



STRATEGIC THINKING AND COMPETITIVE ADVANTAGE: EVIDENCE FROM THE NIGERIAN PHARMACEUTICAL INDUSTRY

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ABSTRACT: *The focus of this study is on strategic thinking and competitive advantage in the Nigerian pharmaceutical industry. Competition is now based on knowledge, technology and the ability to serve customers fast and repeatedly. These are functions of strategic thinking in an organisation. We disaggregated strategic thinking into systems thinking, reflective thinking and creative thinking to ascertain their level of impact on the competitive advantage of firms in the pharmaceutical industry. Using data obtained from 91 employees drawn from three pharmaceutical companies in Nigeria, we adopted the Principal Component Analysis (PCA) technique in analysing the data. The analysis found significant effects of systems and creative thinking on the competitive advantage of pharmaceutical firms in Nigeria. In contrast, reflective thinking was not a significant component of the firm's competitive advantage. The extraction effects of the components revealed that encouragement of individual employees through seeking their ideas on key decisions, leaders being part of the feedback process in the organisation, participative discussions and enhancement of practical skills of employees accounted for high variance in the firm's strategic thinking and competitive advantage. The study concluded that companies in the Nigerian pharmaceutical industry have more attachment to systems thinking and creative thinking than reflective thinking. Part of the recommendations was adopting the strategic thinking process of plan, act, observe, reflect and plan again to enhance their competitive advantage in the pharmaceutical industry.*

KEYWORDS: Creative thinking, Strategic thinking, Systems thinking, Pharmaceutical industry, Nigeria



INTRODUCTION

Organisations in the contemporary business environment depend on employees' knowledge, experience and creative activity in order to thrive. They are required to engage in continuous learning, research and development (Hana, 2013). In this dynamic world of technological advancement and globalisation, successful companies understand that if their firm is to gain a competitive advantage, they need to find new ways to increase profits and reach new customers. It has been found that a firm can outperform and out-distance its rivals and achieve competitive advantage by delivering greater value to customers (Baloch et al., 2009). One key aspect of this greater value delivery to customers is by engaging in strategic thinking.

Strategic thinking provides executives with the ability to develop a focused vision that allows them to think with strategic purpose. With such skills, management can clearly formulate strategic objectives and action plans to achieve the objectives (Alhawamdeh & Alsmairat, 2019). According to Mohammed, Rashid & Tahir (2017), strategic thinking skills usually create a dynamic situation at both organisational and individual levels. This normally leads to the formation of core requirements for the achievement of corporate competitive advantage (Stanley, 2012). Strategic thinking has been described as an innovative, creative and right-brained process that encourages an open exchange of ideas and solutions to meet the dynamic and often unpredictable challenges faced in today's economy (Haycock et al., 2012).

The global pharmaceutical market is expected to experience strong growth in the next few years, estimated to be up to \$231 billion (Ahmed, 2021). In Nigeria, forecasts by industry experts reveal that drug manufacturing will tend towards a negative trend in the post-COVID-19 period. As of the year 2022, the pharmaceutical sub-sector has contributed a paltry ₦4.7 trillion to Nigeria's manufacturing sector output, which translates to 9 per cent (CBN, 2022). Many key areas need to be addressed in the Nigerian pharmaceutical industry, and these are products of effective strategic thinking.

Statement of the Problem

Today's pharmaceutical industry is one of the most highly innovative, with high technological adoption. Distributors in the industry provide sales and marketing services that help them sell to customers they could not reach with their resources. Distributors may operate their marketing strategy, but competitors and the changing market conditions are among the external factors that can change the fortunes of a pharmaceutical firm. Thus, a company planning for industry-leading and long-term growth must be active in their plan of action by improving its strategic value to key suppliers and outperforming its competition. According to Baloch (2022), competition is now based on knowledge, technology and ability to serve customers fast and repeatedly. We ask the pertinent questions: How has the pharmaceutical industry in Nigeria responded to increasing competition for their products? Do they effectively apply strategic thinking skills to outwit their competitive rivals? This forms the fundamental problems and questions to which this study intends to provide solutions and answers.

Again, it appears that managers in many pharmaceutical firms in Nigeria today are used to working in an analogous old style (Ahmed, 2021). The production culture is mostly the same, and they operate in an increasingly unchanging environment. Can we rightly say that the industry operates without the input of strategic thinkers? Or that the employees are not allowed to engage in strategic thinking on behalf of the organisations? A key problem encountered in



the study of strategic thinking in the Nigerian pharmaceutical industry is the clear paucity of literature and empirical studies in this area. This could potentially diminish efforts at reshaping the pharmaceutical industry for competitive efficiency. There is a need to engage in a detailed study such as this to effectively highlight major areas of strategic thinking in line with modern trends where the pharmaceutical industry can key in gaining competitive advantage within the dynamic business environment in Nigeria.

Objectives of the Study

The main objective of this study is to analyse strategic thinking and how it has affected the pharmaceutical industry in Nigeria. Specifically, this study intends to:

- i. Determine the effect of systems thinking on the competitive advantage of pharmaceutical firms in Nigeria;
- ii. Investigate the effect of reflective thinking on the competitive advantage of pharmaceutical firms in Nigeria;
- iii. Analyse other components of strategic thinking, such as creativity, vision, and practical thinking and how they affect the competitive advantage of firms in the Nigerian pharmaceutical industry.

We tested three hypotheses at a 5% significance level in line with the specific objectives. The hypotheses are stated in their null forms as follows.

H₀₁: Systems thinking has no significant effect on the competitive advantage of pharmaceutical firms in Nigeria.

H₀₂: Reflective thinking has not significantly affected the competitive advantage of pharmaceutical firms in Nigeria;

H₀₃: There is no significant effect of creative thinking (vision, practicality, ideal, etc.) on the competitive advantage of pharmaceutical firms in Nigeria.

REVIEW OF RELATED LITERATURE

Strategic Thinking

As it relates to firms, strategic thinking entails taking part in deep logical thought for an organisation's future (Adani et al., 2021). It engages in strategic planning, alignment and realignment with the future as the focal point. Engaging in strategic thinking means going beyond the daily requirements of an organisation; it is futuristic in nature. It requires managers to think beyond routine procedures to concentrate on intended long-term strategic business purposes (Kiaei, 2016). It is a process through which businesses learn how to define perspective by applying teamwork, critical thinking and continuous improvement (Kiaei et al., 2016).



Yashar, Vahideh and Taghi (2018) defined strategic thinking as generating and applying distinctive business ideas and opportunities intended to create a competitive advantage for a business. Managers who can successfully deploy the art of strategic thinking skills can formulate a focused strategic vision, which is necessary for improved organisational performance (Al-Qatamin & Esam, 2018). Accordingly, Horwath (2023) sees strategic thinking as the generation and application of business insights continually to achieve competitive advantage.

Goldsmith (2013) defined strategic thinking as a process that aims to improve organisational functioning through smart decision-making. Strategic thinking as a concept is usually relayed to innovative approaches. This process requires managerial thought beyond day-to-day operational thinking that aligns with the organisation's strategic objectives. Strategic thinking is usually comprised of several activities such as data corrections, analysis and exchange of thoughts about an issue in a structured way that leads to acquiring correct answers to specific issues. Strategic thinking is a process that embeds how people think and rethink, evaluate, view, and conduct the future for themselves and others. Strategic thinking is an extremely effective and valuable tool.

One can apply strategic thinking to arrive at decisions that can be related to work or personal life. Strategic thinking involves developing an entire set of critical cognitive and analytical skills. An executive with strategic-thinking skills has the ability to use the left (logical) and right (creative) sides of their brain. This skill can be significantly valuable for the strategy-making process. Moreover, executives with strategic thinking skills usually have the ability to formulate a clearly focused strategic vision. They have sharp skills at thinking with a strategic purpose and formulating a visioning process. They enjoy both skills, and they utilise them in an integrative approach.

Executives with strategic-thinking skills have good business ethics, and they develop the ability to define their objectives in a focused way and initiate action plans with exact resources to produce high-quality output (Ibobo, 2021). Executives with strategic thinking skills can inject strategic flexibility into their strategy by creating a benchmarking system for the evaluation and control process. Strategic thinking is considered a vital business process because it strengthens the overall organisational performance management and effectiveness.

According to Horwath (2023), strategic thinking can be differentiated from strategic planning because strategic planning is channelling business insights into an action plan to achieve goals and objectives. A critical distinction between strategic thinking and strategic planning is that the former occurs regularly as part of our daily activities. In contrast, the latter occurs periodically (quarterly, semi-annually or annually). Unlike the additional work created by strategic planning, we can understand strategic thinking as using a new lens to view the business. It's not about adding more work. It's about enhancing the view of the work and improving one's ability to perform it.



Reflective Thinking

Reflecting refers to the ability of a leader to integrate logical and rational thinking processes together using experience, perception and information to make sound judgments about a certain state of affairs, then initiate a concept that guides what would happen at present and help guide the future perspective (Pisapia, 2009). Reflection is a cognitive skill that involves careful consideration of any belief or practice that promotes understanding of situations and then applies the newly gained knowledge to these situations. It relies on subjecting evidence, perceptions, and experience to critical scrutiny but suspending critical judgment to make sense and meaning of situations before weaving the thinking into a theory of practice.

By reflecting on successes and failures, leaders begin to unpack the assumptions and values beneath rules, regulations, and skills in work and everyday life. This constant effort of reevaluation and interpretation is integral to how leaders make sense of situations. Even though the leader is without all the information needed, using reflection will offer the best possible options for action and prediction. Senge (1990) used the three types of reflection when he describes professional practice based on reflective thinking in terms of levels.

The first level is technical reflection, which is concerned with examining the efficiency and the effectiveness of means to achieve certain ends. The second level, practical reflection, involves examining both the means and the ends, questioning the assumptions and the actual outcomes. The third level is critical reflection, which considers the moral and ethical issues of social compassion and justice along with the means and the ends. Encompassing the first two levels of the three types, critical reflection is the most necessary for transforming oneself and one's organisation.

In reflection, one uses perceptions, experience, and information to judge what has happened in the past and is happening in the present to help guide their future actions. Someone with this ability could understand the past, present, and perhaps the future by recognising why certain choices worked and others did not. They would be willing to question their assumptions and test whether their behaviours result in desired outcomes. Ahmed & Ayat (2018) affirmed that reflection enables one to use perceptions, experiences, and knowledge to understand situations, how to think about them and inform action.

System Thinking

System thinking refers to the ability of an executive to observe systems comprehensively and interactively by understanding the inner function ability and interrelationships that interact to create patterns of behaviours which help generate sound strategic options. That holistic, capable mind can define the entire situation and break it down into manageable parts to facilitate identifying suitable solutions (Pisapia, 2009).

Systems thinking requires that the leader understands that he or she is part of a feedback process, not standing apart from one (Ahmed & Ayat, 2018). This understanding represents a profound shift in awareness that connectivity between members of organisations influences how a system works.



The perspective gained from looking at feedback in this way ‘suggests that everyone shares responsibility for problems generated by a system’ (Senge, 1990). This feedback perspective becomes especially significant when leading organisations. Organisations are always involved in skills that determine their output and direction. Senge (1990) recommends that to understand a balancing feedback process; the systems thinker must ‘start at the gap – the discrepancy between what is desired and what exists... then look at the actions being taken to correct the gap’. The leader must then translate the understanding into action. Senge (1990) emphasises that the ‘bottom line of systems thinking is leverage – seeing where actions and structure changes can lead to significant, enduring improvements.

Systems thinking in this paper refers to leaders’ ability to see systems holistically by understanding the properties, forces, patterns, and interrelationships that shape the systems’ behaviours that provide options for actions. This definition requires that leaders think holistically, defining the entire problem by extracting patterns in the information one collects before breaking the problem into parts Ahmed and Ayat (2018). This capability enables someone to understand how facts relate to each other. It also enables them to seek the cause of demand for products or services that their organisation produces before taking action to meet the demand and seek feedback to help individuals and the organisation self-correct.

Strategic Thinking and Competitive Advantage

Competitive advantage is a strategic thinking foundation (Young, 2016). Integration of strategic thinking into the decision approach has been considered essential for achieving competitive advantage (Bryson, 2018; Khan, 2016). Strategic thinking helps managers develop a clear vision for the firm, solve problems creatively, and react to external changes. Strategic thinking aids employees in gathering and understanding information from the external environment (Gross, 2017). Eisenhardt and Zbaracki (1992) had earlier identified strategic thinking as central among other strategic process issues that could change the course of the firm. In the present business ecosystem, to create, format and use opportunities, it is imperative to combine entrepreneurial insights with strategic thinking (Benito-Ostolaza & Sanchis-Llopis, 2014). Again, strategic orientation has been found to be a key intervening factor in an employee’s strategic thinking. Strategic orientation’s impact helps a company get a competitive advantage (Ibobo & Nzewi, 2020). By inculcating core business ethics, employees develop their thinking skills, and competitive advantage is assured (Ibobo, 2019).

With the business environment being more unpredictable, strategic thinking is becoming more and more relevant as the leadership approach in an organisation (Stoyanova, 2018). Strategic thinking is among the most sought-after skills needed by managers. The absence of understanding and application of strategic thinking is found to be a block in a business’s performance. Therefore, the current academicians and practitioners are focusing more on the application area of strategic thinking in areas such as the productive sector, and the pharmaceutical industry is one key industry of focus in this study.



Theoretical Review

Learning Organization Theory:

Senge (1990) developed the learning organisation theory and identified five key characteristics of the learning organisation, including systems thinking, personal mastery, mental models, building shared visions and team learning. The theory states that a learning organisation does away with the notion that only senior management can do all the thinking for an entire corporation (Senge, 1990). Learning organisations expect all firm members to tap into their inner resources and potential, believing strongly that they can build their own community based on principles of liberty, humanity, and a collective will to learn. Thus, learning organisations embrace change and constantly create reference points to create an ever-evolving structure with a built-in vision of the future.

Torlak (2004) developed a wide-range understanding of how learning organisations can be created to follow the learning organisations theory. The conclusion was that a learning organisation is not only a system that purposefully designs and constitutes its structure, culture, and strategy that allow explorative and exploitative learning but also one that pays attention to its members' cognitive biases or mindsets. This is what is considered personal mastery by Senge (1990).

In the study of strategic thinking and competitive advantage, we see many aspects of strategic thinking, such as innovation and creativity, knowledge, teamwork and collaboration, and grouped into systems thinking and reflective thinking. Borrowing a lot from learning organisation theory, systems thinking, and reflective thinking upholds the fact that managers recognise the existence of various layers of employees and engage them in the decision-making process, thus bringing out innovative ideas that boost the competitive advantage of firms.

Competitive Advantage Theory

Porter (1998) defined a competitive strategy as the process by which firms take defensive or offensive strategies and actions to create a position in the industry that they can defend in order to gain a superior position and returns that can be able to cope with the five forces which threaten their positions. If the actions can be sustained over a period of time and continue to earn superior positions and returns, then they are called sustainable competitive advantages. This kind of advantage is of the form that is more desirable to all firms. Competitive advantage is achieved when a firm offers comparable buyer value at a lower cost efficiently than the competitors.

As earlier noted, competitive advantage as it relates to organisations is the edge a firm has over competing firms. It is that which stands one firm above the other—that which will make a customer patronise one firm instead of others. Christensen (2001) indicates that a firm has a competitive advantage when it has the means to edge out rivals when competing for the favour of customers. Organisations can create a competitive advantage over other firms in various ways, but strategic thinking is a core construct in the dynamics of competitive advantage building.



Empirical Review

We kick-start the review of empirical studies by discussing the work of Vargas-Hernández and Sánchez (2014) who studied strategic thinking as a critical factor of business competitiveness. The study adopted the relationship model and concluded that strategic thinking is a factor to bear in mind when analysing the competitive forces. The evaluation of resources and capabilities of the company through outlook or substantial areas of the company allows or contributes to adequately selecting generic strategies or designing specific strategies. These strategies are of greater impact and lead the company from the current situation to the desired situation. Njogu (2014), on the influence of strategic thinking on competitive advantage among tech start-ups in Nairobi County, Kenya, found that creative thinking has the highest significance regarding the competitive advantage of a tech startup.

Baloch (2022) studied strategic thinking as a catalyst for competitive advantage in firms. The study was more of a discussion paper and was not empirical in that the author discussed the strategic thinking process and its criteria while identifying the strategic planning tools. The study concluded that without comprehensive strategic thinking, the organisation risks making quick decisions that lack the creativity and insights derived through a Strategic Thinking process. They stressed that the goal of strategic thinking is to out-think, out-plan and out-manuever other forces or competitors.

Dixit and Dhir (2021) studied the antecedents of strategic thinking and its relationship with competitive advantage in India. They used a self-reported questionnaire with 51 questions and sampled 220 professionals from various industries in India. Using the partial least squares structural equation modelling methodology, they found that the direct effects of creativity, corporate culture and knowledge management are established with strategic thinking and competitive advantage. Also, the study found a significant relationship between strategic thinking and competitive advantage. The study also revealed no mediation (direct effect) in the case of creativity, corporate culture and knowledge management and no mediation was found in the case of vision.

A more direct study was carried out by Adani, Onyekwelu and Dibua (2021) on the topic of strategic thinking and the competitive advantage of SMEs in South-East Nigeria. Using a sample of 172 selected SMEs in Anambra and Abia States, they used Pearson's Product Moment Correlation Coefficient to analyse the data. The findings revealed that a statistically significant relationship exists between innovative thinking and value creation of SMEs in South-East Nigeria. They concluded that the continuous existence of firms in a changing business environment requires more than having resources of whatever kind; it transcends owning finance, equipment or even personnel.

Al-Qatamin and Esam (2018) researched the effect of strategic thinking skills on the dimensions of competitive advantage in the banking sector of Jordan. Data was collected using the Strategic Thinking Questionnaire (STQ). Four models to capture the effect of each strategic thinking skill on each dimension of competitive advantage were developed and tested through several hypotheses using multiple regression analysis as a tool for data analysis and hypotheses testing. The result from the test revealed that reflecting as a strategic thinking skill has a significant effect on all dimensions of competitive advantage in all models. On the other hand, the remaining two (system thinking and reframing) skills of strategic thinking failed to show any significant effect on competitive advantage in all models tested in this research.



Yashar, Vahideh and Taghi (2018) identified the impact of managers' strategic thinking on organisational success in Iran. The tool for data collection was a researcher-made questionnaire set based on the defined hypotheses and previous research. The population of the study were graduates and graduate students of management in Iran, and analysis was done using PLS, and the technique used for analysis was SEM. Findings from the analysis indicated a positive and significant correlation between managers' strategic thinking and organisational success.

Emereole, Okafor and Emerole (2019) examined the effect of strategic thinking on organisational performance, using MTN Nigeria in Abia State as a case study. They used a survey research design, with a sample size of 80 respondents comprising senior and junior staff of the studied firm. Data analysis was conducted using the Chi-square test. The result indicated a significant relationship between strategic planning and organisation effectiveness. The study, therefore, concluded that strategic leadership significantly affects organisational performance.

Oluoch (2017) found that strategic planning as an important prerequisite for strategic thinking practice provide Safaricom, a Kenyan based company, with general direction to a company in specific area of focus such as human resource competencies, marketing plans, adoption and application of information technology, internal development strategies, and use of company's resources that determine long-term growth path of the company. The study concluded that the company has utilized the immense power of strategic thinking which have led to the acquisition of largest market share, increased profitability, greater goodwill from the population and achieving competitive advantage compared to rivals in the market.

Piórkowska et al. (2020) explored the strategic thinking concept by searching for differences within the population of strategic thinkers to contribute to developing the "strategic thinking" concept. They did a systematic literature review and biographical studies. They identified several features that can be seen as differentiating factors among the population of strategic thinkers: attitude to change and acceptance of uncertainty, information processing and decision-making style, perception of environmental hostility, and reliance on data.

More recently, Alhosseiny (2023) analysed the impact of strategic planning, strategic thinking, and strategic agility on competitive advantage in Indian firms. Their literature survey found that strategic planning, strategic thinking and strategic agility are interrelated and interconnected variables that impact the organisation's competitive advantage.

Evidently, previous studies have dwelt more on strategic thinking as an aggregate, while other studies added value creation and strategic planning as part of the strategic thinking variables. Little or no literature focused on the core aspects of strategic thinking: systems thinking and reflective thinking. Systems thinking stems from the systems theory, while reflective thinking is a contemporaneous concept which has been classified as a cognitive skill that involves careful consideration of any belief or practice that promotes understanding of situations and then applies the newly gained knowledge to these situations. The disaggregation of strategic thinking into these two categories is intended to widen the variable scope of a study of this nature and fill the existing gap in this area of knowledge related to Nigeria.



METHODOLOGY

The adoption of the cross-sectional survey design is justified in this study because of the ease of obtaining data from a diverse or wide range of respondents on a research theme (Mark et al., 2009). The cross-sectional design is descriptive because it studies the attitudes and actions of individuals within a period of time and represents those using descriptive statistics. In identifying an appropriate population for the study, we considered all the pharmaceutical firms listed on the Nigerian Stock Exchange. However, due to proximity and availability of personnel to respond to our questionnaire, we chose three pharmaceutical firms viz: GlaxoSmithKline Nigeria Plc, Afrik Pharmaceuticals and Evans Medicals.

These pharmaceutical firms have a total workforce of 1060 employees (see Table 1 in Appendix). Using the Taro Yamane formula, the calculated sample size was 91. So we distributed the sample size proportionately amongst the three pharmaceutical firms (See Appendix 1) organisationalcher collected the data thorganisationalured questionnaires. The instrument asks questions about the strategic thinking skills of the company employees and their application. The questions are scaled on a 4-point Likert ranging from 1- Strongly Disagree, 2 – Disagree, 3 – Agree, 4- Strongly Agree. Data are analysed using the Principal Component Analysis (PCA). The PCA is a form of structural equation model (SEM) that allows testing of a priori hypotheses about the causality among variables. The model is stated thus:

$$Z^1 = \phi^1 X^1 + \phi^2 X^2 + \phi^3 X^3 + \dots + \phi^p X^p \quad \text{Equ (1)}$$

Where Z^1 is the first principal component. ϕ^p is the loading vector comprising loadings ($\phi^1, \phi^2 \dots$) of the first principal component. The loadings are constrained to a sum of squares equals to 1. The “eigenvalue > 1” rule is adopted, and the rule states that any question item that has an eigenvalue greater than 1 will be retained while the rest will not be retained (Holland, 2021). This is because a large magnitude of loadings may lead to a large variance. $X^1 \dots X^p$ are normalised predictors with mean values equal to zero and standard deviations equal to one. We compute the second principal component in a similar way as well as the third and so on. Thus, we extract any component that has an Eigenvalue greater than one based on the decision rule for PCA.

The SPSS software helps compute the covariance matrix's eigenvalues to identify the principal components. The hypothesis was tested using the KMO and Bartlett's test of sphericity. This test is carried out to detect the strength of the partial correlation between variables, i.e., how the factors in a model explain each other. KMO values always range from 0 to 1, and a KMO value that is closer to 1 indicates an ideal correlation, while KMO values less than 0.5 are not adequate (Jaadi, 2021). In addition, the null hypothesis of the existence of an identity correlation matrix amongst the variables is rejected if the probability value is less than 0.05; otherwise, we accept the null hypothesis.



RESULTS

Table 1: Strategic thinking skills

Code	Question items	Mean \bar{X}	Initial Eigen values	% of variance	Extra ction	KMO stat.	p-value
System Thinking (ST)							
i. T1	The company encourages individual employees to be part of the decision-making.	3.23	1.119	38.944	0.699	5.466	0.002* the the
ii. T2	Our ideas are sought before the company makes a critical decision.	2.54	1.103	41.594	0.661		
iii. T3	The leader understands that he/she is part of the feedback process	3.55	1.077	11.25	0.528		
Reflective Thinking (RT)							
v. T1	We think about our experiences and learning before embarking on new projects.	2.13	0.974	-	0.388	1.978	0.084
vi. T2	Practical demonstration of where we have failed in the past helps us to do much better.	2.30	0.919	-	0.544		
vii. T3	The company helps us to take a bigger picture of our accomplishments and note down their consequences.	1.84	0.809	-	0.478		
Creative Thinking (CT)							
ix. T1	Employees are encouraged to actualise the company's vision through participative discussions.	3.44	3.592	25.916	0.291	27.874	0.000*
x. T2	Practical skills are enhanced by promoting employees who demonstrate hands-on expertise.	3.46	2.233	22.330	0.600		
xi. T3	Ideal innovations are welcome in the company.	1.77	0.141	-	0.334		

Source: SPSS computation using field data

The respondents' opinions on system thinking skills in their organisations are summarised using the mean values. The mean values for the question item with code ST1 (mean = 3.23), ST2 (mean = 2.54, and ST3 (mean = 3.55) are greater than the 2.5 criterion mean. Also, CT1 and CT2 have mean values of 3.44 and 3.46, respectively. This implies that the respondents agreed to the respective questions that the company encourages individuals in decision-making, seeks



ideas and is also part of the feedback process. They also agreed that employees are encouraged to actualise the company's vision and enhance their practical skills.

The commonalities show the extraction effects and the percentage variance of the components extracted. Three components were extracted from the system thinking skills based on the Eigenvalue > 1 rule. What this entails is that based on the pattern of responses to the questions, the organisations studied encouraged system thinking where the leaders think holistically and understand that they are part of the feedback process in the organisation. The above assertion is evident in the Eigenvalues of 1.119, 1.103 and 1.077, respectively. The three-component solution for system thinking accounted for 38.94%, 41.59% and 11.25% of the variance in strategic thinking and competitive advantage. However, no component was extracted for reflective thinking since none of the Eigenvalues were greater than 1.

Creative thinking has two components extracted, having Eigenvalues of 3.59 and 2.23. This means that employees' actualisation of the company's vision through participative discussions and enhancement of their practical skills are being upheld in pharmaceutical firms. About 25.92% and 22.33% of the variance in strategic thinking are being explained by creative thinking skills.

Hypothesis One:

H₀₁: Systems thinking has no significant effect on the competitive advantage of pharmaceutical firms in Nigeria.

KMO-statistic = 5.466; *p-value* = 0.002

Decision: Based on the KMO and Bartlett's test, the probability value is less than 0.05 critical value, i.e. $0.002 < 0.05$. This implies that the selected components are very significant at the 5% level. We can now conclude from the significance test that systems thinking has significantly affected the competitive advantage of pharmaceutical firms in Nigeria.

Hypothesis Two:

H₀₂: Reflective thinking has not significantly affected competitive advantage of pharmaceutical firms in Nigeria;

KMO-statistic = 1.978; *p-value* = 0.084

Decision: Since the probability value of the KMO statistic is greater than 0.05 critical value, we accept the null hypothesis and conclude that reflective thinking has not significantly affected competitive advantage of pharmaceutical firms in Nigeria.

Hypothesis Three:

H₀₃: There is no significant effect of creative thinking (vision, practicality, ideal etc.) on competitive advantage of pharmaceutical firms in Nigeria.

KMO-statistic = 27.874; *p-value* = 0.000

Decision: Since the *p-value* of the KMO statistic is less than 0.05 critical value, we reject the null hypothesis and conclude that there is a significant effect of creative thinking (vision, practicality, ideal, etc.) on the competitive advantage of pharmaceutical firms in Nigeria.



DISCUSSION

Strategic thinking skill was disaggregated into systems thinking, reflective thinking and creative thinking. Reflective thinking skills entail reflecting and developing theories of practice which guide actions, while system thinking involves thinking more holistically. Creative thinking centres on the employees' perspective and how they put their heads individually or collectively to find ways of solving problems that concern the organisation. These strategic thinking skills aid leaders/managers in seeing events and problems in terms of concepts, which are useful ways of thinking effectively about problems (Ahmed & Ayat, 2018). Fluency in multiple frames is a basic skill for postmodern leaders, and it is critical for them to make their dominant frames explicit and to widen their frame range. When these three strategic thinking skills were subjected to the respondents' opinion, the majority strongly agreed that the activities of their top management staff encourage system and creative thinking but that their company leaders hardly practice reflective thinking. The respondents further opined that their company do not engage in critical and technical reflective thinking.

Encouraging individuals to participate in the decision-making process is one key way of practising system thinking. Seeking employees' ideas and opinions can drive an organisation to greater heights, according to Dixit and Dhir (2021). Gaining a competitive advantage, especially in the pharmaceutical industry in Nigeria, requires the input of employees, and the analysis has shown that the firm's studies have system thinking in place. However, the adoption of reflective thinking appears to be missing, as the analysis revealed that reflective thinking has not significantly affected the competitive advantage of pharmaceutical firms in Nigeria.

Baloch (2022) held that without comprehensive strategic thinking, the organisation risks making quick decisions that lack the creativity and insights derived through a strategic thinking process. They further held that the goal of strategic thinking is to out-think, out-plan and out-manoeuvre other forces or competitors. However, this is clearly not for the pharmaceutical firms studied as they do not think about their experiences and learning before embarking on new projects, no practical demonstration of areas of failure, etc. Reflective thinking involves thinking about what had failed in the past and new ways of solving the company's problems (Adani et al., 2021). According to Alhosseiny (2023), strategic planning, strategic thinking and competitive advantage are all interrelated and interconnected, and anyone not present in an organisation's decision-making process can lead to the company's failure.

There was a significant effect of creative thinking (vision, practicality, ideal, etc.) on the competitive advantage of pharmaceutical firms in Nigeria. The quality of information at the disposal of the company leaders goes a very long way in determining the direction of their strategic thinking skills. This enables the company to gain a direct competitive advantage in the long run. Participative discussions, practical skills and ideal innovative ideas are being promoted in the pharmaceutical industry. Njogu (2014) noted that creative thinking has the highest significance regarding a company's competitive advantage in its early stages of development. Enhancing creative thinking is thus one vital ingredient of gaining a competitive advantage, especially in Nigeria's pharmaceutical industry, which is increasingly competing with foreign influx.



CONCLUSION AND RECOMMENDATIONS

Strategic thinking has been conceptualised as an innovative, creative and right-brained process that encourages an open exchange of ideas and solutions to meet today's economy's dynamic and often unpredictable challenges faced in today's economy. Strategic thinking should not be misconstrued with strategic planning because strategic thinking occurs regularly as part of the daily activities of an organisation's employees. This is the deal breaker for gaining a competitive advantage because companies compete at every given interval, and any company with a competitive edge does so through effective thinking skills. Having analysed strategic thinking from three perspectives, i.e. systems thinking, reflective thinking and creative thinking, we can conclude that companies in the Nigerian pharmaceutical industry have more attachment to systems thinking and creative thinking than reflective thinking.

Perhaps this may be why most pharmaceutical firms fail to learn from past mistakes because reflective thinking talks about appreciating past failures and devising new ideas to solve these past failures. However, these organisations have shown keen interest in their employees being part of the whole system by engaging them in decision-making and encouraging them to actualise the company's vision through participative discussions. In order to enhance reflective thinking and further improve the strategic thinking skills of pharmaceutical firms in Nigeria, and enable them to gain increased competitive advantage in the industry, we recommend as follows: Identifying the strengths and weaknesses of any decision taken in the company is one sure way of improving future actions. This is one reflective thinking skill that must be practised in every firm.

Pharmaceutical companies should look back at the experiences, feelings, ideas and outcomes of their management and staff concerning their business strategies and business plans for every month before embarking on new projects. They should limit the frequency of their strategic planning to monthly to improve their competitive advantage effectively. Pharmaceutical companies should adopt the process of planning, acting, observing, reflecting and planning again to enhance their competitive advantage in the industry. They should ensure continuous application of systems and creative thinking with some level of application of practical reflective thinking to maintain a competitive edge in the industry.

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