KNOWLEDGE MANAGEMENT AND SUSTAINABLE INNOVATION OF NIGERIAN BREWERIES PLC ABA, ABIA STATE

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Abstract
This study examined knowledge management and sustainable innovation of Nigerian Breweries Plc Aba, Abia State. The competitive and dynamic nature of environment in which our organizations operate and its consequent impact made this investigation necessary. The objectives of the study were to; ascertain the nature of relationship between explicit knowledge and change in operational processes and determine the nature of relationship between implicit knowledge and development of novel product. A survey design approach was adopted for the study, the population of the study was 718 and Taro Yemane formula was used to derive 256 as the sample of the study. Spearman Rank Correlation Coefficient was employed in testing of the hypotheses and the result revealed that, there was a positive and moderate relationship between explicit knowledge and change in operational processes and implicit knowledge had a positive and strong relationship with development of novel product. Based on the findings, the study concluded that knowledge management positively influence sustainable innovation in an organization. It was recommended among others that organizations that want to develop novel product need to rely on their intuition, experience and in addition to innovative technology in other to create or develop a new product.

Keywords*: Knowledge management, explicit knowledge, implicit knowledge, sustainable innovation, change in operational processes.*

Introduction
Knowledge management (KM) is the process by which an organization acquires, organizes, communicates, and analyzes its knowledge in a way that is easily available to employees. This knowledge encompasses human skills, training materials, frequently asked questions, and technical resources. The term "knowledge management" was coined by Peter Drucker in the 1980s, where he described it as a comprehensive concept of creating, storing, and managing knowledge within an organization. In the 1990s, knowledge management was acknowledged as a discipline and gained public attention at a conference in Boston in 1993 organized by Ernst and Young (Prusak 1999). In 1998, Duhon described knowledge management as a discipline that advocates for a comprehensive approach to identifying, capturing, evaluating, retrieving, and sharing all of the information assets within an enterprise. These assets encompass databases, documents, policies, procedures, and previously uncaptured expertise and experience of individual workers. Knowledge management could also be defined as the process of collecting, organizing, utilizing, and distributing collective information within an organization. The information must be stored in easily accessible locations for successful knowledge management. Knowledge management is a rare initiative that has the potential to revolutionize how an organization operates. It encompasses a set of methods related to creating, sharing, utilizing, and managing an organization's knowledge and information (John and JoAnn, 2015).

Addicot *etal* (2006) state that numerous organizations, governmental institutions, and non-profit entities allocate resources to internal knowledge management initiatives, often aligning with their business strategy, information technology, or human resource management departments. Conversely, Charter and Clark (2007) argue that sustainable innovation involves integrating sustainability considerations (environmental, social, and financial) into an organization's innovation system throughout the entire process, from idea generation to product development, commercialization, and end-of-life strategies. This pertains to products, services, technologies, as well as new business and organizational models. According to Arthur *etal* (2005), sustainability-driven innovation refers to the development of new market space, products, services, or processes influenced by social, environmental, or sustainability issues. Innovation that is sustainable is more than just a novel idea; it involves the implementation of technologies, products, and services, as well as entrepreneurial activities and the adoption of new organizational and societal

processes and systems. This cannot be accomplished without effective management of an organization's knowledge and information.

Statement of the Problem

In today's rapidly evolving global economy, organizations must continuously innovate to remain competitive, especially in dynamic sectors such as the beverage industry. Sustaining innovation is not merely a competitive strategy but a necessity for long-term survival, given the growing environmental regulations, market demands for eco-friendly products, and intense industry rivalry. However, Knowledge management (KM) has been recognized globally as a critical enabler of innovation. Yet, in many Nigerian manufacturing firms, including Nigerian Breweries Plc, knowledge often resides in silos, informal channels, or is lost due to poor retention practices. This leads to missed opportunities in operational processes, duplicated efforts, development of novel products and limited institutional learning. Furthermore, existing studies tend to focus on knowledge management or innovation as isolated constructs, with minimal exploration of the nature of relationship between knowledge management and sustainable innovation in the context of Nigerian industrial environment. It is against this back drop, that the study is set to evaluate the nature of relationship between knowledge management and sustainable innovation of Nigerian Breweries Plc Aba, Abia State.

Objectives of the Study

The broad objective of the study is to examine the nature of relationship between knowledge management and sustainable innovation. The specific objectives are:

1. To ascertain the nature of relationship between explicit knowledge and change in operational processes.
2. To determine the nature of relationship between implicit knowledge and development of novel products.

Research Questions

1. What is the nature of relationship between explicit knowledge and change in operational processes?
2. What is the nature of relationship between implicit knowledge and development of novel products?

Hypotheses

1. There is no significant relationship between explicit knowledge and change in operational processes.
2. There is no significant relationship between implicit knowledge and development of novel products.

Review of Related Literature

Knowledge Management (KM)

Bontis and Nikitopoulos (2001) defined knowledge management as a systematic capturing, structuring, managing, and disseminating knowledge within an organization to increase efficiency, promote the reuse of best practices, and minimize the need for costly project rework. Knowledge management encompasses the coordination of people, processes, and systems within an organization to enhance and efficiently utilize its knowledge assets (Easterby-Smith and Lyles 2003). Smith and Lyles (2013) pointed out that knowledge management also encompasses the management of intellectual capital (ICM), which refers to the knowledge pieces that hold business value for the organization. While some of these are tangible, such as patents and intellectual property, most of them consist of practical knowledge, understanding of the reasons behind certain practices, experience, and expertise, which are usually possessed by one or a few employees. The most effective way to preserve valuable knowledge is to identify intellectual assets and then ensure that historical materials are created and stored in a manner that facilitates easy retrieval and reuse in the future (Akhavan et al., 2016; González-Valiente et al., 2019).

Explicit Knowledge

The knowledge that is easily accessible and can be used when needed is called explicit knowledge. Nonaka, as cited in Yassmin (2021), defines explicit knowledge as a type of knowledge that can be easily communicated and exchanged through IT platforms using flexible software. This knowledge is transferable to all users for sharing their knowledge. Organizations consider explicit knowledge as a key factor in the production of knowledge (Zack, cited in Yassmin, 2021). Additionally, explicit knowledge plays a crucial role in transforming organizations into learning environments due to its well-organized nature and ease of access through the organization's databases. The knower can make explicit knowledge explicit by verbally stating it. In other words, explicit knowledge can be expressed and communicated using language. According to Dummett cited in Martin (2016), someone possesses explicit knowledge of something if they can be prompted or questioned to elicit a verbal statement about it.

Implicit Knowledge

The intuitive and procedural knowledge that is usually accessed automatically during skilled performance and cannot be put into words is known as implicit knowledge. In other words, it is knowledge that is not explicit. Implicit knowledge is often referred to as "tacit knowing" (Martin, 2016) because it encompasses understanding beyond what can be articulated. This includes the capacity to recognize something (like a person's face) even when the recognition process cannot be described independently of the situation. Additionally, it encompasses the comprehensive diagnostic abilities that an experienced and compassionate psychologist or psychiatrist brings to a clinical interaction. Diagnostic judgment relies on "content-dependent practical knowledge" (Thornton, 2013). In addition, implicit knowledge pertains to information that we are aware of but cannot articulate. It encompasses informal and intricate skills, experience, and keys to success, as well as epistemic implicit knowledge like insight, intuition, perception, values, mental models, and tacit understanding of team and organizational culture (Hongyan, 2019). Implicit knowledge is the knowledge that employees acquire through the application of explicit knowledge. It is challenging to document or convey, yet it plays a vital role in enhancing workplace productivity and empowering individuals to perform at their highest level (Hongyan, 2019).

Sustainable Innovation

Sustainable innovation is commonly described as the creation of new products, procedures, services, and technologies that contribute to the development and well-being of human needs and institutions, while also respecting natural resources and their ability to regenerate (Tello and Yoon, 2008; Tim et al., 2017). Similarly, Bos-Brouwers (2010) and Tim et al. (2017) articulate sustainable innovation as "innovations that involve the renewal or enhancement of products, services, technological, or organizational processes, resulting not only in improved economic performance but also in enhanced environmental and social performance, capable of generating positive social and environmental impacts in the short and long term." Boons and Lüdeke-Freund (2013) emphasized the importance of integrating sustainability considerations (environmental, social, and financial) into all stages of organizational processes, including idea generation, research and development (R&D), and commercialization. It is essential for a sustainable approach to innovation to guide businesses in their decisions related to products, services, and the adoption of new business and organizational models (Boons and Lüdeke-Freund, 2013). Sustainable innovations encompass not only the environmental dimension but also economic, social, and institutional aspects and contribute to the realization of sustainable development goals, representing a subset of all innovations.

Change in Operational Processes

The process of change involves converting or moving something to a different state or condition. It signifies the act of becoming different or the outcome of being altered, whether in a planned or unplanned manner (Schnackenberg et al., 2019). Change signifies something novel, contrasting with staying stagnant or maintaining the status quo. Manei et al. (2018) emphasized that change is recognized as the collective behavioral shift of the entire organization from one state to another. Change is unavoidable and serves as a crucial driver for development and maintaining competitiveness, even though it may be challenging. Embracing change is essential to ensure the efficiency and survival of the organization. Moran & Brighton (2001) and Igudia (2021) both provided definitions of organizational change as the ongoing process of revitalizing an organization's direction, structure, and abilities to meet the evolving needs of both external and internal stakeholders. According to Wanza and Nkuraru (2016), the reaction to organizational change involves engagement from stakeholders, such as customers and employees. These reactions can range from positive to negative, with acceptance or resistance being the respective outcomes, determined by the available information and how individuals perceive the potential impact of change - negative perceptions may lead to resistance. Lewin put forward a change model that outlines the essential steps for achieving successful change. According to Ara and Ara (2003), the change model involves unfreezing the current processes, which involves holding a confrontational meeting or engaging in a re-education process. This may be accomplished through activities such as team building and the adoption of new procedures, which requires the development of new behaviors, values, and attitudes.

Development of Novel Products

The process of product development involves converting information about market opportunities and technical possibilities into valuable assets for commercial production, as described by (Clark and Fujimoto in Elif, et al., 2020). There is a general perception that markets demand products of higher quality and performance, with shorter and more predictable development cycles, and at lower costs, as noted by (Maffin and Braiden 2001). Companies

with strong research and development capabilities must enter the market first to make the most of their skills, while those with a strong focus on marketing may find it wise to replicate competitors' products and rely on marketing abilities to regain lost ground through a better strategy, according to Chisnall cited in (Elif, et al., 2020).The process of introducing new products to the market, known as new product development (NPD), is influenced by factors such as consumer profile, competition among markets, and advancements in technology. Many firms consider product development as a potential source of competitive advantage (Brown and Eisenhardt as cited in Elif, et al., 2020). Compared to acquisition and merger, product development is viewed as more crucial, as it allows organizations and their members to diversify, adapt, and even reinvent their firms to align with changing market and technical conditions (Schoohoven, et al., 2001).

Theoretical Framework

Enculturational Theory

Pinch et al., (1996) proposed the enculturational theory, which contrasts with the linear model of knowledge transfer, also known as the algorithmic theory, involving R&D, inventions, innovations, and transmission. The enculturational theory has significantly influenced innovation research (Von Hippel, 1994; Nonaka and Tacheuchi, 1995). Lundval (1992) argued that the enculturational theory suggests that "almost all innovations are based on existing knowledge, combined in new ways." Innovation is crucial for economic growth and ensures improved competitiveness for companies (Solow, 1997). Innovation research is essential for understanding processes of change, knowledge development, and knowledge integration to create new combinations. The algorithmic or linear model focuses on explicit knowledge, while the encultural or circular model (also known as the co-operation theory, the interactive theory and the cyclical theory) highlights a network of connections involving R&D activities, structural links, tacit knowledge, interactive learning, the cultural context, social processes, national and regional innovation systems and customer and supplier relations (Lundvall, 1992). Collaboration is valued over competition in the encultural innovation theory, as indicated by Lundvall & Johnson (1994). This theory also examines the interplay between organizational, technological, and environmental elements. It suggests that innovation processes differ from one company to another, and there is a sequence of interactive processes that drive innovation in companies. The encultural theory is grounded in theoretical assumptions for a more evolutionary economic theory (Metcalfe, 1995) and knowledge from new economic growth theories.

Empirical Studies

Hussain, et al. (2020) carried out a study on an empirical investigation of knowledge management, organizational innovation, organizational learning, and organizational culture in Pakistan. This study investigates the direct impact of knowledge management on organizational innovation and indirect impact through organizational learning and organizational culture, using diffusion of innovation theory. Simple random sampling was used to select 380 respondents from small and medium-sized enterprises (SMEs) operating in Pakistan. Structural equation modeling (SEM) was employed to measure the fitness of the proposed model via LISREL 8.8. The results show that knowledge management positively influences organizational learning and organizational culture.

Jaffar et al. (2020) explored the impact of knowledge management on organizational innovation through a mediation analysis by using SEM approach in Pakistan. The study seeks to ascertain the relationship between knowledge management and sustainable organizational innovation in garment business firms. The study made use of a sample of 350 firms from Lahore and Gujranwala divisions of Pakistan. The study applied a stratified random sampling method for data collection and employed structural equation modeling (SEM) to examine the hypothesized relationships. The results specify that knowledge management showed a significant positive association with organizational learning, which in turn reveals a positive linkage to sustainable organizational innovation in SMEs of the garment industry. The study results also specify that organizational learning mediates the relationship between knowledge management and sustainable organizational innovation.

Abbas and Sağsan, (2019) researched on the impact of knowledge management practices on green innovation and corporate sustainable development in Pakistan: A structural analysis. The study examines the role of knowledge management (KM) in green innovation and corporate sustainable development (CSD) activities. The researcher collected data from lower, middle and upper level managers of small, medium and large-sized manufacturing and services firms located in Pakistan. The study has a sample of 302 respondents and was analyzed through structural equation modelling (SEM) to investigate how KM processes. As per the results, KM significantly impacts on

green innovation and CSD activities. Green innovation also indicated significant positive impact on CSD. The dimensional analysis indicated that with the exception of knowledge creation and acquisition, which indicated an insignificant impact on social sustainability, all the paths indicated significant results. Moreover, KM is found as equally important for all sizes manufacturing and services firms.

Lam et al (2021) examined the relation among organizational culture, knowledge Management, and Innovation Capability. Primary data collected from 182 high-tech firm's representatives were processed by using the Structural Equation Modeling approach. The results showed that knowledge management was strongly correlated with innovation capability. The positive significant relationship between organizational culture and knowledge management was also confirmed. Overall, the findings suggest that an open innovation culture of an organization in which mutual trust, collaboration and learning are promoted by supportive and participative leaders is more likely to increase the efficiency of knowledge management practices; thus, eventually lead to enhanced innovation capability of the firm.

Shahzad, et al (2020) explored the influence of knowledge management process on corporate sustainable performance through green innovation in Pakistan. This study aims to examine the role of the knowledge management process for corporate sustainable performance with the integration of green innovation and organizational agility following the resource-based view theory. Cross-sectional design was used in this study. Data were gathered through convenience sampling from 475 respondents of multinational manufacturing corporations of Pakistan, analyzed by using structural equation modeling. This study findings revealed that the knowledge management process and it's all constructs(acquisition, dissemination and application) lead towards green innovation; furthermore, green innovation influences corporate sustainable performance and it's all constructs (environment, economic and social).The study educates that organizations investing in innovative technologies and adopting greener strategies are not only adequate for achieving sustainable performance, soft issues such as knowledge management and organizational agility but also important factors in the current knowledge base economy.

Delshab, et al (2020) carried out a study on the impact of knowledge management on performance in non-profit sports clubs in Iran. The study seek examine whether knowledge management (KM), along with innovation concepts (attitude toward innovation, open innovation, and innovativeness), evokes direct and indirect influences on organizational performance of non-profit sports clubs. A total of 266 valid questionnaires were collected online from board members of non-profit sports clubs in Iran. Structural equation modeling was used to investigate the relationships between variables. The findings indicated that KM has a positive effect on organizational performance via two different sequential mediators: attitude toward innovation and innovativeness, and open innovation and innovativeness. KM has a direct positive effect on sport clubs' innovativeness and organizational performance.

Biljana and Nedeljko (2019) explored the diversity of approaches labeled as knowledge management as well as the relationship between knowledge management, innovation and organization's performance. Hence, understanding how this concept works has become crucial for encouraging breakthrough innovations that will have a major impact on global economic growth, in order to create an environment for knowledge-driven growth, it has become absolutely necessary to ensure the investments in knowledge, science, technology, education, and human capital, the Global Innovation Index was introduced as a key tool of detailed metrics for 126 countries worldwide. According to the Global Innovation Index, significant investments in innovation and the creation of knowledge as well as other intangible assets are central to this goal. This study aims at providing an overview of how significant investments in knowledge, science, technology, education, and human capital can foster innovation, and adequately address the knowledge management while ensuring a sustainable solution.

Arnold, et al (2021). Carried out a study on knowledge management for innovativeness and sustainable organizational development, a study of selected corporate institutions in Kenya. The purpose of the study was to examine the effect of Knowledge Management on innovativeness and sustainable organizational development. The study took a quantitative approach through a descriptive research design. The study population included selected corporate organization that had embraced knowledge management practices. The study used questionnaires and interview schedule to collect data from respondents. Data was analyzed through

descriptive and inferential statistics. The findings showed that sustainable organizational development has a significant relationship with both innovativeness and knowledge management in the organization. Innovativeness was found to have a significant effect on sustainable organization development at 43.4%. However, when knowledge management was introduced in the model, the amount of sustainable organization development predicted improved to 68.1%. The study concluded that knowledge management, through knowledge creation, learning, simplifying knowledge and synergy, has a critical role in sustainable organizational development by enhancing innovativeness. This study recommends that organizations should implement effective knowledge management practices to support innovativeness and enable the organization create developments that not only fulfil the current needs but also ensure future needs are fulfilled.

Sokoh and Okolie (2021). Explored knowledge management and its importance in modern organizations. With the current economic trend, every organization want to successfully implement business strategies, achieve their business objectives, optimize the use of human resources and gain competitive advantage. Knowledge management is critical for an organization to properly utilize it resources and create a sustainable competitive edge. This paper relies on secondary data and utilizes the content analysis for interpretation of collected data. The study concluded that quality efficiency and effectiveness in performance cannot happen if employees are not developed. Today organizations compete on the basis of knowledge since products and services are increasingly complex. This is why the requirement for a life-long learning has become an unavoidable reality.

Weina and Yanling (2022) examined the role of knowledge management (KM) practices in achieving a sustainable environment with the mediating role of environmental awareness and green technological use in China. The study further examined the moderating role of green innovative culture between the relationship of KM practices and a sustainable environment. The data were acquired from 378 managerial level personnel of the construction industry in China through questionnaires. Smart-PLS 3.3.3 was used to test the study's hypothesis through the structural equation modeling (SEM) technique. The study found that KM practice has a significant relationship with a sustainable environment, environmental awareness, and green technological use. Also, environmental awareness has a significant effect on a sustainable environment. Moreover, it was found in the study that environmental awareness significantly mediated the relationship between KM practices and sustainable environment, but green technological use did not find any mediating effect on the relationship between KM practices and sustainable environment. Furthermore, green innovative culture considerably moderated the relationship between KM practices and a sustainable environment.

Koshelieva etal (2023) examined knowledge management as a new strategy of innovative development of service companies in Ukrainian. In the course of the research, the method of a structured survey of managers of enterprises in the service sector in Ukrainian were used that are actively implementing the following innovations: product, services, business processes. 52 companies were selected according to the specified criteria and who also agreed to involve their personnel in the conduct of the survey. The result revealed that complex structure of the relationship between knowledge and innovative activity can be a consequence of insufficient level of personnel competencies, available information and data management technologies, methods and practices of production, integration and application. Therefore, the low innovativeness of the service companies under study in the context of system orientation and technological capabilities of the companies, in particular, in the practice of knowledge management, and the low impact of knowledge and information on the innovation of services and processes on the market of Ukraine were revealed.

Ochoa-Jimenez, et al (2021) researched on the nature of relationship between knowledge management, innovation and sustainability in Mexico. To verify this, a questionnaire was distributed to 492 companies in the tourism sector in southern Sonora, Mexico, whose information was capturekd in SPSS and analyzed with structural equations in the Smart PLS software. The main findings affirm that knowledge management has a direct, positive, and significant relationship with sustainability and innovation, as well as a positive and direct relationship between innovation and sustainability. It was recommended that companies need to focus on knowledge management that will generate innovation and in turn will be distinguished by achieving sustainability, with a possible generation of competitive advantage, as well as sustainable innovation.

Summary of Review of Related Literature

The major gaps noticeable in the works reviewed above relate to the period the works were done, the location of the study, the methodology adopted in the research. In terms of time, the current study will be more relevant reflecting the developments in knowledge management and sustainable innovation.

Methodology

The study adopted a survey research approach, primary and secondary data were employed in the study. Information were elicited from the sampled respondents using a questionnaire set that was designed in 5-point likert-scale. The population of the study was seven hundred and eighteen (718) employees of Nigerian Breweries Plc Aba, Abia State. Taro Yamane (1967) formula was used to derive two hundred and fifty six (256) as the study sample size.The instrument for the study which was made up of sixteen (16) items were validated by experts in the field of management. Furthermore, the same instrument was subjected to reliability test using the Cronbach's alpha and the result is shown below:

Reliability	Statistics
Cronbach's Alpha	No of Items
.78	16

Which indicated that the instrument used for the study was reliable. Again, spearman rank correlation co-efficient in SPSS (statistical package for social sciences) was employed in testing of the two hypotheses.

Results

A total number of 256 copies of questionnaire were distributed with a percentage of (100 %), while 236 copies were returned, representing (91.9%) of the total number distributed, 20 copies were not returned giving a percentage of (8.1%).

Table 1 Frequency and Percentages for the Socioeconomic Characteristics of Respondents

Option	Frequency	Percentage
Gender:		
Male	116	49
Female	120	51
Age Bracket:		
20 – 25years	50	21
26 – 35years	67	28
36 – 45 years	58	24
46 - 50 years	41	17
Educational Qualification:		
O'Level/ND	33	13
HND/B.Sc	136	58
M.Sc	64	27
Ph.D	3	1
Marital Status:		
Married	186	79
Single	48	20
Divorced	2	1

Source: Field Survey, 2024

Based on the analysis, 116 (49%) of the respondents were male while the remaining 120(51%) were female. This shows that most of the respondents were female. On the age bracket 50 (21%) respondents, 67 (28%) respondents, 58 24%) respondents, and 41 (17%) respondents were in the age brackets of 20-25 years, 26-35 years, 36-45 years, and 46-50 years respectively. The result for the highest completed education of the respondents, the result showed that 33 (13%) had only completed O Level, while the remaining 136 (58%), 64 (27%), and 3 (1%) have completed HND/B.SC, M.Sc. and Ph.D Degree respectively. This is an indicated that most of the respondents have post-secondary school education as the result showed. Marital status of the respondents, the result showed that as high as 186 (79%) of the respondents were married while the remaining 48 (20%) of the respondents were single and 2 (1%) were divorced.

Table 2: Responses on Explicit Knowledge

S/N	STATEMENT	SA	A	U	D	SD	Total
1.	You are familiar with the word explicit knowledge.	110	113	1	1	3	236
2.	Explicit knowledge exist in multiple formats in your organization such as manuals and books.	140	82	2	1	3	236
3.	A centralized repository of knowledge improve learning and build a solid foundation of knowledge for an organization.	117	114	2	2	1	236
4.	Explicit knowledge can be acquired through reasoning and hands on experience.	132	103	2	2	1	236

	Total	499	432	7	6	8	944
	Average Total	125	108	1	1	2	236
	Percentage	53	46	1	1	1	100

Source: ***Field Survey, 2024***

Table 2 shows that an average of 125(53%) respondents, 108(46%) respondents, 1(1%) respondent, 1(1%) respondent, and 2(1%) respondents strongly agree, agree, undecided, disagree, and strongly disagree respectively that they are conversant with the word explicit knowledge. This indicate that a higher number of the respondents are conversant with the concept explicit knowledge.

Table 3: Responses on Change in Operational Processes

S/N	STATEMENT	SA	A	U	D	SD	Total
5.	You are familiar with the word change in operational processes.	166	62	1	1	3	236
6.	Your organization improve systems that convert inputs into outputs.	180	51	1	1	3	236
7.	There is frequent redesign of methods used to carry out your activities in the organization.	183	49	2	2	-	236
8.	Change in operational processes helps organization to achieve efficiency and effectiveness.	160	61	2	4	1	236
	Total	689	223	6	8	7	944
	Average Total	172	56	1	2	1	236
	Percentage	73	14	1	1	1	100

Source: Field Survey, 2024

As shown in table 3, on average, 172(73%) respondents, 56(14%) respondents, 1(1%) respondents, 2(1%) respondents, and 1(1%) respondents strongly agree, agree, undecided, disagree, and strongly disagree respectively that they are knowledgeable about the concept change in operational processes. This revealed that a higher number of the respondents are familiar with the concept explicit knowledge.

Table 4: Responses on Implicit Knowledge

S/N	STATEMENT	SA	A	U	D	SD	Total
9.	You are familiar with the word implicit knowledge.	214	28	2	-	2	236
10.	The knowledge you again from the organizational manuals and books helps you in discharge of your duties.	130	99	3	1	3	236
11.	There is procedural knowledge that is normally accessed automatically in fluent performance and that cannot be verbalized.	142	89	2	2	-	236
12.	The spread of implicit knowledge is the reproduction of knowledge.	183	47	1	3	2	236
	Total	669	263	8	6	7	944
	Average Total	167	66	2	1	1	236
	Percentage	70	27	1	1	1	100

Source: Field Survey, 2024

Table 4. shows that on average, 166(70%) respondents, 66 (27%) respondents, 2(1%) respondents, 1(1%) respondent, and 1(1%) respondent strongly agree, agree, undecided, disagree, and strongly disagree respectively that they are conversant with the word implicit knowledge. The result revealed that greater number of the respondents strongly agree that they are conversant with the concept of implicit knowledge.

Table 5: Responses on the Development of Novel Product.

S/N	STATEMENT	SA	A	U	D	SD	Total
13.	You are familiar with the word development of novel product.	185	35	2	2	2	236
14.	Your organization adopt to invention and new tools that aid production.	154	78	-	2	2	236
15.	Invention in innovation and technology leads to creation of new product.	165	67	1	1	2	236
16.	Your organization have come up with a new product in recent time.	190	40	1	5	-	236
	Total	694	220	4	10	6	944
	Average Total	174	55	1	2	1	236
	Percentage	73	24	1	1	1	100

Source: Field Survey, 2024

Table 5, shows that an average of 174(73%) respondents, 55(24%) respondents, 1(1%) respondent, 2(1%) respondents, and 1(1%) respondent strongly agree, agree, undecided, disagree, and strongly disagree respectively that they are conversant with the word development of novel product. This depict that's the respondents are knowledgeable about the concept development of novel product.

Test of Hypotheses

In order to test inferentially the nature of relationship between knowledge management and sustainable innovation, the study conducted hypotheses test and the result is presented below:

Hypothesis One: There is no significant relationship between explicit knowledge and change in operational processes.

Table 6 Spearman's rho Correlation analysis on whether there exists significant relationship between explicit knowledge and change in operational processes.

N	Correlation Coefficient	Probability Value
236	0.652	0.00

Source: Survey, 2024

The test for the nature of relationship between explicit knowledge and change in operational processes revealed a positive and moderate relationship (correlation coefficient =.652; and $P < 0.05$), which implies that explicit knowledge alone cannot bring about required change in organizational operation processes without other variables at play and the relationship was also significant (correlation coefficient =.652 and $P < 0.05$). Therefore we reject the null hypothesis and accept the alternate. This indicate that there is a significant relationship between explicit knowledge and change in operational processes.

Hypothesis Two: There is no significant relationship between implicit knowledge and development of novel product.

Table 7 Spearman's rho Correlation analysis on whether there exists significant relationship between implicit knowledge and development of novel product.

N	Correlation Coefficient	Probability Value
236	0.981	0.00

Source: Survey, 2024

The test for the nature of relationship between implicit knowledge and development of novel product revealed a positive and strong relationship (correlation coefficient =.981; and $P < 0.05$), which depicts the fact that the more implicit knowledge again by employees the more novel ideas they again on how to develop a new product and the relationship was also significant (correlation coefficient =.981 and $P < 0.05$). Therefore we reject the null hypothesis and accept the alternate, which depicts that there is a significant relationship between implicit knowledge and development of novel product.

Discussion of Findings

The first finding of the study revealed that, there was a positive and moderate relationship between explicit knowledge and change in operational processes. This is also in line with the finding of the study carried out by Hussain et al (2020) which investigated the direct impact of KM on organizational innovation and indirect impact through organizational learning and organizational culture and the result revealed that knowledge management positively influence organizational learning and culture. The result of this study is also in agreement with the outcome of the study carried out by Jaffarent et al (2020), which seek to ascertain the relationship between knowledge management and sustainable organizational innovation in garment business firm and the result revealed that knowledge management showed a significant positive association with organizational learning, which in turn reveals a positive linkage to sustainable organizational innovation in SMEs of the garment industry. The study results also specify that organizational learning mediates the relationship between knowledge management and sustainable organizational innovation. The second finding of the study showed that there was a significant relationship between implicit knowledge and development of novel product. This collaborate the finding of the study carried out by Shahzad, *et al* (2020), they explored the influence of knowledge management process on corporate sustainable performance through green innovation and the findings revealed that the knowledge management process and it's all constructs (acquisition, dissemination and application) lead toward green innovation; further, green innovation influences corporate sustainable performance and it's all constructs (environment, economic and social). The findings of the study explored by Arnold, *et al* (2021), which examined the effect of knowledge management on innovativeness and sustainable organizational development and the findings showed that sustainable organizational development has a significant relationship with both innovativeness and knowledge management in the organization.

Conclusion

Based on the findings, the study concluded that knowledge management positively influence sustainable innovation in organizations.

Recommendations

1. Organizations that want to improve their operational processes need to consider other variable of knowledge management in addition to explicit knowledge as this study had showed that explicit knowledge alone cannot influence operational processes to a large extent.
2. Organizations that want to develop novel product need to rely on their intuition, experience and in addition to innovative technology in other to create or develop a new product.

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