

Influence of knowledge management enablers and processes on a sustainable manufacturing performance in Nigeria

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ABSTRACT

The research objective is to investigate the impact of knowledge management (KM) enablers and processes on the performance of Nigeria's manufacturing sector. The poor performance in Nigeria's public and private sectors has been linked to insufficient or non-existent KM implementation methods. Survey questionnaires were distributed to the members of Manufacturing Association of Nigeria. Of the 500 survey questionnaires distributed, 424 were returned correctly completed representing about 84% response rate. The data was analyzed using descriptive statistics and multi-regression analysis. The results show that KM enablers variables (management leadership, information technology, infrastructure, and organizational culture) and KM process variables significantly contribute to manufacturing performance except for knowledge application. The research adds to the general knowledge by shedding more light on the impact of KM enablers and processes for sustainable manufacturing from an African perspective. Also, it provides academic support for investing more resources in sustainable KM-based manufacturing in Nigeria.

Keywords: knowledge management, enablers, processes, manufacturing performance

INTRODUCTION

Manufacturing is key to a nation's economic growth and development (Cornwall, 1977). According to Hallward-Driemeier and Nayyar (2017), a nation's products are essential because they can create spillover effects, dynamic economic benefits, and jobs. They also matter because production processes across subsectors are expected to be variably impacted by future technological changes and globalisation patterns. Gaining knowledge provides solutions to manufacturing problems, but in any case, knowledge acquisition without a proper understanding of the method can lead to implementation failure. The Nigerian manufacturers' understanding-ability to transform meaning from facts and their implementation to satisfy customer needs in a conducive business environment can enhance Nigerian economic growth and living standards.

The growth of the economy and rising living standards have been enhanced by manufacturing in various countries worldwide. However, due to worries about premature deindustrialisation, some critics are dubious about the ability of manufacturing to raise living standards in African countries such as Nigeria. Despite this, there has been a considerable increase in employment prospects in African manufacturing

during the past 20 years. The significant increase in small manufacturing businesses and the appreciable boost in labour productivity at larger companies are responsible for this expansion (McMillan & Zeufack, 2022). However, large manufacturing companies in Africa have only seen modest employment increases. The high capital intensity of the manufacturing subsectors, including resource processing in which African countries are principally active, is the cause of this tendency. This issue is also a result of the manufacturing sector's increasing capital intensity. In this setting, the ability of manufacturing to boost living standards in Africa depends on both the growth in labour productivity in small businesses and the indirect job creation provided by large corporations through backward and forward integrations (McMillan & Zeufack, 2022). The ability of manufacturing to create wealth also depends on good government economic policies.

The Nigerian government's policy weaknesses in creating a conducive environment for sustainable business led to poor development and job losses (Nwokorie & Adiukwu, 2020). Consequently, the informal sector in Nigeria faces various obstacles and policy incentives that could support and enhance it (Etim & Daramola, 2020). Nigerian informal sector challenges include unemployment, income inequality among citizens, high taxes, and overly demanding government bureaucratic requirements. Inflationary tendencies, poor

corruption control, GDP per capita, and a lack of social protection survival tendencies are the main obstacles preventing the growth of micro and small-scale manufacturing businesses in Nigeria. All the above constraints drive the informal sector in South Africa and Nigeria (Etim & Daramola, 2020). Nigerian manufacturers need more innovative facilities and skills to enhance their development and performance. Infrastructure finance is essential for fostering economic growth, raising living standards, reducing poverty, boosting productivity, and boosting competitiveness. In agreement with OECD/ACET (2020), quality infrastructure and a competent workforce can cut operational costs for Nigerian manufacturing enterprises and attract more investments. Nigeria's reliance on foreign products, services, knowledge, and innovation has hampered the nation's entrepreneurship capability.

According to Aremu and Adeyemi (2011), Nigerian entrepreneurship is low due to poor implementation, coordination, and policymaking. As a result, most Nigerian manufacturers do not reach maturity age due to barriers to funding Nigerian SMEs and poor infrastructure (Gumel & Bardai, 2021). The poor business environment and other challenges have made it more difficult for Nigerian manufacturing to expand and operate effectively. Nigerian firms lack modern equipment and expertise to use knowledge management (KM) initiatives to pursue competitive advantages. However, no study has linked the inefficiency of Nigerian manufacturing to the insufficient or non-existent KM implementation methods in improving manufacturing processes. Because most studies on the relationship between KM and innovation have focused on developed countries (Dickel & Moura, 2016; García-Álvarez, 2015), and no research has investigated the impact of KM enablers and processes on Nigerian manufacturing. Therefore, this study aims to fill this information gap by investigating the influence of KM enablers and processes on Nigerian manufacturing performance.

Also, the study will fill the gap in knowledge by contributing to the literature on how KM methods affect sustainable manufacturing performance in Nigeria, as there are few studies on the subject, such as 'assessment of knowledge management barriers and improvement strategies on public-private partnership projects in Nigeria' (Akinbo et al., 2023). 'Knowledge management and organisational resilience in Nigerian manufacturing organisations' (Godwin & Amah, 2013). 'Knowledge management system and tools required for effective knowledge management take-up and activities in organisations in Nigeria' (Onifade & Akinwade, 2019). 'Information communication technology and organizational performance: Experience from Nigerian manufacturing subsector' (Odiri, 2022).

Gaviria-Marin et al. (2019) sustain that few studies in emerging nations have examined KM and produced evidence linking it to how successful ideas are implemented, particularly in Africa. Since the effects of firm-level practises might change depending on the context, Anning-Dorson (2018) contends that It is critical to consider these factors when choosing practices for various economic and geographic situations. Research considering mainly industrialised nations' perspectives can only impact firms in other contexts and make little theoretical progress (Anning-Dorson, 2018).

Therefore, copying results mainly from developed economies without proper context can significantly limit the understanding of the impact of KM studies on emerging markets' contributions to research and the global economy. The ability of a company to share and combine knowledge is correlated with its social climate, and this correlation predicts the firm's revenue from new products and services as well as its sales growth (Collins & Smith, 2006).

According to Shehzad et al. (2022), KM aims to give individuals the correct information at the right moment. An organisation's knowledge and information are created, shared, used, and managed through KM. In their study, Ode and Ayavoo (2020) concluded that organisations in developing countries can innovate with KM methods. KM enablers significantly impact green innovation, product and process innovation, and KM processes (Shehzad et al., 2022). The strategic process of KM implementation necessitates careful goal setting and review (Arora, 2002). Rethinking and redesigning organisations to increase performance should be possible with a unified perspective on working, learning, and innovating (Brown & Duguid, 1991). KM impacts processes and organisational performance (Sahibzada et al., 2023). However, despite the significant impact of KM practices on organisational output and productivity, emerging countries like Nigeria, due to some environmental challenges, have not effectively adopted its practice (Onifade & Akinwande, 2019).

Even though KM practises are being used in Nigeria, they are still in their early stages in several organisations and institutions (Pepple et al., 2022). Many organisations support KM, but few can do so effectively enough to reap the rewards (Berawi, 2004). One of the main challenges to adopting KM in Nigerian business is collecting and tracking data on manufacturing projects, failing to understand how specific methods and activities affect the process, sharing, and creation of knowledge (Veer Ramjeawon & Rowley, 2017). This challenge originates from the lack of management support for KM on projects and a lack of understanding and ability to use KM solutions. Akinbo et al.'s (2023) research emphasised the need for improvement measures, such as stakeholder development and training on KM systems, governmental support for using knowledge tools for project storage, and involvement/commitment from pertinent stakeholders. The study recommended that stakeholders sign up for short-term and long-term training to improve their KM skills.

Research Aims and Objectives

This study's main objective is to examine the relationship between KM enablers, KM processes, and sustainable manufacturing performance in Nigeria. The study aims to identify the role of the critical enablers and processes necessary for effective KM and sustainable manufacturing performance.

The high failure rate in the Nigerian manufacturing sector prompted the researcher to investigate the influence of KM enablers and process implementation on manufacturing organisations' performance. According to Galbraith and Kazanjian (1986), various factors affect how well an implementation strategy works. Numerous studies have pinpointed these factors, but no consensus exists (Heide et al., 2002). By examining these issues to identify potential factors

to enhance KM implementation in the Nigerian manufacturing industries, this study seeks to add to the body of scientific knowledge on KM enablers and process implementation in manufacturing from a Nigerian perspective.

The study will attempt to answer the following overarching question according to the primary objective. What is the relationship between KM enablers, processes and manufacturing performance?

The aim is to determine whether the inefficient KM implementation processes are responsible for the weak performance of Nigerian manufacturing using a mixed-method approach to collect data from Manufacturing Association of Nigeria (MAN). To effectively answer the research question, the study will combine the quantitative method using survey questions and the qualitative method using online interviews to collect comprehensive data from MAN members. The data will be analysed with descriptive analysis, and the hypothesis will be tested using multiple regression analysis to establish the impact of the various KM variables on Nigerian manufacturing. The main benefit of this type of research design is that using both quantitative and qualitative research gives a better understanding of a research problem than using only one research method.

Envisaged Impact of This Study

The research will contribute to the general knowledge by shedding more light on the impact of KM enablers and processes for sustainable manufacturing from an African perspective. The study will provide insights into how Nigerian manufacturers can use KM to pursue competitive advantages, especially given the challenges facing the Nigerian manufacturing industry, such as a lack of modern equipment and KM expertise. The study's findings can be used to develop KM strategies to improve the performance of Nigeria's manufacturing sector and promote economic growth and development. The study will also provide theoretical support for investing more resources in sustainable KM-based manufacturing and serve as a foundation for future researchers to gather evidence regarding the role of KM practices in the Nigerian manufacturing sector.

LITERATURE REVIEW

Knowledge Management

According to Chen (2022), KM practice is firmly ingrained in daily work activities and influenced by complicated work-related issues. It has a favourable impact on organisational performance (Delshab et al., 2022). Although in a study, Andrej et al. (2022) confirmed that KM did not significantly influence organisational performance. Kumburu (2023), agreeing with Delshab et al. (2022), maintains that organisations can enhance performance through knowledge acquisition, representation, knowledge organisation, knowledge staffing, and retrieval. Knowledge is the organisational resource essential to success in the modern global economy (Nemati, 2002). Knowledge is a competitive asset for an organisation that needs secure protection from outsiders and other threats (Tan & Wong, 2014).

KM is an organisation's knowledge and information created, shared, used, and managed to deliver the appropriate information to the appropriate individuals at the appropriate time. According to Parlbay and Taylor (2000), KM generates innovative products by utilising the workforce's creative thinking and contributing to intellectual assets. It does this by capturing insight and experience to support innovation. It is a formal process of managing an organisation's knowledge resources to achieve a competitive advantage. Wong (2005) classified KM into three categories: KM resources represent the organisations' assets. Second, KM processes represent the various processes that enable KM in an organisation. Therefore, KM factors are the elements that help support an organisation's activities.

KM classification aims to systematically organise and categorise knowledge assets, making it easier to access, share, and use knowledge within an organisation. In a study, Kumburu (2023) claims that KM enablers such as technology, culture, structure, and people can facilitate the attainment of organisations' competitive advantage. So, organisations must be capable of creating new knowledge that will favour them in their targeted market, leveraging their existing knowledge as a valuable strategic asset. Harb et al. (2023) confirmed that KM significantly impacts employee empowerment and performance. While Sahibzada et al. (2022) sustain that KM enablers significantly impact KM processes, and KM enablers and knowledge worker productivity significantly impact KM processes. Therefore, KM can impact the Nigerian manufacturing sector's performance by enhancing its management capabilities, such as organisational learning, innovation, and marketing orientation, to succeed in today's highly competitive business environment. KM significantly contributes to a company's productivity and innovative performance (Kremp & Mairesse, 2002). Organisations use KM practices to improve performance in product innovation (Donate & Pablo, 2015).

In this twenty-first century, KM has become a crucial resource for organisations and economies seeking competitive advantage. One could argue that the performance gap between organisations is caused by differences in their ability to create and deploy knowledge and leverage existing knowledge to develop new products and services. There is a positive impact of KM processes and approaches on job satisfaction and work performance (Alyoubi et al., 2018). KM assists organisations in acquiring, sharing, and using knowledge, hence improving their learning, innovation, and problem-solving capacities. As a result, KM can impact an organisation's performance directly and indirectly, allowing it to generate more valuable products and services and obtain a competitive edge. In their research, Narver and Slater (1990) reinforce this view by emphasising the relevance of knowledge-based resources in improving a company's performance. KM enablers significantly affect product and process innovation and KM processes (Shehzad et al., 2022). Payal et al. (2019)'s study concludes that a properly developed KM strategy impacts KM process and enablers, and an organisation's nurturing of KM enablers positively affects KM process.

KM enablers impact knowledge worker productivity and KM processes (Sahibzada et al., 2022). Organisations gain KM competence through knowledge collection, conversion,

application, and protection. KM enablers such as technological, cultural, and structural infrastructure play a more critical role in organisations (Gold et al., 2001). A recent study by Sahibzada et al. (2023) confirms that KM enablers such as employees' knowledge, motivations, effective decisions, and strategic planning are crucial ways construction organisations can achieve different strategic goals in many processes. The latter study concluded that the progress of the next-generation KM strategy would be based on content sharing, decision-making and promoting the free flow of ideas. The absence of KM enablers affects the application of knowledge in the operations of products manufacturing and management. KM enables the organisation's leadership to create a conducive environment to collect and disseminate helpful information.

Management Leadership and Support

Wong and Aspinwall (2005) sustain that management leadership and support are decisive in guaranteeing organisational initiatives. The perceptions of management's support for knowledge-sharing and perceptions of a positive social interaction culture were significant predictors of a perceived knowledge-sharing culture (Connelly & Kelloway, 2003). The Innovative Leader stresses the importance of innovation and creativity in modern business to help organisations secure a competitive advantage over rivals (Sloane, 2007).

SME owners should acquire the ability to recognise business opportunities and make strategic decisions that can lead the organisation towards achieving sustainable goals (Nor-Aishah et al., 2020). Leadership commitment is the most critical antecedent of sustainable environmental and social performance (Yadegaridehkordi et al., 2023). When dealing with volatile and uncertain business conditions, SME owners should lead with vision, passion, integrity, and confidence. As a result, Nigerian manufacturing management must recognise the significance of the role of effective management leadership in creating conducive working environments.

One of the significant challenges facing Nigerian manufacturing organisations is having effective leadership in a rapidly changing business environment. Organisations can benefit from having visionary leaders who can develop the potential of their workforce to gain a competitive advantage. According to Nani and Safitri (2021), a well-designed formal management control system can positively impact organisational performance and innovation. By providing a framework for decision-making, setting performance standards, and monitoring progress, a well-designed system can help organisations achieve their goals. Managers who exhibit positive traits such as ethical behaviour, active involvement in their subordinates' activities, and support for their ideas can enhance the creativity of their team members. As Ibarra-Cisneros et al. (2023) claims, positive traits can significantly contribute to the development of intellectual capital and promote innovation within an organisation.

Organisational leadership significantly influences KM by promoting employee idea-sharing and giving them the tools and assistance they need to transform them into reality. By doing so, they can create a work environment that fosters creativity, promotes innovation, and drives organisational

growth and success. Employees are motivated when the leadership genuinely participates in analysing and solving individual and group issues. A good leadership style encourages employee engagement and can also influence the success of KM and innovation implementation through knowledge sharing, aligning expectations, improving reaction possibilities, and increasing motivation.

Leadership style is positively related to KM. The organisational culture mediates the relationship between leadership style and performance (Ogbonna & Harris, 2000). Sarros et al. (2008) emphasise that leadership style determines an organisation's innovation capacity because its actions are vital in defining and shaping the work environment that leads to performance. There is a substantial positive effect of leadership styles on the innovative work behaviours of employees, highlighting mediating and moderating effects of organisational culture (Khan et al., 2020). Ibrahim and Daniel (2019) claim that an organisation's leadership style determines whether its goals and objectives will be met. Therefore, they suggest that since having the proper leaders in place is one of the fundamental methods for achieving organisational goals and objectives, every organisation should do its best to fill that position.

While Shahzadi et al. (2021) show that entrepreneurial leadership strongly influences KM procedures, they also show that KM practises influence project success directly and indirectly through knowledge worker satisfaction as a mediator. Cormican et al. (2021) claim that empowering and participatory leadership are vital to knowledge sharing. Apart from the significant impact of reward schemes on employees as an incentive to share knowledge, trust also plays a vital role. Employees are likelier to share their knowledge with people they trust, and sound communication systems can facilitate knowledge sharing. Andrej et al.'s (2022) study sustains that transformational leadership improves organisational performance, but the study did not confirm the influence of transactional leadership on organisational performance. According to Jung (2001), the nominal group condition and the transformational leadership condition performed better than the transactional leadership condition and the real group condition. Positive relationships exist between effective leadership, group cohesion, and empowerment (Jung & Sosik, 2002). However, top leaders can make the organisational culture, innovation, and values penetrate the organisation's ramifications, thereby creating innovative solutions that lead to business performance.

Leadership has a powerful influence on employees' work behaviour (Yukl, 2002). Employees acquire knowledge by solving problems. Pro-innovative organisation leaders communicate to employees the organisational goals and justify their actions and the related benefits. In application, Nigerian manufacturing leaders can improve in communicating with their subordinates the direction of the activities related to searching for innovative solutions by clarifying the teams' priority to focus on carrying out their activities. The more employees solve business problems, the better their problem-solving skills improve, and they become confidently efficient in tackling future-related issues. Therefore, this study proposes the following hypothesis:

H1. There is a positive relationship between leadership and manufacturing performance.

Infrastructure and Technology

Infrastructure and economic growth have a favourable connection (OECD, 2018). While the knowledge infrastructure is the critical success factor of KM concept as it positively influences KM processes. The organisational infrastructure provides the foundation and essential support for demonstrating and improving performance. A good infrastructure must be carefully considered and well-planned (Dixon & Loukus, 2013). The literature and organisations are very unclear about technology's function in knowledge management. Organizations risk wasting time, money, and other resources on ineffective technology to support their knowledge management initiatives (Moffett & Mcadam, 2003). Several trends are enhancing infrastructure performance. First, increased diversity in the provision of services is made possible by technological innovation and the regulation of markets (World Bank, 1994). Productivity suffers if the infrastructure level drops below a threshold, and it causes low economic growth (Pereira & Pereira, 2018).

According to Trieu et al. (2023), information technology (IT) capabilities are crucial in stimulating organisational ambidexterity, resilience, and SME performance. The literature and organisations are very unclear about technology's function in knowledge management. Organizations risk wasting a lot of time, money, and other resources on ineffective technology to support their knowledge management initiatives (Moffett & Mcadam, 2003). Several trends are enhancing infrastructure performance. First, increased diversity in the provision of services is made possible by technological innovation and the regulation of markets (World Bank, 1994). Odiri (2022) sustains that manufacturing organisations' employment of information and communication technology (ICT) considerably and favourably influences performance. The most notable improvements brought about by ICT were improved service delivery, increased customer happiness, and flexibility in the functions of most organisations. Odiri (2022) suggested that all manufacturing companies adopt ICT to gain a competitive edge and enhance customer service. In addition, manufacturing companies should automate all crucial operational activities and have more self-enabled services to improve their business's efficiency, dependability, and organisational control.

Hill (1987) classified KM in manufacturing strategy into structure and infrastructure. While structures refer to processes and technology, infrastructures cover human resources policies, organisational culture, IT, and quality systems. Furthermore, the author sustains that infrastructure strengthens the structure. Organisational infrastructure and technology are essential in KM practices within an organisation (Chong & Choi, 2005). Although practising KM is complex, a friendly introduction to the information system (IS) in Nigerian manufacturing will facilitate its employees' adoption. Therefore, investing in and developing an IS will allow the employees to interact with and promote KM practices. The organisational integration and flexibility of information and technology infrastructure positively impact

their performance in achieving competitive advantage (Hou, 2020).

In manufacturing, IT plays a vital role in KM. It facilitates manufacturers' identification, acquisition, storage, distribution, and use of information. In addition, IT supports the planning, organisation, and control of these activities (Robertson, 2002), making it the key to knowledge creation and application in manufacturing. IT infrastructure positively and significantly impacts productivity (Lakhwani et al., 2020). Therefore, this study proposes the following hypotheses:

H2. There is a significant relationship between IT and manufacturing performance.

H3. There is a significant relationship between infrastructure and manufacturing performance.

Organisational Culture

Edwards (1998) defines organisational culture as an organisation's common perception or belief, a shared value that reflects how employees perform their functions. Organisational culture and leadership significantly influence KM practices (Ibarra-Cisneros et al., 2023). Studies have demonstrated that organisational culture and leader effectiveness significantly influence professional work engagement, trust, and job satisfaction (Meng & Berger, 2019). It determines organisational KM initiatives in pursuing business goals. Therefore, choosing a culture that helps collect and share knowledge in the Nigerian manufacturing workplace is essential to attain a competitive advantage. An organisation's culture should have certain qualities, such as employee empowerment to explore innovative ideas and trust in employees to use their initiative in contributing to knowledge development inside the organisation (Wong et al., 2015). So, Nigerian manufacturing management should encourage an organisational culture that creates a conducive working environment that tolerates mistakes and encourages experience sharing to enhance performance.

This study considers organisational culture as a combination of the organisation's workforce beliefs, what they represent, what is expected of the management, and the rewards for demonstrating its values. Successful organisations mirror their culture according to the common belief of their workforce and the national culture. The organisational culture reflects the national culture that impacts customers' satisfaction and overall performance. It strongly determines the organisation's bottom line. Nigerian manufacturing management must not only focus on achieving financial objectives but also on workforce well-being. Although the organisational culture is difficult to define, the implementation proves even more challenging. Culture does not grow alone; it must be intentionally developed, nurtured, supported, and maintained by the organisational strategy based on firmly held and commonly shared beliefs.

Therefore, this study defines culture as "a collective programming of the mind, which distinguishes one group from another, a mental programming patterns of thinking and feeling, and potential acting" (Hofstede, 1980, p. 25). This definition is compatible with an organisational culture aiming to avoid the barriers of innovation resistance of "not invented here," including the managerial competence to adapt to

external innovation. Moreover, within Nigerian manufacturing sector, the cultural dimensions have a notable impact on knowledge transfer, including the relationship between imported knowledge and innovation (Bradley, 1991). Therefore, this study proposes the following hypothesis:

H4. There is a positive relationship between organisational culture and manufacturing performance.

KM Processes

Application of KM enhances organisational productivity and profitability. A properly developed KM strategy impacts KM process and enablers. KM process mediates the relationship between KM strategy and organisational performance (Payal et al., 2019). Knowledge creation and generation enable using innovative ideas and best practices in solving manufacturing problems. Srinivasan (2020) establishes in a study that developing a systematic KM process in leather enterprises is essential for enhancing performance. According to Riege (2007), based on a large-scale comparison study, no definitive empirical evidence shows the efficiency of different managerial activities in promoting knowledge transfers in the internal and external supply chains.

KM enablers impact KM processes and knowledge worker productivity (Sahibzada et al., 2022). Employees gain practical experience to perform their jobs effectively through knowledge acquisition, interactions among employees, customers, suppliers, training, seminars or workshops and data repositories (Fan & Ruan, 2009). The practical application and knowledge utilisation can improve efficiency and reduce production costs (Davenport & Klahr, 1998; Davenport et al., 1996). Practices of explicit and covert knowledge-sharing promote innovation and effectiveness (Wang & Wang, 2012). According to O'Dell and Grayson (1998), an organisation's ability to knowledge utilisation and application builds its capacity to use knowledge to meet customers' needs, effectively creating customer satisfaction. Entrepreneurs constantly look for new opportunities, adjust to changing conditions, and take on new challenges (Drucker, 2014). Therefore, employees must accomplish activities by adopting practices, applying lessons learnt, and drawing from experience or other knowledge dimensions to accomplish tasks.

Chang et al. (2012) define KM process dimensions as socialisation, internalisation, externalisation, and combination. At the same time, Seleim and Khalil (2011) assert that KM process has five dimensions: knowledge acquisition, creation, documentation, transfer, and application. The dimensions utilised by Ferraresi et al. (2012) were, as follows:

- (1) the development and capture of knowledge that will be used to achieve organisational goals,
- (2) knowledge transfer in the form of knowledge sharing, conversion, organisation, and distribution, and
- (3) knowledge application to create value for the firm and the customer.

The aspects used by Ahmed and Elhag (2017) are knowledge generation, utilisation, maintenance, and organisation. Therefore, this study proposes the following hypotheses:

H5. There is a positive relationship between knowledge acquisition and manufacturing performance.

H6. There is a positive relationship between knowledge creation and manufacturing performance.

H7. There is a positive relationship between knowledge application and manufacturing performance.

H8. There is a positive relationship between knowledge sharing and manufacturing performance.

H9. There is a positive relationship between Knowledge storage and manufacturing performance.

Manufacturing Organisational Performance

Manufacturing organisational performance can be referred to as the degree to which a manufacturing organisation achieves its goals and objectives and how efficiently and effectively it operates. It acts as the key performance indicator that measures the overall success of a manufacturing firm. The primary goal of manufacturing organisational performance is to optimise the use of resources to produce high-quality goods at low cost while meeting customer demands. As defined by Kamyabi and Devi (2012), performance is a measurement of an organisation's current strength, including its capacity for investment and profit development, that results from implementing an efficient management strategy (Mandy, 2009). An organisation's operational, financial, and behavioural levels can be measured. Various factors, such as effectiveness, efficiency, growth, and productivity, can be used to assess an organisation's success. Financial measurements may include profitability and growth, and an operational metric could include resource familiarity, production, personnel productivity, etcetera. While behavioural impacts, which include flexibility, satisfaction, and satisfying relationships, can be utilised to assess organisational performance. Various performance indicators may be used to evaluate the effectiveness of a KM system, making it necessary to determine which metrics are best suitable for the project. Even if there may be a variety of measures, using every one suggested in the performance report may not always be practical or efficient (Shannak, 2009).

Organisational performance is the core of every management activity (Schumpeter, 1947). This study adopts the following definition of organisational performance by Chen and Barnes (2006), *the capacity to transform inputs into outputs for achieving specific outcomes*. It measures when and how an organisation determines its objectives (Daft & Marcic, 2009). Ngah and Ibrahim (2010) measured efficiency or inefficiency in resource allocation by comparing an expected result with the actual achievement obtained, leading to the accomplishments of organisational performance. The Nigerian manufacturing sector shifting from traditional business strategies to modern innovative business models can enhance performance by creating quality and affordable products. Various activities are included in manufacturing process innovation and systems to significantly improve crucial manufacturing performance measures (Yamamoto & Bellgran, 2013). The sector can improve by adopting innovative manufacturing processes involving high creative production and investment in workforce skills and KM to improve the organisation's effectiveness.

Hurduzeu (2015) defines an organisation's effectiveness as balancing various stakeholders' demands (owners, employees,

customers, government, and community). As one of the enablers of KM considered in this study, leadership can promote organisational performance using creativity and innovation. Nigerian manufacturing organisation managers encouraging creativity and innovation can stimulate their workers to improve performance. Adopting innovative strategies improves business performance (Hickman & Silva, 2018). KM practises, such as initiatives and societies that encourage knowledge acquisition, sharing, and archiving (Yang & Wan, 2004). Gaining knowledge will give you a long-term competitive advantage (Nonaka, 1991). Manufacturing organisational performance is a significant aspect of a company's success. Manufacturing organisations can attain high levels of organisational performance and meet the demands of their customers while remaining competitive in the marketplace. This can be achieved by focusing on process optimisation, quality management, inventory management, employee training, and continuous development. However, the literature's most widely used measures of operational performance are cost, quality, delivery, and flexibility (Abdallah & Matsui, 2009; Abdallah et al., 2019). This study's approach is to measure manufacturing performance using organisational capacity, as indicated in the research framework in **Figure 1**.

Conceptual Framework

Research frameworks come in a variety of forms. A research framework is a fundamental structure of the concepts (i.e., relationships and abstractions) that underlie a phenomenon to be studied (Lester, 2005). It gives us a framework for conceptualising and planning research investigations, enables us to interpret data, and enables us to go beyond common sense. In comparison, a conceptual framework argues that the concepts chosen for investigation, and any anticipated relationships among them, will be appropriate and valuable given the research problem under investigation, as opposed to a theoretical framework, which directs research activities by reference to formal theory. Therefore, the study proposed the framework, depicted in **Figure 1**, to research the effects of KM facilitators and processes on Nigerian manufacturing performance measured with organisational capacity. This study would help provide greater insight into the industrial sector's performance in Nigeria using KM enablers and processes variables to analyse the Nigerian business environment and the user behaviours to active involvement. KM enablers considered in this study are management leadership, infrastructure, organisational culture, and IT, including knowledge acquisition, creation, application, sharing and storing as KM processes.

RESEARCH METHOD

The research aims to investigate the impact of KM enablers and processes on sustainable manufacturing performance in Nigeria. The study utilised two data collection methods, namely probabilistic (stratified random) and non-probabilistic (convenience) sampling methods. The non-probabilistic (convenience) method was used for the inductive section of the study. The sample frame of this research is MAN members,

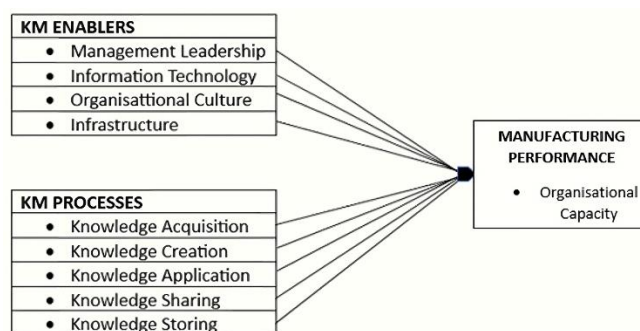


Figure 1. Research framework

and 500 members constituted the sample size of the present study. This study's primary and secondary data collection sources met the research objectives. Cooper and Schindler (2011) are pertinent to this study because, as they noted, integrating primary and secondary data from external sources leads to collecting new data at the conclusion. According to Yin (2004), readability, authenticity, and consideration of confirmability are all important.

The response rate was commendable, with 424 completed questionnaires returned, representing an 84% response rate. The two data collection methods, survey questionnaire and online interviews, effectively provided in-depth information to understand the phenomenon better. They helped explore the participants' experiences, behaviour, and opinions. The participants were informed on how they would benefit from the survey, how their data would be used, their right to withdraw, and other ethical issues vital to making informed choices. The research questionnaires and information documents were sent to the participants via electronic mail and other methods to ensure ethical considerations.

The data collected from the study were analysed using descriptive statistics and multiple regression analysis to examine how the independent variables related to various dependent variables. This method calculates the value of a dependent variable based on one or more independent variables. It also determines how much the dependent variable would change when one unit of the independent variable changes. The study tested the hypothesis using regression analysis. It determined the impact of KM variables (enablers and processes), management leadership, infrastructure, organisational culture, and IT, including knowledge acquisition, creation, application, sharing and sharing storing on manufacturing performance.

DATA ANALYSIS AND FINDINGS

Table 1 shows response pattern of the impact of KM processes and enablers variables related questions on manufacturing performance in Nigeria.

Hypothesis Testing

Regression analysis: Knowledge management enablers & processes variables predicting manufacturing performance

H1. There is a positive relationship between leadership and manufacturing performance.

Table 1. Response pattern of impact of KM processes & enablers variables related questions on manufacturing performance in Nigeria

	Percentage of agreement of survey response on impact of respective knowledge process variables on manufacturing performance in Nigeria				
	Very low	Low	Medium	High	Very high
Knowledge process					
Q9. Knowledge acquisition	7.1	0.9	15.6	47.2	29.2
Q14. Knowledge creation	5.0	4.5	15.6	36.8	38.2
Q16. Knowledge application	4.2	3.3	9.4	42.2	40.8
Q19. Knowledge sharing	2.1	5.0	24.8	46.5	21.7
Q20. Knowledge storage	0.0	7.8	17.9	48.6	25.7
Knowledge enabler					
Q21. Management leadership	0.0	5.9	25.9	45.5	22.6
Q22. Information technology	4.7	3.3	26.2	36.1	29.7
Q27. Infrastructures	2.4	6.8	16.5	28.8	45.5
Q28. Organisational culture	1.2	4.2	16.5	56.1	22.6

H2. There is a significant relationship between IT and manufacturing performance.

H3. There is a significant relationship between infrastructure and manufacturing performance.

H4. There is a positive relationship between organisational culture and manufacturing performance.

H5. There is a positive relationship between knowledge acquisition and manufacturing performance.

H6. There is a positive relationship between knowledge creation and manufacturing performance.

H7. There is a positive relationship between knowledge application and manufacturing performance.

H8. There is a positive relationship between knowledge sharing and manufacturing performance.

H9. There is a positive relationship between Knowledge storage and manufacturing performance.

Table 2 displays the complete model's summary that shows a significant $p=.001$. The contributions of individual component variables to the composite linear relationship between KM enablers (management leadership [$\beta=-.212$, $p=.001$], IT [$\beta=.614$, $p=.001$], organisational culture [$\beta=-.132$,

$p=.001$], infrastructures [$\beta=.099$, $p=.003$], and organisational capacity). All the p-values fulfil the t-test's significance level criterion of $p<.05$. Hence, **H1** to **H4** are supported. Moreover, the $R^2=.529$ in **Table 2** explains 53% of Nigerian manufacturing sector's organisational capacity change. Regarding component variables' contributions to the model using the standardised coefficient, IT is the most significant (.719).

Table 2 shows the individual component variables' contributions to the composite linear relationship between KM processes (knowledge acquisition [$\beta=.115$, $p=.005$], knowledge creation [$\beta=.148$, $p=.005$], knowledge application [$\beta=-.057$, $p=.294$], knowledge sharing [$\beta=.204$, $p=.001$], knowledge storage [$\beta=.284$, $p=.001$], and organisational capacity). KM processes variables met the estimated significance of $p<0.5$ except for knowledge application with a p-value of .294. Hence, **H5**, **H6**, **H8**, and **H9** are supported. Hypothesis **H7** is rejected because its p-value of 0.294 is more than the established p-value of 0.05. However, the $R^2=.321$ in **Table 3** explains 32% of Nigerian manufacturing sector's organisational capacity change. According to the standardised coefficient, knowledge storage (.275), knowledge sharing

Table 2. Regression analysis: KM enablers variables & KM processes variables predicting manufacturing performance

Dependent variable	Manufacturing performance: Coefficient/standardized coefficient of regression (with residual errors)			
	Unstandardized coefficients of regression	Standardized coefficients	Unstandardized coefficients	Standardized coefficients
Constant/y-intercept	1.302 (.173)***			
Management leadership	-.212 (.045)***	-.199		
Information technology	.614 (.035)***	.719		
Organisational culture	.132 (.039)***	.136		
Infrastructure	.099 (.033)**	.117		
Constant/y-intercept			1.093 (.204)***	
Knowledge acquisition			.115 (.041)**	-.136
Knowledge creation			.148 (.053)**	.180
Knowledge application			-.057 (.055) +	-.064
Knowledge sharing			.204 (.048)***	.207
Knowledge storage			.284 (.050)***	.275
Model statistics				
R ²	.529		.321	
Adjusted R ²	.524		.313	
F stats	117.575		39.561	
p-value (F)	.001		.001	
Sample size	423		423	

Note. * $p<0.05$; ** $p<0.01$; *** $p<0.001$; & + $p>0.05$

Table 3. Summary of hypotheses testing

Hypothesis	Description	Variables	Beta coefficient	Findings
H1	There is a positive relationship between leadership and manufacturing performance.	Management leadership	-.212	p<0.05, supported
H2	There is a significant relationship between information technology and manufacturing performance.	Information technology	.614	p<0.05, supported
H3	There is a significant relationship between infrastructure and manufacturing performance.	Infrastructure	.132	p<0.05, supported
H4	There is a positive relationship between organisational culture and KM in manufacturing performance.	Organisational culture	.099	p<0.05, supported
H5	There is a positive relationship between knowledge acquisition and KM in manufacturing.	Knowledge acquisition	.115	p<0.05, supported
H6	There is a positive relationship between knowledge creation and KM in manufacturing.	Knowledge creation	.148	p<0.05, supported
H7	There is a positive relationship between knowledge application and KM in manufacturing.	Knowledge application	-.057	p>0.05, rejected
H8	There is a positive relationship between knowledge sharing and KM in manufacturing.	Knowledge sharing	.204	p<0.05, supported
H9	There is a positive relationship between knowledge storage and KM in manufacturing.	Knowledge storage	.284	p<0.05, supported

(.207), and knowledge creation (.180) are KM process factors that have the most impact on organisational capacity.

DISCUSSION

This study investigated the impact of KM enablers and processes **on the sustainability of Nigerian manufacturing performance**. The results show that all hypotheses of KM enablers and processes except knowledge application were accepted. There is a substantial correlation between KM and innovative capacity (Lam et al., 2021). These outcomes agree that KM is the tool organisations use to gain a competitive advantage, using employees' contributions, effort, and intellectual assets to enhance organisational learning and performance (Hart & Benjamin, 2020). Knowledge creation, integration and effective implementation enable innovation and organisational performance (Mardani et al., 2018).

Consequently, Nigerian manufacturers can improve their performance by implementing KM as a deep-rooted strategy in its core value in offering products and services. The performance difference between organisations is based on their capabilities in creating and deploying knowledge or leveraging existing knowledge in developing new products and services (Bierly & Chakrabarti, 1996). Thus, KM impacts organisational learning and other capabilities that directly and indirectly affect organisations' performance (Narver & Slater, 1990).

Knowledge Management Processes

Regarding knowledge documentation, the findings revealed that about 76% of the participants had established methods of referring innovation ideas to their sources in their organisations. It means that the organisational capacity of the Nigerian manufacturing sector will change by one unit if their KM enablers variables increase by one unit, respectively. According to this research, it is shown that knowledge acquisition, storage, sharing, and utilisation substantially and favourably influenced organisational performance. This study claims that KM strengthens organisational resilience in manufacturing, which agrees with the literature that

knowledge collection, storage, sharing, and utilisation improve organisational flexibility, resourcefulness, and learning (Godwin & Amah, 2013). KM processes significantly enhance two aspects of green innovation (Shehzad et al., 2022). This outcome is also supported by Sahibzada et al. (2023)'s study, which reveals a significant direct impact of KM processes on organisational performance. Kumburu (2023) agrees that the performance of a corporate organisation can be improved through KM processes. Knowledge acquisition and documentation are the most critical factors affecting knowledge accumulation that positively and significantly affect human capital (Zawaideh et al., 2018). Relevantly, Boateng et al. (2014) emphasised the importance of knowledge acquisition by stating that employees seek knowledge to resolve their immediate problems and plan for future needs and challenges. KM positively affects organisational performance innovativeness (Delshab et al., 2022). So, for Nigerian manufacturing organisations, knowledge acquisition is essential because learning from external sources expands knowledge bases, improves the ability to recognise opportunities and threats, and accesses new competencies (Zawaideh et al., 2018). However, the inability of Nigerian manufacturers to acquire new knowledge can lead to their organisation's failure to keep up with the dynamics within its industry due to the inability to predict changes in their customer's needs (Obeidat et al., 2017). Consequently, knowledge acquisition is an essential KM process because it enables organisations to improve their performance and effectiveness by improving accessible knowledge. In addition, organisations with successful knowledge acquisition appear to possess a more prosperous and diverse knowledge base, aside from appearing more innovative.

About 70% of the respondents believed that knowledge creation, acquisition, and application ability helped their organisations to achieve manufacturing performance. Also, from the regression analysis, knowledge creation, acquisition, sharing, and storage explain 32% of Nigerian manufacturing sector's organisational capacity change. These results support the claim that KM processes have a significant positive relationship with organisational performance (Payal et al., 2019). There is a significant and positive effect of KM processes

on the organisational commitment that enhances performance (Gopinath et al., 2021).

These results confirm that an organisation's ability to collect, store and use the knowledge acquired from feedback to solve customers' needs problems is vital in creating products and services in manufacturing to achieve competitive advantage (Azmawani et al., 2013). Sylva et al. (2016) claim that all aspects of KM affect the businesses' product innovation. Even though these study's sample results confirmed the importance of KM processes such as knowledge creation, acquisition, and application ability in manufacturing, they provide the basis for various categories of innovations. Compared to another study by Yu et al. (2017), knowledge creation does not directly affect sustainable competitive advantage. Instead, the knowledge creation process can only ultimately influence sustainable competitive advantage through the mediating effect of technological innovation capabilities. Consequently, the knowledge creation process favours the development of technological innovation capabilities for operations and products because processes and products can lead to sustainable competitive advantage. For example, Nigerian manufacturers with immature manufacturing processes or knowledge cannot adequately develop sustainable, innovative products or strategies to compete internationally, hence the high failure rates of Nigerian manufacturing enterprises.

Knowledge Management Enablers

The regression analysis shows that all KM enablers' p -values fulfil the t -test's significance level criterion of $p < .05$. Hence, **H1** to **H4** are supported. $R^2 = .529$ mean that management leadership, IT, organisational culture and infrastructure explain 53% of Nigerian manufacturing sector's organisational capacity change. This outcome supports Sahibzada et al.'s (2022) claim that KM enablers impact knowledge worker productivity and KM processes.

In manufacturing, management leadership plays a vital role in managing financial resources, people, situations, and items effectively and ethically. Piwowar-Sulej and Iqbal (2023), in a systematic review, synthesise how leadership influences sustainable performance. The literature established that leaders could strategically influence organisational culture and a workplace climate that facilitates change and innovation (Damanpour & Schneider, 2006). About 47% of the participants confirmed that their organisations' leaders are highly committed to creating a conducive environment that encourages knowledge creation and innovation. Also, the outcome of the management leadership regressed against organisational capacity was significantly positive ($\beta = -.212$, $p = .001$). This finding is consistent with that of Aboramadan and Dahleez (2020), leadership styles significantly affect individual and organisational performance, including organisational citizenship, satisfaction, and performance. Leadership impacts employee job satisfaction (Paais & Pattiruhu, 2020). Great leaders make the vision and strategically communicate it to their associates to achieve organisational goals using incentives to retain key performers. They design a conducive working environment by creating and managing an organisational culture that permits innovation. The success of entrepreneurship in Nigerian manufacturing

can be achieved by applying management techniques to constantly search for value for the customer, standardising the product, designing processes and tools, and basing training on the analysis of the work to be done and then setting the standard required to create a new product, market, and new customers.

Effective leadership and strategy are essential for sustained competitive success in today's challenging world. Leadership exerts a powerful influence on employees' work behaviour. Management promotes innovation by facilitating new thinking, ideas, and working methods by supporting innovation throughout its design and implementation using a system that rewards innovative ideas (Yukl, 2002). Therefore, implementing KM in Nigerian manufacturing will enable employees to acquire knowledge through solving customer problems. The benefit is that the more they solve business problems, the better they improve their problem-solving skills and become confidently efficient in tackling future-related issues. The Nigerian manufacturing organisation leaders' commitment to creating a conducive environment is essential for Nigerian manufacturing businesses to be innovative and competitive. The Nigerian government also can play a crucial part in assisting manufacturing firms to improve performance by providing a conducive business environment through stable economic policies.

Infrastructures and Technology

Regarding infrastructure, about 74% of the respondents believe that infrastructure has a significant impact on Nigerian manufacturing performance. Also, the outcome of the regression analyses of infrastructure predicting organisational capacity was significantly positive ($\beta = .099$, $p = .003$). These outcomes are consistent with Abualoush et al.'s (2018) study investigating KM's impact on organisational performance and some of its methods. The authors concluded that knowledge process and infrastructure capabilities affect positively, either directly or indirectly, all facets of organisational performance. Infrastructure development supports manufacturing activities in various ways. It enhances productivity, consequently making manufacturing organisations more competitive and boosting the country to achieve higher and more stable economic growth. Cheap labour and low prices are no longer enough to keep a business competitive. The business must adapt to changing technology and grow (Geng et al., 2016). Industry technologies boost businesses' efficiency and competitiveness (Duman & Akdemir, 2021). Also, it offers advantages like profitability, cost-cutting, improved sales, increased output (both overall and per person), increased capacity, and faster, higher-quality production. Business digitisation can accelerate the growth of value-adding activities, but businesses will not fully realise this potential until they adopt a digital organisational culture. Businesses should expect to perform better by identifying the organisational culture that best supports their digital strategy (Martínez-Caro et al., 2020).

Chong and Choi (2005) claim that organisational infrastructure and technology play an essential part in KM in an organisation by stimulating innovation in manufacturing and investment decisions and determining its attractiveness to local and foreign investors. Therefore, based on the results, it

implies that infrastructure strengthens organisational competitive advantage in manufacturing. According to Srinivasu and Rao (2013), infrastructures such as transport, education, telecommunications, water, and energy play an essential role in any nation's economic growth, especially in the manufacturing sector. Infrastructures have become a prerequisite in manufacturing, most important in promoting economic growth and bringing equitable development and social empowerment. It shows that adequate infrastructures have become a requirement for the sustainability of economic and social empowerment because it increases the factor productivity of the production process in the manufacturing industries.

The Nigerian manufacturing infrastructure issue can be called the infrastructure investment gap, a conceptual gap between the capacity of the required infrastructure and what is currently in place. In terms of supply, it is essential to consider the infrastructure's durability and quality in addition to its actual size in terms of miles of rail and road, the flow capacity of pipes, etcetera. For instance, aged or poorly maintained power plants may experience intermittent outages. Old water mains might lose a significant amount of their flow through the leakage. A related issue particularly relevant to this study on Nigerian manufacturing performance is that, while in good shape, some infrastructure types are no longer functional given the manufacturing needs. For example, Nigerian ports must be rebuilt due to the containerisation transition, sometimes in separate places. New airports are necessary due to the rising reliance on air freight and commercial connections. Additionally, as society increasingly depends on immediate and pervasive communications, satellite and wireless transmission is replacing traditional communication networks (telephone cables and landlines). Computers' main function is to facilitate communication between people (Hansen et al., 1999). Therefore, Nigerian society must match the fast development of technological changes to enhance local manufacturing performance.

Knowledge Management and Information Technology in Nigerian Manufacturing

Regarding innovative information technologies in manufacturing, almost 68% of the respondents claimed high use of innovative information technologies to increase productivity through knowledge creation, sharing, and utilisation. In comparison, 26% make moderate use of innovative information technologies to increase productivity through knowledge creation, sharing, and utilisation. This result confirms Abri and Mahmoudzadeh's (2015) study on the influence of IT on Iranian industrial industries' productivity and efficiency. They confirmed that IT has a favourable and statistically significant impact on the manufacturing sector's productivity. To comprehend the shared organisational framework within which KM operates and to determine how these criteria were connected, a computer-assisted model is used (Anantatmula & Kanungo, 2006). Organisational performance is directly related to IT capabilities and organisational innovation.

Furthermore, impact of IT capabilities on organisational performance are positively moderated by innovativeness

(Marchiori et al., 2022). According to this study sample, innovative information technologies, such as technological innovations, increase productivity in all production factors and reduce production costs through knowledge creation, sharing, and utilisation. Manufacturing firms use ICT significantly and positively affect performance (Odiri, 2022).

The exponential growth of IT over the past few decades could be a fact that cannot be refuted. According to Huysman and Wuft (2006), IS is an essential key driver in manufacturing that initiates and contributes to systematic KM. IS makes it possible to create, acquire, store, retrieve, and make available the appropriate information essential for enabling today's knowledge-based economy. It facilitates teamwork and communication among the organisation's workforce by connecting individuals for information exchange, acting as a conduit to share information in a business organisation. The IT infrastructure integration and flexibility positively impact organisational performance (Hou, 2020).

Information structure and KM are closely related since they contribute to the horizontal and vertical dissemination of structured knowledge inside an organisation in the same proportions (Yeh et al., 2006). However, it is essential to consider that technology is merely a necessary facilitator. Implementing the most expensive and sophisticated information structure infrastructure or solutions alone in Nigerian manufacturing may only result in an effective knowledge-embedded strategy if the system is appropriately managed. Zack (1999) believes that IT is essential in KM activities, which include obtaining knowledge, defining, storing, categorising, indexing, linking knowledge-related digital items, and seeking and identifying related content. According to Yeh et al. (2006), for KM to be effective, employees must share their knowledge through ISs facilities.

Sharing knowledge is an expensive and intangible resource, but it can significantly boost an organisation's market competitiveness. Knowledge sharing plays a crucial role in job performance by facilitating the effective transfer of knowledge and boosting productivity (Huie et al., 2020). Significant relationships exist between knowledge creation assets and knowledge transfer performance (Syed-Ikhsan & Rowland, 2004). According to Janus (2016), a knowledge-sharing organisation values its operational experiences as chances for learning internally through its employees and externally through its partners and stakeholders. Most experts agree that knowledge sharing is a crucial element of KM and a crucial factor in determining its success (Ramjeawon & Rowley, 2017). Indeed, according to Nazim and Mukherjee (2016), knowledge sharing is the most crucial element in the success of KM overall.

Organisations with appropriate information structure infrastructure can perform well in their KM efforts. Knowledge resources, Manufacturing performance is significantly and directly impacted by KM processes and KM factors (Tan & Wong, 2015). The Nigerian manufacturing organisations' improvements in project collaboration, information processing skills, knowledge discovery, and speedy decision-making can be possible thanks to an information structure infrastructure for KM that is well-designed, standardised, and implemented. So, ISs have the potential to be utilised successfully in Nigerian manufacturing to facilitate the

codification, integration, and distribution of organisational knowledge. The widespread use of ISs in today's knowledge-based economy could enable Nigerian manufacturing employees to receive and apply needed information to business objectives making ISs a crucial channel for information flow. The exchange and convey of information with industry and other members across time and space will be challenging if the organisations such as those in Nigeria fail to establish adequate information structure.

Knowledge Management and Organisational Culture

Before implementing KM methods in Nigerian manufacturing, it is critical to consider the organisation's culture, the common perception or belief, and the shared value. Knowledge is shared through an organisational culture that refers to the norms and values shared among the workforces. Organisational culture is the unique blend of a society's values, beliefs, and norms that expresses the organisation's basic principles, which govern employee behaviour, particularly in groups and teams critical in KM (Yeh et al., 2006). About 79% of surveyed believe an inclusive organisational culture could create a conducive workplace fostering innovation. Also, the outcome of the regression analyses of organisational culture predicting organisational capacity was significantly positive ($\beta = -.132$, $p = .001$). This outcome concurs with Paais and Pattiruhu (2020)'s claim that organisational culture has a positive and significant effect on performance. Organisational culture significantly influences implementation performance (Purwanto, 2021). Also, the results support Soomro and Shah's (2019) study, which revealed a positive and significant impact of organisational commitment, job satisfaction and organisational culture on employee performance.

According to Hill (1987), KM is one of the best practices in an organisation to ensure that collaboration is institutionalised. The total performance of businesses, both financially and non-financially, is favourably correlated with a knowledge-friendly organisational culture. The association between overall organisational performance and local cultures is reinforced, but the relationship between financial performance and knowledge-friendly organisational cultures is strengthened in service sectors (Liu et al., 2021). Lam et al. (2021) confirmed the correlation between organisational culture and KM. Overall, their research indicates that an open innovation culture in which supportive and active executives encourage communication, cooperation, and learning is more likely to boost the effectiveness of KM procedures and improve the firm's capacity for innovation. Organisational culture moderates the relationship between the level of top management participation and manufacturing strategy adoption (Dubey et al., 2017). It exemplifies the importance and benefits of organisational knowledge and its effect on employees' desire to share and contribute knowledge as helpful input to the business (Yeh et al., 2006). Managers must learn to maintain independence while collaborating as KM helps organisations become leaner and more agile (Borkowska, 1998). The workers feel more comfortable, supported, and valued when workplace culture is designed to align with them. It can be considered that Organisational culture inextricably links to an organisation's collective tacit knowledge, a trait

that cannot be taught or transmitted, making it a challenging task. Organisational culture can encourage knowledge exchange and innovation based on trust. A solid organisational culture based on trust in Nigerian manufacturing organisations will create and support the organisation's mission, vision, and values and impact financial growth, innovation, core communication, and risk-taking. Maximising cost reduction, quality, delivery, and flexibility improvements necessitates a supportive organisational culture (Hardcopf et al., 2021).

CONCLUSIONS AND RECOMMENDATIONS

Knowledge can only be utilised or managed in a culture that encourages trust. It generates conditions for increased knowledge transfer and ensures its transferability in a helpful form. Employees tend to have a positive attitude toward the motives and actions of the management if there is a strong level of relationship between them. Therefore, good relationships between employees who contribute and collect knowledge will influence how much information is transferred. As a result, a KM culture in Nigerian manufacturing settings should include norms and practices that promote the free flow of knowledge by building trustworthiness among employees, resulting in an improved organisational advantage in terms of competitiveness. Productivity measurements are more reliable in competitive markets because customers can directly choose between different service classes and manufacturers or services. Manufacturing continues to offer chances for everlasting economic expansion when combined with nurture (Quin, 1992).

Implication, Limitations, and Direction for Future Research

The results of the current study will be helpful to Nigerian manufacturers, managers, and other government agencies and will also provide a framework for further research. From a theoretical perspective, the study's findings will expand the body of knowledge by including a moderator in the link between KM and manufacturing performance. The limitations include the impossibility of generalising the study outcomes since the study's data was gathered only from the owners and managers of manufacturing organisations operating only in Nigeria. Future research should concentrate on manufacturing industries in other emerging nations and include both the employees and other service providers of the manufacturing sector.

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