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Databases and Organisational Agility in the Nigerian Content Development and Monitoring Board in Bayelsa State, Nigeria

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Abstract:

This paper investigated the relationship between databases and organisational agility in the Nigerian Content Development and Monitoring Board in Bayelsa State. To guide this study, the researcher adopted the case study design. 67 management level staff of the Board made up the population. Data was collected using a mail questionnaire. The validity of the instrument was ensured through expert opinion and reliability was measured using the Cronbach-alpha technique with all the items scoring above 0.70%. The Nunnally (1978) alpha threshold of 0.7 constituted the basis for determining reliability. The Likert 5-point scale was adopted. The hypotheses were tested using the Pearson Product Correlation coefficient. The paper concluded that a strong positive and significant association exists between databases and organisational agility. Based on the findings, the researcher recommends that the management Board should strategically position and make information readily available to facilitate learning and sensing the changing market conditions, as well as developing a strategy for gathering and storing quality information to enable them to make timely decisions to improve the organization's effectiveness. It should encourage the promotion, dissemination and transfer of information to facilitate and enhance the firm's performance in a dynamic environment.

Keywords: Databases, organisational agility, information readiness, information quality and information transfer

1. Introduction

The dynamic and diverse nature of today's market environment makes achieving organizational productivity and effectiveness more difficult. In recent years, the availability of information and databases in an organization's warehouse to promote decision making has become increasingly important. Different people use databases in multiple ways. A database is a set of information that is internally stored in the organisation (Deitel, Deitel & Nieto, 1999). Databases could be defined as a set of information that has been stored in the company (Maritz, 2003; Herezslak, Warner, Bach & Duszenko, 2014; Hicks, 2002). A database is characterized as a structured body of information stored in an organization in this context. This structured data serves as a foundation for retrieving desired information or making decisions based on further recognition and processing of the data (Meritz, 2003; Gunjal, 2003). To achieve the daily activities of the organisation, both Management and employees could use a variety of stored information. This stored information constitutes a company's repository knowledge that has the capacity to improve firm's timely decisions. Gunjal (2003) noted that repository knowledge is a fact or the worth of an organisation's quality. It is imperative to note that the organisation owns all information and data contained in the organization. The effectiveness of such repository knowledge could be made manifest when there are critical changes within the company (Garicano & Wu, 2012; Goh, 2005; Goo & Tseng, 2005).

Again, when an organisation employs new staff, information availability and readiness would provide a clear direction for the new worker on how to complete tasks. Databases are often used to reflect the firm's capacity to compete favourably in the market (De & Dutta, 2007; Nassar, 2018). The quality of data (information) available to a company that competitors do not have can also be ascribed to its ability to outperform competitors in the market. Companies must establish quality, timely, and versatile information in order to gain a competitive advantage (Kirzner, 2015).

Databases are treated as a core component of structural capital. It is a key variable that emphasizes the vital role of an explicit knowledge which is a repository component of the firm. Databases constitute information readiness, quality and dissemination. It supports human capital components such as skills, experience, and knowledge that are stored and transferred from one individual to another. When operational routines or procedures are incorrectly implemented, databases may be used to validate or intensify the necessary behaviour. As a result, all manuals, machine (soft and hardware) files, and organizational memory that aid organizational agility are stored in organizational databases.

Organizational agility is described as the capacity of a company to detect unpredictable changes within and outside the organisation and respond to them timely. It refers to the company's capability to be aware and sense all developments emanating from the environment. It helps the organisation to be more focused on internal process innovation, customer satisfaction and investment discovery while leveraging on the capabilities of business network and strategic linkages (Oosterhovit, Waarts, Heck & Hillegersberg, 2007). Organizations that lack agility are more likely to

position themselves in risky situations (Gagnon et al, 2018). If an enterprise fails to keep its goods and services relevant to current customer demands, it will almost certainly lose market share over time.

Furthermore, a company's inability to identify changes in customer preferences quickly can result in customer loss, which has a negative effect on profitability. Long-term competitive advantage depends on a company's ability to identify shifts in the business environment quickly and take strategic action, whether proactive or reactive, to meet and exceed customers' needs. It's no longer news that most businesses struggled to recognize and respond to market trends quickly and effectively. As a result, this paper investigates the relationship between databases and organizational agility.

2. Literature Review

The continuous change and dynamism in today's business climate, proactive approaches to dealing with such situations are needed. The importance of database or knowledge management to the sensitivity, adaptability, and versatility of an organization cannot be overstated. Data, information and databases have all been clearly distinguished. A data is raw information that has not been processed. In this paper, the researcher describes a data as information that has been analysed and transformed to a useable manner. The base on the other hand is the structure or foundation in which the data is stored.

Parakash (1991) opined that a database is a mechanized, specified, and organised set of data used in an organization. It is a set of interconnected data that can be used for several purposes without causing disruption or unnecessary redundancy (Crossan, 2010). The key objectives of any data are to provide users with information that is readily accessible, timely, affordable, and flexible. At a crucial time like this, where change is continuous, information or data collection, analysis, storage, retrieval, and delivery are critical to organizational success.

All companies need high-quality data to run its operations because of the many challenges in the business environment as a result of change. This means data must be readily available, timely, and usable, as well as to meet the requirements for versatility. Although all businesses understand the importance of information, managing it over time has long been regarded as a challenge. To solve information management challenges, companies usually construct a framework (base) to store such unique information. A database of any company is identified as a strategic asset. As a result, its strengths and potency must maintain their uniqueness (Kotter, 2012).

In a dynamic market climate, the quality of information and its accessibility ensure a company's long-term competitive advantage. That is, businesses with good databases outperform their rivals in terms of meeting and exceeding consumer expectations. Data redundancy is an issue that most businesses face. Redundant data takes up space and is therefore inefficient. Database systems could be used to monitor data replication and increase system efficiency. A database is characterised by its usefulness and user-friendliness, economy, independence, exactness and integrity, protection, efficiency, and support (Gunjal, 2003). A database is a repository knowledge that must be accessed by a group of people or a network of users. To avoid being revealed to the public, an organization's database must be strategically positioned. As sensitive information about the company is leaked to rivals and the public, it hurts the company's ability to function as a unique asset. Businesses usually employ database administrators to handle the organization's records to prevent this.

Companies may measure the type of data they have using a set of parameters. It might consider the following; the data can be freely formatted or not, the data's value, size, the data is active or inactive (Desai, 1996; Prakash, 1991; Gunjal, 2003). Databases can be classified into four classes regardless of whether the above parameters are used or not. The four categories of databases are bibliographic, knowledge, graphic-oriented, and decision-making databases (Gunjal, 2003). A bibliographic database is a collection of unformatted information. This information is yet to be properly formatted. The information in these databases is typically consists of books, abstracts or any document with specific identity and are commonly used in libraries.

Information databases store data used in artificial intelligence applications. That is, robotics is used in a highly programmed and formatted manner to perform specific tasks. The decision-making databases are frequently used by top management for the implementation of strategic decisions in the organisation. Graphic-aided system is also known as a computer-aided design. In this analysis, decision-making databases are more applicable and suitable. As previously stated, the database of the company may be manual or computer-based. When a firm's data or information is stored in folders, directories, and other associated documents, it can be classified as a manual system. The demerits of the manual system are; Time use, knowledge failure, slow access and repetition of paper work. This system has the advantage of not requiring advanced or highly professional skills to complete.

Data created by a computer system is stored in a computer-based database. This method of generating and storing data is known for its speed, simplicity, and adaptability. It does not necessitate a lot of paperwork and can store a huge amount of data in a matter of seconds. A computer-based database also makes it easy to retrieve and disseminate information. This database strategy necessitates the hiring of a specialist or a system administrator to oversee the computer system. Businesses have favoured user-friendly operating systems in recent years (David & Brachet, 2011). That is, the device must be easy to understand and use by the operators, so the services of an expert might not be required. Databases in an organization can also help with learning by allowing knowledge to be passed from one individual to another within the company using the data or information available.

2.1. Organisational Agility

The ability of an organization to change tactics or direction quickly is described as its ability to predict, respond to, and react decisively to events in the business environment (Hopp & Van-Oyen, 2004; Karami, 2007). Organisational agility is a company's capability to react to changes in the marketplace promptly (Phillips & Wright, 2009; Goldman, Nagel

&Preiss, 1995). Agility is the ability of an organisation to detect changes and respond to such conditions swiftly in the environment (Oosterhovut et al., 2007). Agility is also the ability of a company to envision new products and business models (Appelbaum & Hassan, 2017; Ahmed, Khurshid & Yousaf, 2019). In this dynamic business milieu, agility refers to the capacity of a firm to respond speedily to the changes in the market (Kanani, 2016; Denning, 2013; Dyer & Shafer, 2003; Gagnon & Hadaya, 2018).

Although there are several meanings of agility, they all emphasize basic qualities like speed, flexibility and adaptability. Wadhwa and Rao (2003) described the distinctions and overlap between flexibility and agility. They defined flexibility as a predetermined response to a predictable change, while agility is an innovative response to an unpredictable change. Agility is targeted at groups of systems with a high rate of change while flexibility is aimed at single systems with a low/medium rate of change (Oosterhovut et al, 2007). When you look at the name, you can see how conceptually divergent it is. That is, organizational agility, business agility, corporate agility, and enterprise agility are all words used in strategic management studies by different authors or practitioners. The above-mentioned words, on the other hand, are used interchangeably, confirming the disparities in management perspectives on agility (Oosterhout et al, 2007; Kanani, 2016; Appelbaum & Hasan, 2017; Akpotu & Isaiah, 2019). The plethora of definitions and models that seek to capture the concept of agility reveal the true complexity of the concept (Singh, Sharma, Hill & Schnackenberg, 2013; Sarker & Sarkar, 2009)

Furthermore, all organizations whether public or private need to be agile, particularly those that operate in a rapidly changing market (Grant, 2008). Agility allows companies to quickly adapt to disallow competitors from taking deliberate strategies that would affect them (David & Brachet, 2011). Organizational agility is becoming increasingly important in the business world. As a result, businesses seeking to outperform their competitors must focus on improving their core competencies and capabilities. It is important to encourage a highly flexible, adaptive, and innovative model to ensure corporate sustainability.

3. Methodology

The case study research design was adopted in this study (Anyanwu, 2000; Baridam, 2001). The case study research design involves the in-depth analysis of a phenomenon. The population of the study consists of 67 management level staff of the Nigeria Content Development and Monitoring Board in Bayelsa State. The population was confirmed from the administrative unit of the organisation. Primarily, data was collected using a mail questionnaire. The validity of the study was achieved through the use of expert opinion and the reliability was measured using the Cronbach alpha technique with all the items scoring above 0.70%. The Nunnally (1978) threshold of 0.7 constitutes the basis for determining reliability. Scales from existing literature were used to measure the variables. The Likert 5-point scale ranges from 5 (strongly agree) to 1 (strongly disagree) was used. The hypotheses were tested using the Pearson Product Correlation coefficient with the aid of the Statistical Package for Social Sciences (SPSS) software version 24.

4. Data Analysis and Result

The data collected was descriptively analysed, hypotheses were tested and the results were generalised to the population.

- Ho1: There is no significant relationship between information readiness and organisational agility.

Correlations			
		Information Readiness	Organisational Agility
Information Readiness	Pearson Correlation	1	.853**
	Sig. (2-tailed)		.000
	N	67	67
Organisational Agility	Pearson Correlation	.853**	1
	Sig. (2-tailed)	.000	
	N	67	67

Table 1: Result between Information Readiness and Organisational Agility

** Correlation Is Significant at the 0.01 Level (2-Tailed)

Source: Spss

- Decision: The table 1 above indicates the data analysis result on the correlation between information readiness and organisational agility. The result revealed that information readiness has a positive and significant relationship with organisational agility ($r = 0.853 @ 0.01$ level (2-tailed)).
- Ho2: There is no relationship between information quality and organisational agility

Correlations			
		Information Quality	Organisational Agility
Information Quality	Pearson Correlation	1	.864**
	Sig. (2-tailed)		.000
	N	67	67
Organisational Agility	Pearson Correlation	.864**	1
	Sig. (2-tailed)	.000	
	N	67	67

Table 2: Test Result between Information Quality and Organisational Agility

** .Correlation Is Significant at the 0.01 Level (2-Tailed)

Source: SPSS

- Decision: The table 2 above indicates the data analysis result on the correlation between information quality and organisational agility. The result shows that information quality has positive and significant relationship with organisational agility ($r= 0.864$ @ the 0.01 level (2-tailed)).
- Ho3: There is no significant relationship between information transfer and organisational agility

Correlations			
		Information Transfer	Organisational Agility
Information transfer	Pearson Correlation	1	.932**
	Sig. (2-tailed)		.000
	N	67	67
Organisational agility	Pearson Correlation	.932**	1
	Sig. (2-tailed)	.000	
	N	67	67

Table 3: Test Result between Information Transfer and Organisational Agility

** .Correlation Is Significant at the 0.01 Level (2-Tailed)

Source: SPSS

- Decision: The table 3 above indicates the data analysis result on the correlation between information transfer and organisational agility. The result shows that information transfer is positively and significantly related with organisational agility ($r= 0.932$ @ the 0.01 level (2-tailed)).

5. Discussion of Findings

The findings showed that databases and organizational agility have a strong positive and significant association. The data analysis result of the association between information readiness and organizational agility was shown in table 1 above where $r= 0.853$ @ 0.01 level in a 2-tailed test. Chang and Cho (2008) noted that an organization's database improves learning and employee efficiency. This result is consistent with previous research, which found that an organization's database contains all stored knowledge that improves the firm's promptness and timely decision-making under pressure from the business climate (Argote&Miron-Spektor, 2011; Argote& Ren, 2012; Argote, 2015). Empirical evidence also showed that databases and organizational performance are related (Benkard, 2000; Gunjal, 2003; Girard, 2009; Casey & Olivera, 2011; Herezslak, Warner, Bach & Duszenko, 2014).

The data analysis result of the association between information quality and organizational agility was shown in table 2 above. The outcome indicated a positive and significant relationship between information quality and organizational agility with $r= 0.864$ at the 0.01 level in a 2-tailed test. Many authors have mentioned that collecting, preserving, and reusing data is a strategic resource that helps a company maintain a competitive edge over time (Olivera, 2000; Hicks, 2002; Landon & Landon, 2002; Ren, Carley & Argote, 2006). Databases are a part of an organization's capabilities that help it perform better (Martinde-Holan, 2011). Databases are the foundation of an organization's capabilities and power (Hicks, 2002; Ackerman & Halverson, 2019; Aghina, DeSmet & Weerda, 2015).

Furthermore, the data analysis result of the association between information transfer and organizational agility was showed in table 3 above. Information transfer is positively and substantially linked to organizational agility ($r= 0.932$ at the 0.01 level (2-tailed)). In recent years, businesses have favoured user-friendly computer-based systems for storing and disseminating information (Arteta&Giachetti, 2004; David & Brachet, 2011; Bakarada, Shrimpton& Ng, 2016). That is, the system must be easy to understand and use for the operators, so the services of an expert might not be required. An organization's database can also help with learning (Lin, 2003; Rob & Coronel, 2000; Zollo& Winter, 2002). As a result, knowledge can be passed from one individual to another within the organization using an available data or information. This computer-based database management strategy improves the company's ability to scan, sense, adapt, and react quickly to market changes. Agility also allows a company to speedily detect, adjust, and react to changing environmental conditions, preventing rivals from making strategic decisions about operating techniques in the market (Roper, Bouke& Love, 2018; Mathiassen& Pries-Heje, 2006; Conboy, 2009; Bakarada&Koronios, 2018; Brannen&Doz, 2012).

6. Conclusion

Databases contain all repository knowledge that helps a company to sense, adapt, and swiftly respond to changing environmental conditions and pressures. The firm's capacity to collect, store and disseminate quality information could significantly enhance the performance of the organisation. The results from the analysis strongly support the fact that information readiness, quality and dissemination relate with the firm's ability to sense, adapt and promptness. Thus, the paper concludes that there is a strong positive and significant relationship between databases and organisational agility.

7. Recommendations

Based on the findings, the paper recommends as follows; that the Nigerian Content Development and Monitoring Board's management should strategically position and make information readily available to facilitate learning and sensing changing market conditions. That the management of the board should develop a strategy of gathering and storing quality information to enable them to make timely decisions that could enhance the organisation's effectiveness. That management and employees of the organisation should encourage storage, dissemination and transfer of information to enhance the firm's performance of the content development and monitoring board in Nigeria,

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