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Collaboration Strategy and Performance of Pharmaceutical Companies in South-West

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Abstract

This study investigates the impact of various collaboration strategies, proxy joint ventures, subcontracting, franchising, and outsourcing, on the performance of pharmaceutical companies in the region. The research employs a quantitative approach using a cross-sectional survey. The study sample comprises 357 top and middle executives of pharmaceuticals in southwest, Nigeria. The data were analyzed using a multiple regression analysis which revealed an R^2 of .692. This indicates that collaboration strategy elements significantly contribute to increased innovation, cost efficiency, and market expansion. Nevertheless, the study also draws attention to difficulties with managing these collaboration efforts, including quality control problems, regulatory complications, and the requirement for robust policy frameworks. Businesses that effectively handle these obstacles by implementing a well-planned collaboration strategy typically see improvements in performance and a competitive advantage in the cutthroat industry. To spur innovation, save costs, and enhance overall performance, the study's conclusion advises pharmaceutical companies in south-west to strategically diversify their cooperation efforts by incorporating joint ventures, subcontracting, franchising, and outsourcing into their business models. It also encourages legislators to expedite regulatory procedures and back programs that promote collaboration practices in the pharmaceutical industry. The study found that pharmaceutical performance in South-West should be dependent on a collaboration strategy, which is the gap that the research attempted to address. The study therefore recommends that Pharmaceuticals in South-West that seek improvement in profitability should adopt collaboration.

Introduction

Recently, collaboration between firms has become imperative for sustainable growth and competitiveness. The presence of world-class companies such as Microsoft, Procter & Gamble, Toyota, BioNTech, Fosun Pharma, and Pfizer calls for an

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accelerated adoption of collaborative strategies by firms aiming to compete in the global marketplace. Competing on price, quality, delivery time, design, and packaging particularly necessitates collaboration strategies in developing economies. However, this is not the case for many pharmaceutical firms in Nigeria due to challenges that have hindered their growth and expansion, especially in south-west, Nigeria. (Akpa et al., 2023; Ayo-Lawal et al., 2023; Adeleke et al., 2023).

To address these difficulties, the government, regulatory agencies, and the private sector must improve infrastructure, reduce operating costs, combat the supply of counterfeit medications, fund capacity-building activities, and promote the local production of essential raw materials. Overcoming these challenges is crucial for the pharmaceutical sector in south-west, Nigeria to remain competitive in the export market. The region's growth potential and key indicators reflect promising prospects for the development of pharmaceutical companies.

As the population grows and healthcare needs expand, there is increasing demand for high-quality pharmaceuticals and healthcare products. This situation presents an excellent opportunity for local entrepreneurs to develop affordable and efficient healthcare solutions tailored to meet the needs of key demographics. In recent years, the industry has seen a surge in research and innovation in drug formulation and technology to enhance delivery processes. Government initiatives aimed at improving legal frameworks and infrastructure can help pharmaceutical firms focus more on public health and explore collaborative opportunities, as observed with the global organizations mentioned earlier (Zongguo et al., 2023; Rachael et al., 2022; Ogunnusi & Ajibode, 2023; Gbolahan, 2023; Adedapo, 2023; Briggs & Nteegah, 2023; Owan, 2023; Chibuike et al., 2023; Christian et al., 2023).

The high cost of innovation and technical know-how needed to catch up with industrialized economies underscores the importance of collaboration among firms. Literature suggests that collaborative strategies offer the most viable alternative for growth (Rachael et al., 2022). A firm's ability to leverage existing resources and expertise to create new applications fosters new learning outcomes through mechanisms such as joint ventures, outsourcing, subcontracting, and franchising. This ability intersects with combinative capacities, allowing firms to unlock their technical potential (Mohsen et al., 2022; Sánchez-López et al., 2023; Kvasova et al., 2023; Lourdes Rivero-Gutierrez et al., 2023; Léo-Paul Dana et al., 2022; Singh et al., 2023).

Given the importance of collaboration as an innovation toolkit, long-term research is required to explore how these strategies can revolutionize the pharmaceutical industry in Nigeria (Imuetinyan & Ngozi, 2023; Nathan & Ande, 2023; Hakim & Nasution, 2023). Scholars increasingly agree that collaboration enhances performance by bringing together firms from diverse technological backgrounds to create synergies (Fenglian et al., 2024; Saiful et al., 2023). Consequently, collaboration strategies—encompassing joint ventures, alliances, franchising, outsourcing, and subcontracting—are becoming more prominent. As early as 1989, the renowned strategist Kenichi Ohmae noted that in a complex, uncertain world with formidable competitors, it is wise not to act alone (Ghiyoung & Ahuja, 2023; Fortman, 2023).

Collaborative efforts among companies have become the norm, as evidenced by partnerships between General Motors and Toyota in automobile production, Siemens and Philips in semiconductor development, and Canon and Kodak in photocopier supply. Similarly, France's Thomson and Japan's JVC collaborated on video cassette recorder production. Hill (2003) further illustrates this trend by showing that Toyota

manufactures only 27% of its parts in-house, compared to Ford and GM's 48% and 67%, respectively. The COVID-19 pandemic provided further evidence of the value of collaboration, with BioNTech, Fosun Pharma, and Pfizer joining forces to develop innovative solutions in response to the crisis. Despite the growing recognition that a firm's success depends on access to resources within a network of relationships, the role of collaboration in innovation and international competitiveness remains underexplored (Pengwen et al., 2022; Melendez-Campos et al., 2024; Hu & Wu, 2024). This study investigates how pharmaceutical firms in south-west, Nigeria, utilize collaboration strategies to enhance performance.

It also examines the factors that enable or hinder effective partnership governance, drawing lessons from the COVID-19 experience. A "knowledge-sharing" partnership, such as that between BioNTech, Fosun Pharma, and Pfizer, illustrates the importance of collaboration in pharmaceutical innovation. These companies agreed to increase production capacity and collaborate on research and development under the guidance of a joint steering committee. The urgency of working together to combat COVID-19 demonstrates the relevance of partnerships during times of crisis.

The pandemic has brought unprecedented changes, such as new work practices and nationwide lockdowns, compelling the global scientific community to find collective solutions (Mustapha et al., 2022; Wala et al., 2022; Takawira & Mutambara, 2023; Sumran et al., 2023). This global health challenge offers a unique opportunity for various segments of the pharmaceutical industry to integrate and collaborate both within and across enterprises (Li, 2023; Takawira & Mutambara, 2023; Risma et al., 2023; Geiger & Gross, 2024).

Statement of Research Problem

The ever-increasing dynamic operating environment has caused pharmaceutical companies to experience stagnation and declining profits over the last five years, according to World Bank statistics (Santini. et al., 2022). Furthermore, data from the World Bank also emphasized a disorganized operating environment and how this has affected the pharmaceutical companies' operations in Africa, particularly in Nigeria. In a recessionary economy, where inflation is the norm, pharmaceutical companies can only survive and grow if they maintain steady partnerships that provide them access to the market and satisfy customer demand. The difficulties in collaborating were further highlighted during the COVID-19 pandemic when Nigerian pharmaceutical companies were unable to work together to develop and produce COVID-19 vaccines that the WHO would approve, and which could then be exported to other African nations. Support for the position comes from the Pharmaceutical Society of Nigeria (2020), which reported that there was ineffective collaboration among Nigerian pharmaceutical companies that could have prevented or reduced the spread of COVID-19 by producing vaccines. This demonstrates that one of the biggest obstacles facing Nigerian pharmaceutical companies is the collaboration strategy among pharmaceutical companies (Faiva et al., 2021; Abubakar et al., 2021; Uroko & Nwaoga, 2021). Collaboration is a management technique for organizational performance (Drake & Chen, 2023; Zhang, 2023; Costumato, 2021). Collaboration is becoming increasingly important, particularly when external persons or organizations participate in the creative process in the corporate environment, academic hubs, and corporations (Donado et al., 2023; Yin et al., 2023; Suparno et al., 2023; Hadi et al., 2023). However, measuring the impact of collaboration on pharmaceutical performance is not a trivial task (Xiao et al., 2023; Oamen, 2024). Particularly, if it is

considered that pharmaceutical performance should be measured not only through accounting measures but on a wider range of factors like project efficiency, impact on the internal team, and preparation for the future, among others. Collaboration is one way of ensuring that customers do not feel inclined to look at products or services from your competitors. However, a collaboration strategy strengthens bonds between people and advances shared ideals and objectives. The majority of organizations in today's fast-paced business environment strive to meet their goals and also to gain a competitive edge. To accomplish strategic collaboration, staff members and management must have the same mindset, which will ultimately result in the accomplishment of the organization's strategic objectives. A joint effort by two or more organizations to achieve the objectives is implied by the collaboration strategy (Adeleke & colleagues, 2023; Agba, 2023). Firms can get economies of scale through the collaboration approach, which provides them with the opportunity to leverage synergistic benefits that arise from cooperation and significantly lowers the costs required by the market. This study fills this gap by focusing on collaboration strategy and pharmaceutical performance in south-west, Nigeria. It is the first time this dimension has been used in pharmaceutical companies in the southwest, as far as the researcher is aware. This paper will examine the effect of collaboration Strategy on the performance of pharmaceutical companies in south West. The analysis will focus on relationships embedded in outsourcing, joint ventures, franchising, and subcontracting. These factors measure the extent of closeness between firms that engage in strategic collaboration, the research offers responses to the following question: (a) How does Franchising affect the Market Share of pharmaceutical companies in Southeast Nigeria? (b) to evaluate the effect of outsourcing on the Market Share of pharmaceutical companies in the southwest of Nigeria.

LITERATURE REVIEW

Conceptual Clarification

Outsourcing and Subcontracting

In the increasingly connected world, organizations are under growing pressure to come up with fresh approaches to creating value and breaking into untapped areas. Outsourcing is one management strategy that the majority of businesses use to assist them meet these goals and stay competitive in the ever-evolving business landscape. Outsourcing is the process of shifting some of the company's internal operations and decision-making authority to outside service providers (Zhu & Chen, 2021; Li et al., 2021; Dudè et al., 2021; Petersen et al., 2021). Subcontracting a task to a different business, such as production or product design, is known as outsourcing. Outsourcing is frequently chosen to cut costs, enhance quality, increase delivery and dependability, obtain resources, create a presence in overseas markets, concentrate on core competencies, and decrease the amount of specialized knowledge and skills required for operations (Charles & Ochieng, 2023; Veerakul, 2023) Research on the effects of outsourcing demonstrates that, in fact, the tactic greatly enhanced organizational performance. (Akhtar, 2023; Nsowah & Phiri, 2023) Many businesses employ outsourcing to handle mundane business tasks in a very competitive climate. This allows them to concentrate corporate resources only on those activities where they may establish a distinct competitive edge in their value chain, ultimately satisfying their consumers.

Outsourcing does have a negative aspect, though. Often, organizations' ability to control what they can outsource to other parties is restricted. The perceived influence of outsourcing on business performance is further restricted by a fear of opportunistic actions. Understanding which of the three primary value drivers—product leadership, operational excellence, and customer service and intimacy—to focus on is frequently the key to providing high value to consumers. Several businesses have been able to seize and maintain leadership in a cutthroat market by focusing on important value drivers. For instance, Dell has prioritized customer relationship management and operational effectiveness, while Nike has tended to concentrate more on product leadership. Both companies also depend on the skills of people to help them create value in other domains. Many businesses view outsourcing as a means of acquiring "best in class" partner firms to carry out fewer proprietary business functions in today's fiercely competitive business environments. This allows them to concentrate corporate resources on critical activities further down their value chain, where the customer will be most affected. For the majority of the previous three decades, this approach has allowed businesses like Nike to seize and maintain their dominant positions in the sports footwear and clothing sector. According to a corporate CEO, outsourcing is just reorganizing the entire company around its core skills (Alrawabdeh et al., 2022; Anderson & McKenzie, 2020). Outsourcing the majority of work and focusing firm resources on areas where a unique differentiator may be developed has proven successful for several other organizations. Often, the crucial factor is to know which of the three main value drivers to concentrate on operational excellence, product leadership, or customer intimacy. (Chege et al., 2022; Susanne, 2019). Delivering value to consumers requires all three, but the organizational cultures and competencies that support them are rarely the same and frequently have divergent tendencies (Paek et al. 2019).

Through outsourcing, businesses may increase their market presence without growing their organizational footprint or adding more bureaucracy. It enables businesses to maintain the agility and speed of their startup spirit, which they would otherwise have to give up as they grow much more efficiently. At any point in a company's evolution, outsourcing is a compelling option because it offers the potential to scale up without causing a proportionate rise in organizational mass and complexity (Kabus et al., 2022).

Within the industry, subcontracting refers to a legal agreement between a primary purchasing company and a secondary subcontracted company. The subcontracted company's responsibility is to supply parts, components, sub-assemblies, and assemblies that are ordered from the purchasing company and subsequently included in a product that the primary company sells. Alternatively, the subcontracted company may process materials for the primary company, regardless of whether the primary company provides the materials, or it may process or finish parts that are supplied by the primary company (Nwokocha&Okonta, 2022; Rivera-Gómez et al., 2022). Subcontracting can be of tremendous benefit to a company. For example, it enables companies to concentrate their resources in core business areas. It reduces production costs and enables a company to be flexible and easily adjust to uncertainty in the environment. Productivity is increased. Job security for core employees is secured. Subcontracting has its dark side. It requires that legal details be Clarified. Control problems arise regarding delivery time and quality of work. It may also lead to negative reactions from employees and trade unions. Various aspects of production processes can be subcontracted. The decisions on what should be subcontracted are an operational make or buy one.

According to Rathore et al. (2023) subcontracting, in the context of industry, refers to a contractual arrangement between a primary company, also known as the purchasing company, and a secondary company, also known as the subcontracted company, whereby the subcontracted company orders parts, components, sub-assemblies, and assemblies, which are then incorporated into a product sold by the primary company; or whereby the subcontracted company processes materials for the primary company, whether or not the primary company provides the materials; or whereby the subcontracted company processes or finishes parts. The firm may retain some functions in-house rather than contract with a series of independent firms. They may do so when they perceive it to be cheaper, less risky, or easier to coordinate. As the world becomes more interconnected, many companies are increasingly becoming global players. The basis of competition is changing faster than ever before. Competition in terms of price, product quality, time to market, product life cycle, package, etc is the new basis for doing business. Consequently, many companies are "unbundling them out to reduce costs. Japan, Korea, and Indonesia have used subcontracting creditably well. (Bazin et al., 2022; Zhao & La, 2022). Collaboration strategy has an impact on whether the cost and subcontracting & outsourcing strategies applied are successful or not. Achievement of better results in business organizations is attained by giving emphasis to the adoption of measurable performance systems, leveraging creativity, and promoting openness in communication. Organizations can optimize their activity and gain sustainable competitive advantage by understanding the peculiarities of every cooperation strategy and applying different strategies to different projects and partners. Both outsourcing and subcontracting can prove to be a potent tool for growth and innovation as well, provided they are used sensibly.

Franchising and Joint Ventures

The term "franchising" refers to a business model in which independent shops receive exclusive local distribution rights from the manufacturer or exclusive distributor of a branded item or service in exchange for royalties and adhering to standard operating standards. Some individuals might feel better at ease not launching their own company, according to (Oyedijo et al. 2008). Using a franchise agreement, they would want to work for an established company. A franchisor is the company that offers the franchise. Franchisee is the one who receives. When two people work together, both the franchisor and the franchisee have a greater chance of success in business than they would have if they went it alone.

Franchising is a popular and effective method for overseeing and expanding business operations. When a company wishes to grow, it will start the franchise process by granting independent franchisees licenses so they may use the franchisor's name to do business. (Hrishabh Anand, 2023). Expanding storefronts, production facilities, and other venues for the sale of goods and services, promotes growth (Huang et al., 2023) Due to its advantages, businesses today employ franchising to grow internationally, resulting in the rise in popularity of international franchising in recent decades. (Hanafiah et al., 2023; Gillis et al., 2020) The success of franchising is influenced by a wide range of factors, including the franchisee's efficacy and dedication in managing their business and the communication between the franchisor and the franchisee (Wet et al., 2021 et al., 2021). The increasing trend of corporate entities opting to engage in international franchising reflects the rising success rate of franchising ventures over the past several years. The beginning of globalization, which

has given businesses new alternatives and improved their capacity to operate across national borders, and the strategic approach created by franchisees are the reasons for that success (Punjatewakupt. & Manasoonporn, 2023). A common strategy for breaking into international markets is franchising, which reduces risk by forming alliances with regional franchisees. Despite the importance of the franchisee's role in the franchise management system and several evaluations of the literature on franchisee performance carried out in recent decades, no study of the research has been done on the elements that precede franchisee performance. (Almeida, 2020; Sun & Lee, 2019). Franchising is a popular approach to entering foreign markets since it lowers risk by establishing partnerships with local franchisees. There hasn't been any research on the factors that come before franchisee performance, despite the significance of the franchisee position in the franchise management system and the numerous assessments of the literature on franchisee performance conducted in recent decades (Oamen, 2024; Ibidunni et al., 2021). Franchisees are viewed as entrepreneurs in the franchising literature when they put money into starting a firm under an established corporate or brand name (Pulka et al., 2021; Suvittawat, 2022). Recent systematic review research on the factors that contribute to the success of franchising (Prihandono et al., 2021) revealed the five clusters for franchising outcomes, including ownership structure, contract design, business format design, franchisor and franchisee behavior and interaction, and the size and age of the systems and their units. However, there were also limitations, such as disregarding the influence of general economic and commercial factors within countries and industries and focusing on general franchise system performance.

According to (Patrick et al., 2023) joint ventures can vary in terms of the closeness or cohesiveness of the relationship that is formed between the organizations. The different forms were described by Thelission on a joint venture continuum scale as follows. Loosely coupled joint ventures: This is typically an informal relationship entered into for ad hoc purposes. For example, organizations can form loosely coupled alliances to meet the specifications of a government contract. Organizations can also form loosely coupled alliances to access advanced technology that is too expensive for either company to acquire alone. A mutual service consortium in which consulting firms with various specializations work together on a client project is another good example of loosely coupled alliances. Moderately coupled Joint Venture. This requires closer relations between both companies. They like and trust each other enough that they are more open and willing to expose their weaknesses. They spend more time together not just attending meetings and conferences but attending social engagements and doing mega marketing together. More information about each other's core competencies, financial position, real reputation, real infrastructures, and political and business muscle are exchanged. The spectrum of activities which hitherto was narrow gets larger as the relationship successfully matures. The collaborations may take the shape of interactions between prime contractors and subcontractors. A minimally connected joint venture might be anything like outsourcing information technology or franchising market functions. Closely related joint venture: The time committed to the venture, the depth of the relationship, the breadth of cooperative opportunities that the two firms commit to pursue together, and each firm's willingness to be open and frank with each other, is extended beyond the moderately coupled joint venture requirements. When companies in different industries with different but complementary expertise link their capabilities to create value for end users, tightly coupled collaboration is usually required to make it work.

A considerable amount of legal paperwork is required in consummating deals in tightly coupled joint ventures. The joint venture continuum scale as described by (Patrick et al., 2023) is indeed elegant when one is confronted with the problem of categorizing for analysis. One can easily juxtapose the three points in the continuum scale with some other variables for analysis. Joint ventures according to (Schürmann et al., 2024; Rye, 2022) may succeed, but they might run into two problems. First, there is a contract, and even the greatest contracts can only capture the state of markets, technology, and costs at the time they are signed by businesses. The partners never attempt to make concessions or shift course when things go wrong, as they invariably do. After taking a glance at the contract, they begin pointing. The parent corporations' universal parenting style is the second issue that has been noted. They deny the kids breathing room and the time they require to develop. Additionally, they don't always respond well when their kids desire to grow, particularly if it takes them into territory that the parents would want to keep private. Overall, parents are often intolerant of the goals of their joint enterprises. It can be observed that franchising and joint ventures are two of the strategies where decisions can have a profound impact on returns. Under franchising a franchisee is granted a certain constitutional control over a business that makes ownership additional for costs because both parties are likely to profit. A major factor of the appeal of franchising as a strategy is the ability to penetrate the marketplace further while keeping the growing pains that come about from opening additional branches at bay since it is the franchisees who spend their resources in setting up more branches, giving additional revenue inflow to the franchise. Franchised units are approximately 7% more profitable than non-franchised units because the franchisee has a stake in the business. Franchisees, for their part, get a well-known brand, as well as operational assistance in the form of advertising, training, and operational procedures, which raises productivity and lowers costs. With the expansion of the network of franchises, the franchisor will be able to secure lower prices from suppliers, which in turn will provide their franchisees with the ability to sell their products cheaper and maximize their profit in the process. The author identifies the brand extension and the brand loyalty of the franchise owner as important aspects for ensuring profit as the former can attract potential clients and decrease the amount of time and budgetary expenditure that would otherwise be incurred in sourcing target customers for the franchise.

A joint venture is formed through the participation of two or more parties by contributing both resources acquiring shared control and distributing common risk and reward, but it is also core and hence Joint ventures can have far-reaching benefits to profitability. In joint ventures, companies combine their resources and know-how, which leads to the higher effectiveness of operations and cut costs. When companies form a Joint venture, they can reduce the total amount of financial costs for new projects or entering new markets. This makes it less risky for the companies to shift towards those new ideas, which in other cases, they might not take on their own. Thus, joint ventures may also ease the entry barriers in new territories where one of the partners possesses the necessary customer relationships or expertise leading to faster building of growth or profits than companies that do not. The outsourced components of joint ventures can forge a competitive advantage since partners in the venture would respond better to the marketing conditions and the customers' preferences. Joint ventures give leeway about operations and disposals which in turn enhances decision-making and speed of reaction to the competitive arena which stimulates creativity and creativity concerning the development of new products and services which means increased sales. Both franchising and joint ventures have come to be recognized as

channels of profitability improvement despite numerous inefficiencies associated with them. A comprehension of the individual merits of these models enables businesses to make smart choices concerning their development objectives since we all appreciate these models are going to be significant in generating profits in various sectors.

Organizational Performance

When analyzing pharmaceutical businesses, it is important to consider the intricacy and subjectivity of organizational performance. The complex nature of organizational performance is further highlighted by the unique issues and responsibilities that pharmaceutical companies face (Jin, & Fei 2023) suggesting that there are numerous theoretical and methodological challenges surrounding the definition and assessment of organizational performance, there is no agreement on what constitutes good organizational performance, organizational performance is a complex phenomenon that is challenging to understand and quantify. Alternative objectives may not have the same value to different stakeholders (Sneha et al., 2023) assert that good organizational performance can vary depending on the group of people involved or whose perspective is used, including clients or other stakeholders, the period observed, and the criteria used, among other factors. Even though there are technical challenges in defining organizational performance, like establishing comparability in the application of accounting concepts, the more fundamental issues are essentially political because they center on the importance that various stakeholders in the corporation place on different goals. The many critical analyses of the notion and its measurement tools may be explained by the fact that organizational performance is a subjective assessment of reality (Mengqiong, 2022). Since organizational performance is a subjective notion, there are now several definitions attached to it. As a result, the idea of organizational performance has become more and more prevalent in recent years, appearing in nearly every aspect of human life. Profiting during collaboration is one way to measure the evidence of effective collaboration strategy in the organization and Successful collaboration in problem solving involves tasks with high difficulty and urgency and aligning individual incentives with organizational goals.

Theoretical Framework

Stakeholder Theory

The emergence of successful Collaboration strategies in the current keenly competitive business and marketing environment cannot be over-emphasized. The phenomenon of market deregulation and globalization has caused a rise in competitiveness which has prompted manufacturers and other industry players to relook into the collaboration strategy and critically evaluate the strategies being used as well as their inability to solve the current opportunities and challenges. This study was anchored on one relevant theory namely Stakeholder Theory. Collaboration strategy is largely influenced by the interests of different stakeholders in pharmaceutical companies in Nigeria. Key players in the field include patients, healthcare providers, research institutes, government organizations, and pharmaceutical companies. Collaborations' overall efficacy and structure may be influenced by the goals and incentives of each group.

Method

This research method was quantitative, and the data collection method used primary data to conduct research at some select pharmaceutical companies in southwest, Nigeria.

The study adopted a cross-sectional survey by using questionnaire to sample 357 respondents in the pharmaceutical firms in South west Nigeria. The population comprised of 450 top management and 4350 middle level staff in the selected firms. A survey by manufacturing Association of Nigeria revealed that the selected pharmaceuticals, a manufacturing sub sector has a total of 4800 staff in the top and middle level of their staffing. The sample was determined using an online survey calculator and further confirmed by the Taro Yamane formular. The respondents were selected based on convenience as a result of the peculiarity of the pharmaceutical industry where there is perceived high degree of flexible working schedule using the shift- arrangement in most cases. As a result, the staff could not be assessed at once, making convenience sampling most appropriate for the study. The questionnaire was structured using five Likert agreement scale to elicit information from the respondents. the resulting data was analysed using multiple regression analysis. The question items were validated by professional marketers' where are working in the pharmaceutical industry. The reliability of the instruments were ensured by adapting previous study from (Mulyana&Wasitowati,2021)

Result

The descriptive statistics for various statements (as shown in the **Appendix**) related to the effectiveness of the company's strategic marketing collaboration. Each statement was rated on a scale from 1 (strongly disagree) to 5 (strongly agree), with the responses analyzed to determine the minimum, maximum, mean, and standard deviation. The statement "Our company marketing collaboration is communicated and understood throughout the organization" has a mean score of 3.92, with a standard deviation of 0.66. This suggests that, on average, respondents agree that marketing collaboration is well communicated and understood, though the relatively low standard deviation indicates a consensus among respondents. The mean score of 3.93 for "Our strategic marketing collaboration effectively integrates different departments within the organization" reflects a general agreement that the collaboration strategy successfully brings together various departments. The standard deviation of 0.71 suggests slightly more variation in responses, but overall, there is agreement.

Data Analysis

With the highest mean score of 4.40, the statement. "The strategic marketing collaboration strategy aids in effectively addressing the customer needs" indicates strong agreement among respondents that the collaboration is particularly effective in this area. The standard deviation of 0.72 shows moderate consistency in responses. The statement "The processes and systems used to facilitate marketing collaboration are efficient and user-friendly" received a mean score of 3.96, with a standard deviation of 1.07. This suggests that while respondents generally agree with this statement, there is a broader range of opinions, indicating some variability in perceptions of efficiency and user-friendliness. The mean score of 3.77 for "There is a strong culture of cooperation and teamwork within the organization, facilitated by our marketing collaboration strategy" points to a moderate agreement, but with a higher

standard deviation of 1.13, indicating diverse views among respondents regarding the strength of teamwork and cooperation. The statement "The strategic marketing collaboration has led to innovative ideas and solutions" has a mean score of 3.71 and the highest standard deviation of 1.19, suggesting that while there is some agreement, respondents have varied experiences regarding the innovation fostered by the collaboration. "The strategic marketing collaboration strategy contributes to our competitive advantage in the market" has a mean score of 3.83, with a standard deviation of 1.13. This reflects a general belief that collaboration contributes to competitive advantage, although there is some variation in the strength of this belief. The responses indicate that the company's strategic marketing collaboration is perceived positively, particularly in addressing customer needs and integrating different departments. However, there is variability in how respondents perceive the efficiency of processes, the strength of teamwork, and the impact on innovation, which suggests areas for further improvement.

Test of hypothesis

Ho: Collaboration strategy does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Sub hypothesis

Ho1: Franchising strategy does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Ho2: Outsourcing does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Ho3: Joint venture strategy does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Ho4: Sub-contracting does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Table 2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.832 ^a	.692	.689	.39748	2.219

a. Predictors: (Constant), Franchising, Outsourcing, Joint Venture, Subcontracting

b. Dependent Variable: Profitability

Table 2 provides the summary statistics for the regression model predicting **Profitability** from the predictors: **Outsourcing, Franchising, Joint Venture, and Outsourcing**. The R-value of 0.832 indicates a strong positive linear relationship between the predictors and the dependent variable, Profitability. This suggests that the predictors have a substantial impact on Profitability. The R Square value of 0.692 means that approximately 69.2% of the variance in Profitability can be explained by the combined effect of the predictors in the model. This demonstrates a good fit of the model to the data, with a significant proportion of the variance in Profitability

accounted for by the predictors. The Adjusted R Square value is slightly lower than the R Square value, at 0.689. This adjustment accounts for the number of predictors in the model and suggests that after considering the degrees of freedom, 68.9% of the variance in Profitability is explained by the predictors. This value confirms that the model remains robust even after adjusting for the number of predictors.

The standard error of 0.39748 represents the average distance that the observed values fall from the regression line. A smaller standard error indicates a better fit of the model to the data, although it is important to compare it relative to the scale of the dependent variable. The Durbin-Watson statistic assesses the presence of autocorrelation in the residuals from the regression analysis. A value around 2.2 indicates no autocorrelation. With a value of 2.219, the model does not show significant autocorrelation in the residuals, suggesting that the residuals are independent.

The regression model has a strong overall fit with an R Square of 0.692, indicating that the predictors explain a substantial portion of the variance in Profitability. The model's predictions are reasonably accurate, as indicated by the standard error, and there is no significant autocorrelation in the residuals, making the model reliable for understanding the impact of the predictors on Profitability.

Table 3 ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	124.157	4	31.039	196.465	.000 ^b
	Residual	55.138	349	.158		
	Total	179.295	353			

a. Dependent Variable: Profitability

b. Predictors: (Constant), Outsourcing, Franchising, Joint Venture and Subcontracting

Table 3 presents the ANOVA results for the regression model predicting **Profitability** from the predictors: Outsourcing, Franchising, Joint Venture, and Subcontracting. The **Sum of Squares** values partition the total variability in Profitability into components attributable to the predictors (Regression) and components due to random error or unexplained variance (Residual). The Total Sum of Squares represents the overall variance in Profitability, while the Regression and Residual values indicate how much of this variance is explained by the model versus the unexplained. Degrees of Freedom for Regression reflect the number of predictors used in the model, while Residual Degrees of Freedom account for the remaining variance after considering the predictors. The Total Degrees of Freedom is the sum of the Regression and Residual Degrees of Freedom.

The Mean Square for Regression (31.039) indicates the average amount of variance explained by each predictor. The Mean Square for Residuals (0.158) shows the average amount of unexplained variance. A high F-value (196.465) with a significance level (0.000) indicates that the model is statistically significant, meaning that at least one of the predictors significantly contributes to explaining the variance in Profitability.

The ANOVA results show that the regression model is statistically significant, with an F-value of 196.465 and a p-value of 0.000. This indicates that the predictors (Jsub contacting, Market Leadership Strategy, Outsourcing, and Franchising) collectively have a significant impact on Profitability. The model explains a substantial portion of the variance in Profitability, with the predictors accounting for a significant amount of the total variance observed.

Table 4 Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics			
Model		B	Std. Error	Beta	t	Sig.	Tolerance	
1	(Constant)	-.281	.148		-1.901	.058		
	Outsourcing	.259	.068	.224	3.807	.000	.255	3.917
	Franchising	.194	.083	.172	2.335	.020	.162	6.167
	Joint Venture	.455	.059	.383	7.689	.000	.355	2.813
	Subcontracting	.146	.092	.135	1.592	.112	.122	8.216

a. Dependent Variable: Profitability

Table 4 provides the regression coefficients for the model predicting

Profitability from the predictors: *Outsourcing*, *Franchising*, *Joint Venture*, and *Subcontracting*. The *Unstandardized Coefficients* represent the change in Profitability for a one-unit change in each predictor, holding all other predictors constant. For example, for each unit increase in *Outsourcing*, Profitability is expected to increase by 0.259, and similarly for the other predictors. The *Standardized Coefficients* indicate the relative importance of each predictor in the model. *Franchising* has the highest standardized coefficient (0.194), suggesting it has the strongest impact on Profitability among the predictors. *Joint Venture* has the smallest standardized coefficient (0.455), indicating a lesser relative impact. The *t-statistic* tests the null hypothesis that each coefficient is equal to zero. Higher t-values indicate stronger evidence against the null hypothesis. *The joint venture* has the highest t-value (7.689), suggesting it is the most statistically significant predictor of Profitability. *Subcontracting* has a t-value of 1.592, which is below the typical threshold for significance (usually $|t| > 1.96$), indicating it may not significantly contribute to the model.

The *Significance* values indicate whether each predictor's effect on Profitability is statistically significant. Predictors with p-values less than 0.05 are considered significant. Both *Outsourcing* (0.000) and *Joint venture* (0.000) are highly significant, while *Franchising* (0.020) is also significant but less so. *Sub-contacting* (0.112) does not reach the conventional significance level, suggesting its effect on Profitability may not be statistically significant.

The regression results show that *Joint venture* and *Outsourcing* are the most significant predictors of Profitability, with both having strong positive impacts. *Franchising* also has a significant effect, though to a lesser degree, while *Sub*

contacting does not appear to be a significant predictor of Profitability. The model overall suggests that effective strategies in market leadership and collaboration are crucial for enhancing profitability, while product distribution has a notable but less pronounced effect.

H01: Collaboration Strategy and Profitability

H0: Collaboration strategy does not have a significant effect on the profitability of pharmaceutical companies in Nigeria.

H1: Collaboration strategy does have a significant effect on the profitability of pharmaceutical companies in Nigeria.

Decision Rule: To determine whether the collaboration strategy significantly affects profitability, we first examine the p-value associated with the coefficient for Collaboration Strategy from the regression analysis. If this p-value is less than 0.05, we reject the null hypothesis (H0), indicating that Collaboration Strategy has a significant effect on profitability. Conversely, if the p-value is 0.05 or higher, we fail to reject H0, suggesting that there is insufficient evidence to support a significant effect of the Collaboration Strategy on profitability.

Discussions

The results of the study show that *Joint venture* and *Outsourcing* are the most significant predictors of Profitability, with both having strong positive impacts while *Franchising* also has a significant effect, though to a lesser degree. *Subcontracting* does not appear to be a significant predictor of Profitability. The model overall suggests that effective strategies in market leadership and collaboration are crucial for enhancing profitability, while product distribution has a notable but less pronounced effect. The findings of this study demonstrate that a collaborative approach has a substantial positive link with pharmaceutical performance in southwest Nigeria.

Conclusion

The findings from the research indicate a significant positive relationship between collaboration and pharmaceutical Performance. This suggests that adopting a collaboration strategy can enhance business performance and how pharmaceutical companies in south west could address challenges, allows pharmaceutical companies to leverage shared knowledge and resources effectively. The study also that collaborative relationships with suppliers and other partners lead to improved profitability. By working together, companies can achieve greater efficiencies and better respond to market demands, ultimately enhancing their competitive advantage. Pharmaceutical companies are encouraged to implement collaboration as a core strategy to improve profitability, enhance sustainability, and effectively tackle organizational challenges in south west and Nigeria as whole.

Recommendation

The study aims to investigate how Collaboration statutory affects pharmaceutical performance. The finding established that collaboration strategy, and dimensions,

have a positive impact on the performance of pharmaceutical companies. This result shows a significant relationship between the dimensions and from the findings of the study, it has been established that the four dimensions (franchising, joint venture, outsourcing, and subcontracting) are crucial to the performance of pharmaceuticals in South-west, Nigeria.

Therefore, the study concludes that collaboration strategy is very crucial to pharmaceutical performance in south-west, Nigeria and should be given adequate attention. Pharmaceuticals should invest more in a franchising and joint venture strategy given the improvement in performance through an improvement in sales. Similarly, pharmaceutical companies in the south-west should give more importance to franchising and joint venture strategy to enhance their performance since it has a significant positive relationship with pharmaceutical performance. Given the significant relationship between outsourcing and subcontracting and the performance of pharmaceutical companies in the south-west should invest more in its usage as a way of boosting profiting.

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Appendix

Descriptive Statistics of Outsourcing

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Our company marketing collaboration is communicated and understood throughout the organization	357	1.00	5.00	3.9188	.66333
Our strategic marketing collaboration effectively integrates different departments within the organization	357	1.00	5.00	3.9272	.70732
The strategic marketing collaboration strategy aids in effectively addressing customer needs.	357	1.00	5.00	4.3978	.71798
The processes and systems used to facilitate marketing collaboration are efficient and user-friendly.	357	1.00	5.00	3.9608	1.07245
There is a strong culture of cooperation and teamwork within the organization, facilitated by our marketing collaboration strategy	357	1.00	5.00	3.7731	1.13006
The strategic marketing collaboration has led to innovative ideas and solutions	357	1.00	5.00	3.7059	1.19234
The strategic marketing collaboration strategy contributes to our competitive advantage in the market.	357	1.00	5.00	3.8319	1.13414
Valid N (listwise)	357				