRODUCT PURCHASE ALLOCATION IN VARIOUS INDUSTRIES IN INDONESIA USING THE RANDOM FOREST METHOD

Hendra Achmadi[1)*], Eduard Ary Binsar Naibaho[2)], Sandra Sembel[3)], Herlina Lusmeida[4)]

[1,2,3,4)] *Fakultas Ekonomi dan Bisnis, Universitas Pelita Harapan, Indonesia*

e-mail: soleda2017@gmail.com
*(Corresponding Author indicated by an asterisk *)*

ABSTRACT

The objective of this research is identifying which industry can absorb the product of wealth management such as health insurance. Secondly is to identify what the most factors important to determine closing the health insurance premium. The life insurance penetration and density in Indonesia is the lowest level among the Asian country, so the data population in this research is from 38 different companies from different types of industries with 143 data sample, by using the purposive sampling. Most factors which influence the purchasing of health insurance are Listrik, Industry, domicile, age and position, whether the industry that the most contribution for the health insurance sales is banking and education industry. The methodology that is used in this research is called CRIPS-DM (Cross Industrial Standards Program Data Mining). The first steps what is the purpose of the organization, and the second is what data that needed, and continue to data preparation, after modeling, it will make an interpretation of the result, and the final steps is deployment, it will plan how it will be implemented in the real world, and the accuracy score from this model is 58 %. From the result of the projection closing health insurance from each industry, it can be concluded that the most industry that closed the health insurance is Banking Industry, the second is from insurance and the third is education and the next is education, retail, health, manufacturing and finance, hospitality, legal, publishing, technology and government and service industries.

Keywords: Premium Prediction; CRIPS-DM; Random Forest; The Most Contribution Industries

INTRODUCTION

Increasing effectiveness in sales is the main mission of insurance companies or financial industries in particular. In order to increase sales effectiveness, a targeting function is needed. Targeting here is a function where insurance companies target certain industries that will be the main target in marketing. So, the effectiveness of marketing depends on how long and how fast it takes to identify which customers are coming from which industry. Besides, the marketing also needs to know what factors will influence the customer closing the insurance sales. In the real world is very hard to know which factors will influence the sales, because different salesman, is different approach. So, the machine learning algorithm is needed to help marketing to focus on the target.

In operational activities, targeting makes the company focus on the target market, based on historical data it has. The insurance industry plays an important role as a provider of instruments used by the community for protection or risk management. The role of insurance is also the main characteristic of the insurance industry, namely as an industry that manages or bears the risks faced by individuals or business actors. This characteristic makes the aspect of insurance consumer protection very important, to ensure that insurance companies can fulfill their obligations to consumers when a risk occurs. Consumer protection can be maintained if all insurance industry players apply the principle of prudence effectively and carry out responsible business behavior.

Business competition on the one hand can encourage increased company efficiency and quality of service to consumers. Of course, this can benefit consumers because they can get

more affordable insurance products with good service quality. Increasing efficiency and service quality can also encourage industry growth and increase the competitiveness of the national insurance industry. However, on the other hand, tight competition can encourage companies to engage in market behavior that can harm consumers and industry stability, such as setting premium rates that are not commensurate with the risks borne, providing high marketing commissions to compete for marketing channels, and lack of transparency regarding the condition of the company and the products and services provided. Unhealthy business competition can harm other industry players and consumers.

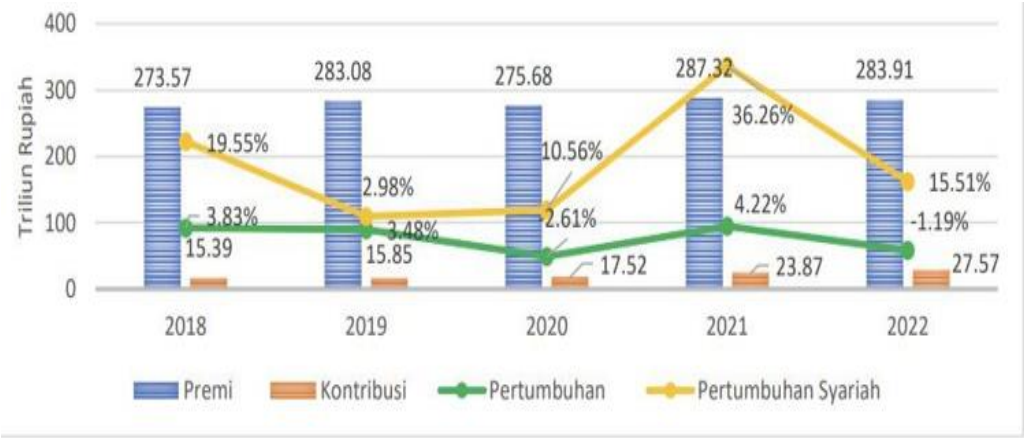


Figure 1. Premium Growth and Contribution in Indonesia
Souce: Otoritas Jasa Keuangan, 2023

Despite the growth, the role of the insurance industry in the national economy is relatively stagnant. This condition can be seen, among others, from the development of the insurance penetration rate which only grew from 2.81% in 2019 to 2.82% in 2022 (including social/mandatory insurance). Insurance penetration in Indonesia is also relatively low compared to other ASEAN countries. Based on data in the ASEAN insurance surveillance report 2022 (excluding mandatory/social insurance), in 2021 Indonesia's insurance penetration was 1.4%, Vietnam 2.2%, the Philippines 2.5%, Malaysia 3.8%, Thailand 4.6%, and Singapore 12.5%.

Figure 2. Penetration in ASEAN Country
Source: Otoritas Jasa Keuangan, 2023

Insurance density increased from IDR1,551,026 in 2018 to IDR2,006,214. Although nominally insurance density has increased, the figure is relatively low. Based on data in the ASEAN Insurance Surveillance Report 2022 (excluding mandatory/social insurance), in 2021 Indonesia's insurance density was IDR1,882,636, Brunei IDR6,115,960, the Philippines IDR1,354,763, Malaysia IDR6,575,558, Thailand IDR6,115,960, and Singapore IDR136,314,431.

LITERATURE REVIEW

Data Mining Steps

In 1950 Alan Turing published a paper entitled “Computing Machinery and Intelligent”, Winston (2017) which tells about computers that can think. In this paper he proposed a question which he called the Turing Test. The idea of the Turing test itself is that in order for a computer to pass the test, it must convince humans that the computer is human, the computer must be able to have a real conversation with humans. 1956: John Mc Carthy & Martin Misnky introduced the term artificial intelligence. So that 1956 was the year of the rise of the artificial intelligence era. 1997: For the first time, an IBM computer named IBM Deep Blue defeated world chess player Kasparov. 2006: Geoffrey Hinton introduced the term "Deep Learning" to explain a new algorithm that can make computers "see". With this deep learning, computers can distinguish between objects and text in images and videos as seen in this figure (Rapidminer Academy, 2024).

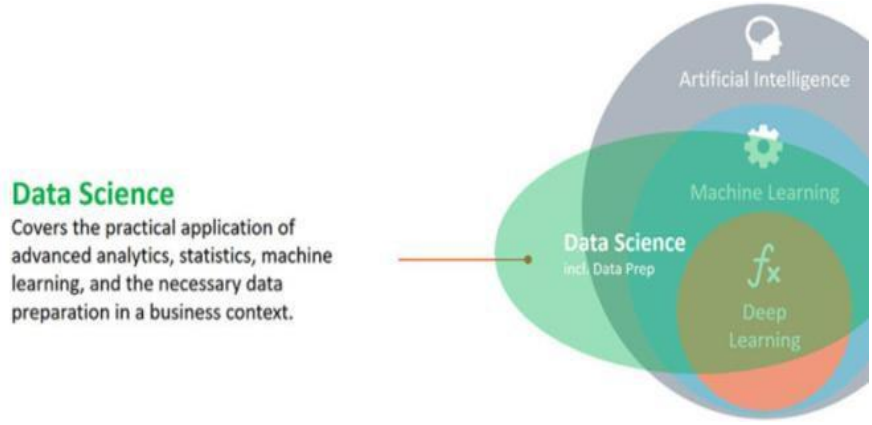


Figure 3. Data Science
Source: Rapidminer Academy, 2024

The data mining process is carried out with data preparation and continued with data processing or data cleaning. At this stage, data preparation begins for further processing, for example whether the data has a type of number or factor or date, and then the data in the cleaning data is also done by removing special characters, then after that the transformation is carried out, namely changing the data from cleansing data to target data, namely the next process is to carry out data mining or data models based on methods that are suitable for the data. The last stage is the process of interpreting knowledge obtained from data processing The development method using data mining is called CRIPS-DM (Cross Industrial Standards Program Data Mining) (Singgalen, 2024), as figure 3.

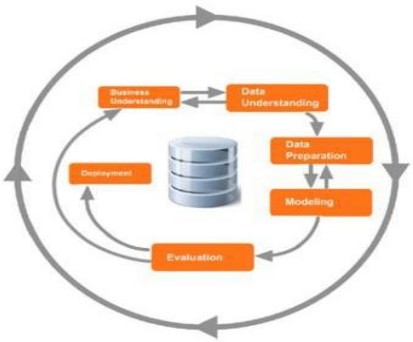


Figure 4. CRIPS-DM
Source: Rapidminer Academy, 2024

In the CRIPS-DM method, the first step is business understanding, where the purpose is to analyze using data mining for what, after that data that supports or is suitable for solving problems in business called data understanding, then data preparation is carried out, where data preparation is carried out data cleansing from the outlier, then reliability and validity and multicollinearity are tested, and finally in the heteroskedasticity test, and finally in the data duplication check. Then a model that matches the problem at hand is selected, after which the results are evaluated and interpreted, and the implementation plan is implemented.

Supervisor Learning

According to Duarte et al. (2019) classification techniques are computer programs that learn from given input data and use this training data with the aim of learning to classify based on observation patterns in the data. On the other hand, supervised learning for regression is a set of algorithms used to predict continuous values.

Strengthened by the statement Jijo & Abdulazeez (2021) decision tree has many used for classification case, and with using decision tree, there are which characteristics more important and can be used as a guideline for interpretation. Müller & Guido (2017) also stated that supervised learning is a type of machine learning in which the data will be divided into two different parts of data, first is training data dan second is testing, data dan it can be calculate how much of the acceleration from this data.

Random Forest

According to Ong et al. (2023) forests are an ensemble learning method that combines multiple decision trees to improve the accuracy of predictions. The basic idea behind random forests is to build many decision trees and then use the average of their predictions as the final prediction.

Besides that, according to Gkikas et al. (2022) a random forest is an ensemble-based classification algorithm that constructs a collection of decision trees and then aggregates their outputs to make a final decision. Each decision tree in the forest is grown independently, with a random subset of the available features used to determine the best split at each node. Moreover, according to Müller & Guido (2017) random forest has the unique feature, it's called feature important, whether this feature important, which feature are most influence to the dependent variable.

From Muhajir & Widiastuti (2022) random forests are a popular machine learning algorithm that can be used for classification and regression tasks—another feature importance of Random forests. The Feature importance from random forests can be used to identify the essential features for the prediction task. An essential feature because the algorithm considers

multiple features when constructing the decision trees, and the importance of each feature can be calculated based on its contribution to the performance of the forest.

RESEARCH METHOD

Population

Population from this research from many 38 industries, and with 148 sample data, with purposive sampling, has been collected by google form method. The criteria for purposive sampling is the respondent must have experience to closed insurance police.

Business Understanding

Data is collected from 148 respondents from 38 different industries. The question is which of these industries has the most adoption from insurance products.

Table 1. Industrial Distribution

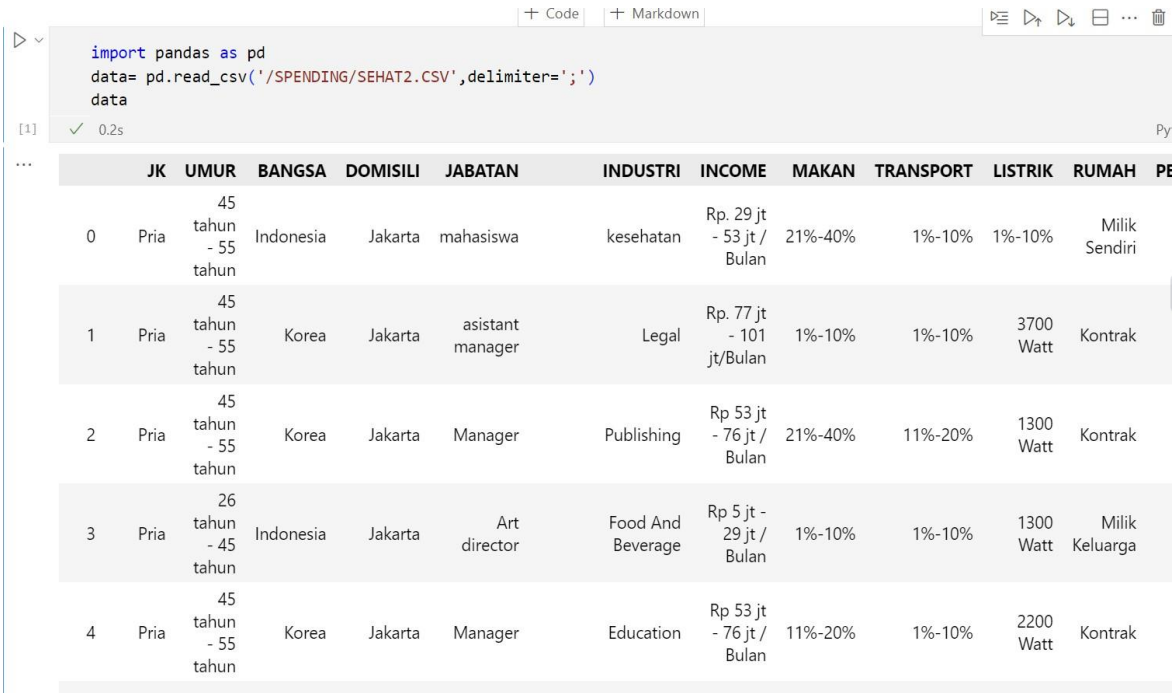
Banking	57
Insurance	17
Education	15
Retail	7
Agency	4
Food And Beverage	3
Health	3
Manufacture	3
Telecommunication	3
Finance	2
Hospitality	2
Health	2
Legal	2
Publishing	2
Service	2
Technology	2
Audit	1
Construction	1
Dropship Stairs Household	1
Ecommerce	1
Government	1
Government office	1
Healthcare	1
Home	1
IT	1
Financial Services	1
Leasing	1
Medical and Technology	1
Online business	1
Outsourcing	1

Procurement of goods and services	1
PNS	1
Property	1
Psychology Practice	1
Service Office	1
Tax and Audit	1
Think tank	1
Transportation	1

From table 1, most of data belongs to banking (57), insurance (17) and education (15) and retail (7) and the agency (4), and the rest is 2 or 1.

Data Understanding.

These data were taken from the primary data, whose taken from the questioner, and after that it will be put into the data set using python.



```
import pandas as pd
data= pd.read_csv('/SPENDING/SEHAT2.CSV',delimiter=';')
data
```

[1] ✓ 0.2s

	JK	UMUR	BANGSA	DOMISILI	JABATAN	INDUSTRI	INCOME	MAKAN	TRANSPORT	LISTRIK	RUMAH	PE
0	Pria	45 tahun - 55 tahun	Indonesia	Jakarta	mahasiswa	kesehatan	Rp. 29 jt - 53 jt / Bulan	21%-40%	1%-10%	1%-10%	Milik Sendiri	
1	Pria	45 tahun - 55 tahun	Korea	Jakarta	asistant manager	Legal	Rp. 77 jt - 101 jt/Bulan	1%-10%	1%-10%	3700 Watt	Kontrak	
2	Pria	45 tahun - 55 tahun	Korea	Jakarta	Manager	Publishing	Rp 53 jt - 76 jt / Bulan	21%-40%	11%-20%	1300 Watt	Kontrak	
3	Pria	26 tahun - 45 tahun	Indonesia	Jakarta	Art director	Food And Beverage	Rp 5 jt - 29 jt / Bulan	1%-10%	1%-10%	1300 Watt	Milik Keluarga	
4	Pria	45 tahun - 55 tahun	Korea	Jakarta	Manager	Education	Rp 53 jt - 76 jt / Bulan	11%-20%	1%-10%	2200 Watt	Kontrak	

Figure 5. Primary Data

Data Preparation

After the data set is input, data must decode first, because the data has much contained the category types. The data must decode into numeric types.

JK	UMUR	BANGS	DOMISILI	JABATAN	INDUSTR	INCOME	MAKAN	TRANSPORT	LISTRIK	RUMAH	PEND	SOCIAL_MA	SJJKELUARGA	SMOBIL2	KESEHATAN	STATUS
Pria	45 tahun - 55 tahun	Korea	Jakarta	asistant manage	Legal	Rp. 77 jt - 101 jt/Bulan	1%-10%	1%-10%	3700 Watt	Kontrak	S2	1%-10%	1%-10%	1%-10%	1%-10%	Menikah anak 2 orang
Pria	45 tahun - 55 tahun	Korea	Jakarta	Manager	Publishing	Rp 53 jt - 76 jt / Bulan	21%-40%	11%-20%	1300 Watt	Kontrak	S1	11%-20%	11%-20%	1%-10%	1%-10%	Menikah anak 2 orang
Pria	45 tahun - 55 tahun	Korea	Jakarta	Manager	Education	Rp 53 jt - 76 jt / Bulan	11%-20%	1%-10%	2200 Watt	Kontrak	S2	1%-10%	1%-10%	1%-10%	1%-10%	Menikath anak 3 orang
Pria	17 tahun - 25 tahun	Indonesia	Jakarta	Staff	Education	Rp 5 jt - 29 jt / Bulan	21%-40%	11%-20%	1300 Watt	Milik Keluarga	S1	1%-10%	1%-10%	1%-10%	11%-20%	Single
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Staff	Technology	Rp 5 jt - 29 jt / Bulan	1%-10%	11%-20%	3700 Watt	Milik Keluarga	S1	21%-40%	21%-40%	11%-20%	11%-20%	Single
Pria	17 tahun - 25 tahun	Indonesia	Jakarta	Staff	Education	Rp 5 jt - 29 jt / Bulan	21%-40%	1%-10%	2200 Watt	Milik Keluarga	S1	1%-10%	11%-20%	1%-10%	1%-10%	Single
Wanita	17 tahun - 25 tahun	Indonesia	Manado	Staff	Banking	Rp 53 jt - 76 jt / Bulan	21%-40%	11%-20%	3700 Watt	Milik Keluarga	S1	11%-20%	21%-40%	21%-40%	41%-60%	Single
Pria	26 tahun - 45 tahun	Indonesia	Jakarta	Manager	Banking	Rp 5 jt - 29 jt / Bulan	11%-20%	1%-10%	900 Watt	Kontrak	S1	1%-10%	1%-10%	1%-10%	1%-10%	Menikah anak 1 orang
Pria	26 tahun - 45 tahun	Indonesia	Depok	Senior Manager	Banking	Rp 5 jt - 29 jt / Bulan	1%-10%	11%-20%	900 Watt	Kontrak	S2	1%-10%	11%-20%	1%-10%	1%-10%	Menikah anak 1 orang
Wanita	17 tahun - 25 tahun	Indonesia	Depok	Staff	Banking	< Rp 5 jt / Bulan	41%-60%	11%-20%	450 Watt	Kontrak	S1	11%-20%	11%-20%	1%-10%	11%-20%	Single
Wanita	26 tahun - 45 tahun	Indonesia	Jakarta	Staff	Banking	Rp 5 jt - 29 jt / Bulan	11%-20%	1%-10%	1300 Watt	Kontrak	S1	11%-20%	11%-20%	1%-10%	1%-10%	Menikah anak 1 orang
Pria	lebih dari 55 tahun	Indonesia	Jakarta	Senior Manager	Banking	Rp 53 jt - 76 jt / Bulan	1%-10%	1%-10%	900 Watt	Milik Sendiri	S1	1%-10%	1%-10%	1%-10%	1%-10%	Menikah anak 2 orang
Pria	lebih dari 55 tahun	Indonesia	depok	Staff	Banking	Rp 53 jt - 76 jt / Bulan	1%-10%	1%-10%	> 4400 Watt	Milik Sendiri	S3	1%-10%	1%-10%	1%-10%	500 ribu - 1 juta	Menikath anak 3 orang
Pria	45 tahun - 55 tahun	Indonesia	Jakarta	Staff	Banking	Rp. 77 jt - 101 jt/Bulan	11%-20%	1%-10%	> 4400 Watt	Milik Sendiri	S1	11%-20%	11%-20%	11%-20%	2 juta - 3 juta	Menikah anak 2 orang
Pria	17 tahun - 25 tahun	Indonesia	Tangerang	Staff	Banking	Rp 5 jt - 29 jt / Bulan	11%-20%	41%-60%	2200 Watt	Kos Kosan	S1	11%-20%	11%-20%	1%-10%	1 juta - 2 juta	Single
Wanita	26 tahun - 45 tahun	Indonesia	Jakarta	Manager	Banking	Rp 5 jt - 29 jt / Bulan	21%-40%	1%-10%	3700 Watt	Milik Sendiri	S1	1%-10%	1%-10%	1%-10%	500 ribu - 1 juta	Menikah anak 2 orang
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Staff	Banking	Rp 5 jt - 29 jt / Bulan	1%-10%	1%-10%	900 Watt	Milik Keluarga	S1	21%-40%	21%-40%	1%-10%	1 juta - 2 juta	Single
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Senior Manager	Banking	< Rp 5 jt / Bulan	1%-10%	11%-20%	2200 Watt	Milik Keluarga	S1	1%-10%	21%-40%	1%-10%	500 ribu - 1 juta	Single
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Staff	Insurance	Rp 5 jt - 29 jt / Bulan	11%-20%	1%-10%	2200 Watt	Milik Sendiri	S1	1%-10%	1%-10%	21%-40%	500 ribu - 1 juta	Single
Wanita	26 tahun - 45 tahun	Indonesia	Tangerang Se	Senior Manager	Banking	Rp 5 jt - 29 jt / Bulan	21%-40%	21%-40%	2200 Watt	Milik Sendiri	S1	11%-20%	11%-20%	11%-20%	1 juta - 2 juta	Menikah anak 1 orang
Pria	26 tahun - 45 tahun	Indonesia	Tangerang	Manager	Banking	Rp 5 jt - 29 jt / Bulan	11%-20%	11%-20%	1300 Watt	Milik Sendiri	S1	1%-10%	1%-10%	1%-10%	500 ribu - 1 juta	Menikah anak 2 orang
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Senior Manager	Banking	Rp 5 jt - 29 jt / Bulan	11%-20%	1%-10%	2200 Watt	Milik Keluarga	S1	11%-20%	11%-20%	1%-10%	500 ribu - 1 juta	Single
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Manager	Banking	Rp 5 jt - 29 jt / Bulan	21%-40%	11%-20%	1300 Watt	Kontrak	S1	11%-20%	11%-20%	1%-10%	500 ribu - 1 juta	Single
Wanita	17 tahun - 25 tahun	Indonesia	Jakarta	Manager	Banking	Rp 5 jt - 29 jt / Bulan	21%-40%	1%-10%	2200 Watt	Milik Keluarga	S2	1%-10%	1%-10%	1%-10%	500 ribu - 1 juta	Single
Wanita	26 tahun - 45 tahun	Indonesia	Jakarta	Manager	Banking	Rp. 30 jt - 52 jt / Bulan	21%-40%	1%-10%	4400 Watt	Milik Keluarga	S1	21%-40%	21%-40%	1%-10%	1 juta - 2 juta	Single
Wanita	26 tahun - 45 tahun	Indonesia	Jakarta	Manager	Banking	Rp. 30 jt - 52 jt / Bulan	1%-10%	1%-10%	4400 Watt	Milik Sendiri	S1	1%-10%	1%-10%	11%-20%	3 juta - 5 juta	Menikath anak 3 orang
Pria	26 tahun - 45 tahun	Indonesia	Jakarta	Manager	Insurance	Rp. 30 jt - 52 jt / Bulan	1%-10%	1%-10%	2200 Watt	Milik Sendiri	S1	1%-10%	1%-10%	1%-10%	2 juta - 3 juta	Menikah anak 1 orang
Pria	26 tahun - 45 tahun	Indonesia	Jakarta	Senior Manager	Insurance	Rp. 30 jt - 52 jt / Bulan	21%-40%	11%-20%	2200 Watt	Milik Sendiri	S1	1%-10%	11%-20%	1%-10%	2 juta - 3 juta	Menikah anak 1 orang

Figure 6. Raw Data

```
from sklearn.preprocessing import LabelEncoder
enc= LabelEncoder()
data['JK']=enc.fit_transform(data['JK'].values)
data['UMUR']=enc.fit_transform(data['UMUR'].values)
data['BANGSA']=enc.fit_transform(data['BANGSA'].values)
data['DOMISILI']=enc.fit_transform(data['DOMISILI'].values)
data['JABATAN']=enc.fit_transform(data['JABATAN'].values)
data['INDUSTRI']=enc.fit_transform(data['INDUSTRI'].values)
data['INCOME']=enc.fit_transform(data['INCOME'].values)
data['MAKAN']=enc.fit_transform(data['MAKAN'].values)
data['TRANSPORT']=enc.fit_transform(data['TRANSPORT'].values)
data['LISTRIK']=enc.fit_transform(data['LISTRIK'].values)
data['PENDIDIKAN']=enc.fit_transform(data['PENDIDIKAN'].values)
data['SOCIAL_MAKANTEMAN']=enc.fit_transform(data['SOCIAL_MAKANTEMAN'].values)
data['SJJKELUARGA']=enc.fit_transform(data['SJJKELUARGA'].values)
data[' SMOBIL2 ']=enc.fit_transform(data[' SMOBIL2 '].values)
data[' STATUS ']=enc.fit_transform(data[' STATUS '].values)
data[' KESEHATAN ']=enc.fit_transform(data[' KESEHATAN '].values)
data['RUMAH']=enc.fit_transform(data['RUMAH'].values)
```

```
data
```

✓ 0.0s

	JK	UMUR	BANGSA	DOMISILI	JABATAN	INDUSTRI	INCOME	MAKAN	TRANSPORT	LISTRIK	RUMAH	PENDIDIKAN
0	0	2	0	5	20	39	6	2	0	0	5	4
1	0	2	1	5	19	21	8	0	0	3	1	5
2	0	2	1	5	10	30	4	2	1	1	1	4
3	0	1	0	5	1	9	3	0	0	1	3	4
4	0	2	1	5	10	7	4	1	0	2	1	5
...	...	...	...	...	...	...	...	...	...	...	...	...
143	1	0	0	5	16	31	3	0	3	1	3	4
144	1	0	0	5	16	36	3	1	2	1	3	4
145	1	0	0	5	10	1	3	0	0	1	1	4
146	0	1	0	0	10	31	7	1	0	2	5	3
147	1	1	0	5	15	3	3	1	1	2	5	4

JK	UMUR	BANGSA	DOMISILI	JABATAN	INDUSTRI	INCOME	MAKAN	TRANSPOR	LISTRIK	RUMAH	PENDIDIKA	SOCIAL_M	SJKELUAR	SMOBIL2	STATUS
0	2	1	5	18	21	6	0	0	2	1	4	0	0	0	1
0	2	1	5	11	30	3	2	1	0	1	3	1	1	0	1
0	2	1	5	11	7	3	1	0	1	1	4	0	0	0	2
0	0	0	5	15	7	2	2	1	0	3	3	0	0	0	3
1	0	0	5	15	35	2	0	1	2	3	3	2	2	1	3
0	0	0	5	15	7	2	2	0	1	3	3	0	1	0	3
1	0	0	8	15	3	3	2	1	2	3	3	1	2	2	3
0	1	0	5	11	3	2	1	0	6	1	3	0	0	0	0
0	1	0	4	14	3	2	0	1	6	1	4	0	1	0	0
1	0	0	4	15	3	0	3	1	4	1	3	1	1	0	3
1	1	0	5	15	3	2	1	0	0	1	3	1	1	0	0
0	3	0	5	14	3	3	0	0	6	5	3	0	0	0	1
0	3	0	27	15	3	3	0	0	7	5	5	0	0	0	2
0	2	0	5	15	3	6	1	0	7	5	3	1	1	1	1
0	0	0	24	15	3	2	1	3	1	2	3	1	1	0	3
1	1	0	5	11	3	2	2	0	2	5	3	0	0	0	1
1	0	0	5	15	3	2	0	0	6	3	3	2	2	0	3
1	0	0	5	14	3	0	0	1	1	3	3	0	2	0	3
1	0	0	5	15	18	2	1	0	1	5	3	0	0	2	3
1	1	0	25	14	3	2	2	2	1	5	3	1	1	1	0
0	1	0	24	11	3	2	1	1	0	5	3	0	0	0	1
1	0	0	5	14	3	2	1	0	1	3	3	1	1	0	3
1	0	0	5	11	3	2	2	1	0	1	3	1	1	0	3
1	0	0	5	11	3	2	2	0	1	3	4	0	0	0	3
1	1	0	5	11	3	5	2	0	3	3	3	2	2	0	3
1	1	0	5	11	3	5	0	0	3	5	3	0	0	1	2
0	1	0	5	11	18	5	0	0	1	5	3	0	0	0	0
0	1	0	5	14	18	5	2	1	1	5	3	0	1	0	0
1	0	0	5	15	12	2	2	3	0	3	3	1	2	2	3

Figure 7. Encoding Data

RESULTS AND DISCUSSION

Modeling

After the decoding process, it will be ready to make a model. The model which chooses based on the data types was the random forest.

```
Create and train model
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score, confusion_matrix, classification_report
from sklearn.tree import DecisionTreeClassifier
import sklearn.model_selection as ms
X=data[['JK','UMUR','BANGSA','DOMISILI','JABATAN','INDUSTRI','INCOME','MAKAN','TRANSPORT','LISTRIK','RUMAH',
X
y=data[' KESEHATAN ']
y
```

```
    accuracy=met.accuracy_score(y_test,y_prediksi)
    print('Accuracy= ',accuracy)
 ✓ 0.0s

Accuracy=  0.5813953488372093
```

Figure 8. Modeling

After the modeling run, it will result the accuracy 58 %, so the model can predict 58 % how much of the health insurance will be taken from each industry. from table 3. The random forest algorithm has function, is called a feature important. The feature important is a formula that indicates, where factors that will influence the closing with health product from insurance. The highest factor is electrical (0,102), this factor is reflected in style of life, the bigger the electricity the wealthier. The second factor is industry, the most closing is become from banking (57), insurance (17), education (15), retail (7), from table 4. Projection closing health insurance from each industry, and the third is domicile, and the most recent from Jakarta (95), Depok (6), Bogor (6), Tangerang (5), Surabaya (4), so the distribution of insurance is dominated

from JABODETABEK. Next from the age, the most closing is become from age 26 to 46 (62), the second from age 17–25 (48). So, in this case, the marketing must approach the candidate customer from the age of 26 to 46 years old. And the final analysis, the position the most closed the health insurance is from staff (68), manager (34) and senior manager (19).

Table 2. Feature Important

Factor	Amount
Electricity	0.10270245066995426
Industry	0.09599428308565679
Domicile	0.08415363155356075
Age	0.08233508935446782
Position	0.07853930095280212

Table 3. Projection Closing Health Insurance from Each Industry

Industry	Industry Code	Total
Banking	3	57
Insurance	18	17
Education	7	15
Retail	31	7
Agency	1	4
Food And Beverage	9	3
Health	12	3
Manufacture	22	3
Telecommunication	36	3
Finance	8	2
Hospitality	15	2
Health	39	2
Legal	21	2
Publishing	30	2

Table 4. The Most Contribution from Domicile

Jakarta	95
Depok	6
Bogor	6
Tangerang	5
Surabaya	4
Bekasi	4
Semarang	2
Medan	2

Table 5. Distribution of Age

Age	Total
17 years - 25 years	48
26 ears - 45 years	62
45 years - 55 years	24
>55 years	9

Table 6. Distribution of Position

Position	Total
Staff	68
Manager	34
Senior Manager	19
Director	5
assistant manager	2
CEO	2
Art director	1
Lecturer	1

Evaluation

From the result of the projection closing health insurance from each industry, it can be concluded that the most industry that closed the health insurance is Banking Industry, the second is from insurance and the third is education and the next is retail, health, manufacturing and finance, hospitality, legal, publishing, technology and government and service industries. This results because there are from the financial literacy (Lopus et al., 2019).

CONCLUSION

Nowadays many insurance agents have been taught to know about the needs of customers, but today is more accurate to use the behavior of the customers. So, by using machine learning algorithms is more accurate to make a prediction of health insurance premium by using the random forest algorithm. From the result of the projection closing health insurance from each industry, it can be concluded that the most industry that closed the health insurance is banking industry, the second is from insurance and the third is education and the next is education, retail, health, manufacturing and finance, hospitality, legal, publishing, technology and government and service industries, with 58 accuracy score.

REFERENCES

Duarte, V., Zuñiga-Jara, S., & Contreras, S. (2022). Machine learning and marketing: A systematic literature review. *IEEE Access, 10*, 93273–93288. https://doi.org/10.1109/ACCESS.2022.3202896

Gkikas, D. C., Theodoridis, P. K., & Beligiannis, G. N. (2022). Enhanced marketing decision making for consumer behaviour classification using binary decision trees and a genetic algorithm wrapper. *Informatics, 9*(2), 1–29. https://doi.org/10.3390/informatics9020045

Jijo, B. T., & Abdulazeez, A. M. (2021). Classification based on decision tree algorithm for machine learning. *Journal of Applied Science and Technology Trends*, *2*(1), 20–28. https://doi.org/10.38094/jastt20165

Lopus, J. S., Amidjono, D. S., & Grimes, P. W. (2019). Improving financial literacy of the poor and vulnerable in Indonesia: An empirical analysis. *International Review of Economics Education*, *32*(11), 196–202. https://doi.org/10.1016/j.iree.2019.100168

Muhajir, M., & Widiastuti, J. (2022). Random forest method approach to customer classification based on non-performing loan in micro business. *Jurnal Online Informatika*, *7*(2), 177–183. https://doi.org/10.15575/join.v7i2.842

Müller, A. C., & Guido, S. (2017). *Introduction to machine learning with python: A guide for data scientists.* O'Reilly Media.

Ong, A. K. S., Cordova, L. N. Z., Longanilla, F. A. B., Caprecho, N. L., Javier, R. A. V., Borres, R. D., & German, J. D. (2023). Purchasing intentions analysis of hybrid cars using random forest classifier and deep learning. *World Electric Vehicle Journal*, *14*(8), 1–26. https://doi.org/10.3390/wevj14080227

Otoritas Jasa Keuangan. (2023). *Roadmap pengembangan perasuransian Indonesia 2023–2027*. Departemen Pengaturan dan Pengembangan IKNB, OJK. www.go.id

Rapidminer, Academy. (2024). *Data science professional*. Rapidminer Academy. https://academy.rapidminer.com/learning-paths/data-science-professional-with-rapidminer

Singgalen, Y. A. (2024). Implementation of CRISP-DM for social network analysis (SNA) of tourism and travel vlog content reviews. *Jurnal Media Informatika Budidarma*, *8*(1), 572–583. https://doi.org/10.30865/mib.v8i1.7323

Winston, P. H. (2017). On computing machinery and intelligence. *Boston Studies in the Philosophy and History of Science*, *324*, 265–278. https://doi.org/10.1007/978-3-319-53280-6_11

UPH

UNIVERSITAS PELITA HARAPAN

Faculty of Economics and Business