

Organizational Memory Management and Competitive Advantage of Oil and Gas Firms in Rivers State, Nigeria

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Abstract

This study investigated how organizational memory management (OMM) relates with competitive advantage (CA) of oil and gas firms in Rivers State, Nigeria. 602 supervisors and managers of 15 oil and gas firms was covered. Notwithstanding, 234 workers was drawn as the sample size. From the total 234 questionnaire issue, only 218 were retrieved and utilized. The systematic sampling was used and retrieved data was analyzed with the help of spearman rank order correlation. Findings revealed that OM dimensions (personal memory, management memory, cultural memory and research and development memory) had a substantial positive relationship with competitive advantage. It was concluded that increasing organizational memory management help enrich the wealth of knowledge of the firm and also ensure that accumulated experience over time are brought to bear in order to boost the competitive advantage of firms. Hence, it was recommended that the management should set mechanism in place to ensure continuous learning, knowledge storage and transfer among coworkers, as such will help in making informed decision and tackling problems in order to achieve competitive advantage.

Keywords: *Competitive Advantage, Cultural Memory, Management Memory, Organizational memory management, Personal Memory, Research and Development Memory.*

Introduction

The idea of gaining competitiveness over other firms is owing to the unending rivalries among firms in the ever dynamic and imponderable business world. Competitiveness is a great issue for firms that has no monopolistic power in the industry. Organizations that wishes to survive and stay agile in this time of unending quest for superiority in the marketplace, had to attempt to device a means to weaken their weakness and strengthen their strength in a way to explore relevant opportunities. Potjanajaruwit (2018) stated that competitive advantage deals with firm's capability to differentiate it operations from that of rivalries. Vahdati, Nejad and Shahsiah (2018) sees competitive advantage as a given set of capabilities or factors which enables establishment to display better or superior performance than competitors. Barney (1991) opined that competitiveness arises from firms leveraging on superior competence created over time which help them enhance product values to customers, boost profitability, enhances differentiation and provide cost advantage to the company. Porter (1985) maintained that competitiveness is a function of providing more efficient values to buyers than that of competitors. It encompasses

activities which provide higher value to buyers at a comparative cost in a unique manner. Competitive edge is a collection of firms' unique features which make them to outperform competitors and such distinct features are often difficult to replicate by other firms (Shah, Mansouri, Esfahan & Niki, 2013).

Enhancing competitiveness is crucial because it influences the performance of organization, boost the firm's survival, enhance the market share, increase patronage and ultimately lead the firm to become a market leader in the industry. Inability of organizations to follow the competitive trend in the industry will make the business to fizzle out within a foreseeable future. Clulow, Gerstman and Barry (2003) remarked that firms attain competitive edge when they implement a strategy that creates value and which is simultaneously not been implemented by players in the given industry. It is paramount to know that firms can only outperform rivalries when they possess the capability to deliver fundamental and distinct values to customers. From the above assertion, it is observed that one of the fundamental elements that creates highly competitive edge is the ability to deliver values that are in alignment with customer's desires. According to Almahamid, McAdams and Kalaldehy (2010) as cited in Orga, Nnadi and Chioma (2018), the measures of competitive advantage includes; innovation, cost reduction, differentiation, alliance and growth. However, Porter (1991) presented cost leadership, differentiation and focus as the generic strategies of attaining firm's competitiveness.

It is worthy to note that the accumulated body of information, data and knowledge which a firm is able to create during an individual organization's existence could help create value that is essential in achieving competitive edge over rivalries. This accumulated information and knowledge during the individual organizations existence is known as organizational memory management (OMM). Organizations on daily basis, experience favourable and unfavourable events which accumulate into experience and knowledge. These accumulated knowledge, ideas and experience drawn from different circumstances over the years are saved which thus form the concept of organizational memory management (OMM) that could help facilitate the effective working procedures of the firm. Stein (1995) stated that OM is the act in which knowledge of the past is used to address the present activities of the firm. The author further remarked that the idea of OM is to make available relevant knowledge to carryout present function of the firm based on past event which can thus boost continuous learning and hence increase effectiveness and eliminate organization's forgetfulness or amnesia. OMM is paramount because it helps accumulate knowledge, experience, ideas and information, which are necessary in tackling present challenges and thus guaranteeing future success of the firm. Toulabi, Dehghani and Taha (2013) identified personal memory, cultural memory, management memory and research and development (R&D) memory as the dimensions of organizational memory management.

OMM is also vital because it assist in decision making, reduce cost of transaction, enhance operational success of firms and its further help respond swiftly to challenges and changes in firm's environment (Huber, Davenport & King, 1998; Nilakanta, Miller & Zhu, 2006). Nafei (2019) contended that OMM influences the general activities of the firm. OM boost firm's performance (Yezhuang, Li & Shufen, 2001). Furthermore, several scholars have examined various ways to address and enhance competitiveness. Clare and Uddin (2019) looked at how corporate image relates with competitive advantage where a positive correlation was observed.

Nzewi and Moneme (2016) observed a substantial link between business agility and commercial banks competitiveness. Kang and Na (2020) investigated if strategy characteristics have effect on competitive advantage. They observed noteworthy correlation amongst the variables. Agbim and Idris (2015) looked at how the dissemination of knowledge impact competitive advantage. They found a substantial correlation amongst the variables. There is however a dearth of work on how to enhance competitive edge from the standpoint of organizational memory management. This study thus seeks to bridge this existing gap with the intent of boosting firm competitiveness.

In the light of the above, the intense nature and proliferation of dynamism in the oil and gas business environment has posed several challenges to the firms in Nigeria. Many of the oil and gas firms within the Nigeria context have encountered several challenges which ranges from those within the immediate environment to that in external environment. Again, the problem facing many oil and gas firms become more worrisome considering the high influence of top global plays in other countries. As such, gaining higher competitive advantage has become paramount for firms in the industry. Inability to compete favourably will result in low returns, poor profitability, reduced patronage, low resilience ability and ultimately liquidation. Companies that has weak competitive capacity to compete with rivalries fizzle out of business. It is worthy of note that when a firm stop operating as a result of poor competitiveness, such intensify unemployment, reduce the gross domestic product of the nation, reduces economic activities. Vahdati, Nejad and Shahsiah (2017) contended that weak competitiveness makes company's market share to dwindle. The author posited that competitiveness ensures the survival of firms. Accumulated and retired skills, knowledge, experience can be helpful in creating values that can help boost competitive edge over rivalries. The quest of gaining competitiveness has persisted and it is thus important for firms to explore relevant means to tackle the challenges. Considering the persistent effort by firms to enhance their competitive advantage, this study investigates if organizational memory management in terms of individual memory, management memory, and cultural memory and R&D memory does relate with competitive advantage of oil and gas firms in Rivers State, Nigeria.

Review of Related Literature

Competitive advantage (CA) of firms can be attain from the standpoint of resource-based view (RBV) which was propounded from the work of Penrose (1959). RBV opined that firms are able to attain competitive edge base on their internal resources. Barney (1991) contended that RBV of firms reveal the internal resources of firms as a distinct factor that leads to variation in success rate between firms that operate in the industry. This denote that the success of firms in the industry is a function of their peculiar internal resources. RBV support firms' competitive advantage in comparison with others firms functioning in the same industry. Rose, Abdullah and Ismad (2010) maintained that management expectation is geared towards boosting competitive edge which can be achieved through the RBV. The author contended that a way to achieve competitiveness is based on the firm's peculiar resources, and such resources must be of optimal value and difficult to duplicate. Thus, firms can achieve their desired competitiveness through the proper deployment of these resources in relation to their product delivered to the market. This denotes that the proper identification and utilization of the firm's internal resource. Song, Benedetto and Nason (2007) argued that several resources are possessed by various firms and among these resources, some has higher effect on performance and competitiveness. This theory

has a link with this work because when a firm is able to identify its core resources as a result of organizational memory management, such translate into creating a competitive edge for the firm.

Research Model

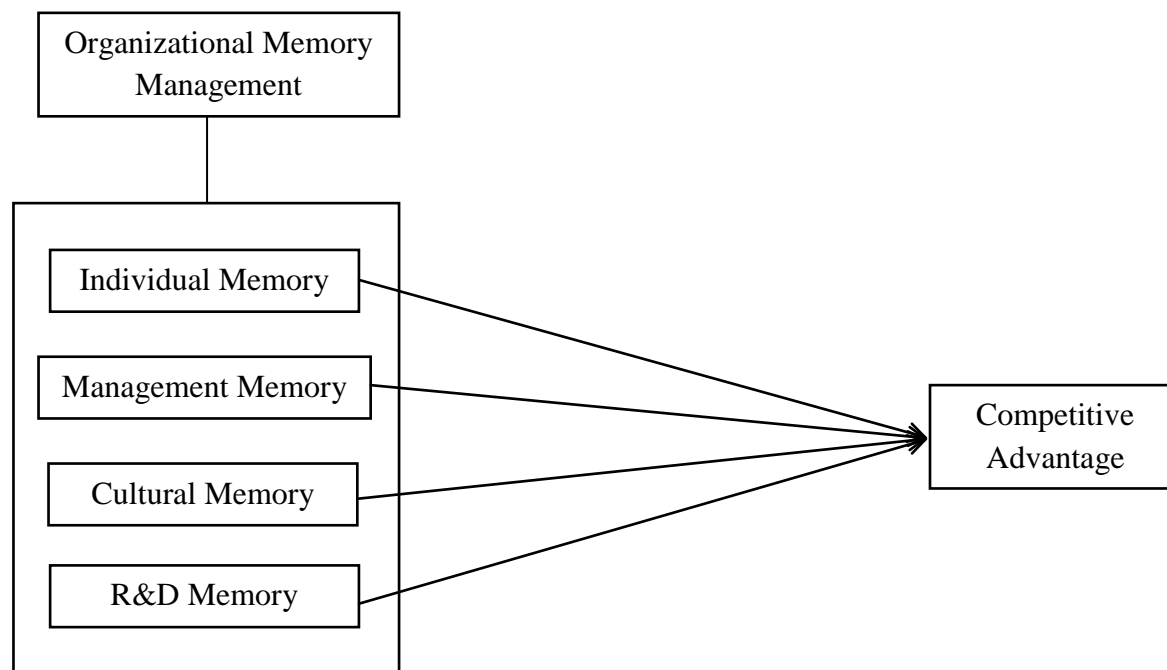


Fig. 1: A model showing the link between organizational memory management and competitive advantage adopted from Toulabi, Dehghani and Taha (2013).

Organizational Memory Management (OMM)

Organizational are social entities as social entity, they interact continuously with environment where they gain idea, experience and knowledge from both pleasant and unpleasant circumstances. These knowledge, experience and idea gained are stored into the memory of organization that thus sharpen how they respond to future occurrences. In the case of human memory, individuals that has stored enough experiences in his/her memory is more likely to make informed decisions and actions. When human experience memory loss, such world requires medical intervention so as to restore the capability to retain past experience. Similarly, organizations that experience amnesia may not function effectively in an ever-dynamic business domain. OMM has attracted innumerable definition by writers in several fields. OMM deals with gathering of organizational knowledge and then redistributing the knowledge amongst organizational staffs (Toulabi, Dehghani & Taha, 2013). Ayazi and Shams (2007) posited that OMM serve as an instrument for transferring knowledge acquired in previous past to present circumstances. Stein (1995) contended that OMM is the act through which specific knowledge of the past is utilized in present activities of the organization. Intellectual capital (IC) is essential for firm's wellbeing and OMM is paramount in ensuring efficient intellectual management and thus

boost productivity and learning in organization (Rastgoo, 2016). OMM help prevent forgetfulness in organization through effective utilization of information treasures like databases, company books and file maintenance system. OMM entails the collection of various historical knowledge of the firm which is utilized for current activities via appropriate collection, refining, organizing and effective dissemination of stored knowledge and information (Nevo & Wand, 2005). Cross and Baird (2000) argued that the management of OMM encompasses the effective creation, maintenance, integration, dissemination and optimal utilization of various forms of knowledge within the firm. When companies are faced with the challenge of making decision under a multiple task environment, OMM can thus be utilized to make best decision.

OMM could help provide relevant information that is essential in achieving transactional cost reduction and contributes to right decision making, enhanced firms success and help the firm's appropriate responsiveness to challenges from the environment (Nilakanta, Miller & Zhu, 2006). OMM entails unstructured information and concepts that exist in the mind of individuals and in the culture of the organization, which can be represented by memory aids that are physical or concrete in nature such as databases. Such information can be effectively stored or represented in a computerized files and records (Jennex & Olfman, 2002). The authors posited that OMM have two key goals which are; to integrate relevant information across the organizational boundary and to effectively control the current activities in the firm so as to avoid previous mistakes.

Furthermore, OMM denote the process through which past knowledge is optionally utilized on current activities of the firm which thus lead to higher effectiveness of the firm (Stein & Zwass, 1995). The authors also argued that the key functions of OMM covers; perception, abstraction, acquisition, proper recording, effective storage, retrieval, right interpretation and efficient transmission of knowledge in the organization. Drawing from the above assertions, one can easily argue that learning and accumulated knowledge are vital or related to OMM. A firm that just started, has little or no previous experience or knowledge and as such can be said to have low OMM system. As organizations continue to operate and carry out its daily functions, knowledge and experience are retained and such knowledge further modified the future actions of the organization. Continuous recording, report filing, alteration in procedures, work process modification is embarked on so as to capture structured knowledge and information to avoid memory loss. Organizations that are rich in OMM are able to avoid mistake and uninformed actions which could thus help boost the overall optimal wellbeing of the firm and also boost competitiveness. Nafei (2019) insisted that OMM is imperative because it influences activities of the firm in general. The author also noted that OMM increases firm's effectiveness and boost firm's performance. Nafei (2019) also contended that OMM serves as the repository in which the knowledge of the firm is stored because of future purpose. Schein (1996) also noted that OMM is more than just an ordinary information official document or phenomenon of knowledge but it entails set of skills and experience about production, projects and decisions that are immersed in employee's mind or embedded in firm's culture as implicit knowledge. Croasdell (2001) summarized that memory denotes the power to reproduce or recover what has been learnt or retailed which cover three broad perspectives which include; episodic, semantic and procedural. Episodic reflects individual knowledge acquired through experience, semantic deals with factual knowledge which is a historical fact and procedural entails the ability to be gained from the learning. Organizations thus store only relevant information, knowledge and ideas that are of

value which can be used for future purposes. OMM impact creativity and performance of establishment (Hashem, 2016). Tsai (2008) highlighted the significance of OMM when the study asserted that anything that has been learnt already and stored in OMM help drive firm's innovation. OMM helps firms to identify events and trends in the industry ahead of competitors (Camison & Villar-Lopez, 2011). Walsh and Ungson (1991) propounded the structure of OMM which encompasses acquisition, retrieval and retention. The author argued that there exist five bins for storing in OMM within the organization which covers; individuals, transformation, culture, structure and ecology.

Although, several write up by scholars have presented divers dimensions in an attempt to measure OMM. Beig and Ghavamifar (2008) identified six dimensions of OMM which covers; personal memory, management memory, project memory, marketing memory, cultural memory and R&D memory. Furthermore, some other scholars identified personal memory, management memory, cultural memory and R&D memory as the dimensions of organizational memory management (Teinabi, Dehghani & Taha, 2013; Rastgoo, 2016). Personal memory, project memory, cultural memory, net-broker memory, managerial memory, marketing memory and R&D memory were identified as dimensions of OMM by Beig and Ghavanifar (2009).

In Nafei (2019) the study identified three dimension of OMM which are; technology organizational memory management, marketing organizational memory management and management organizational memory management. However, four dimensions as proffered in Teinabi, Dehghani and Taha (2013) was covered in the context of this work. These include; personal memory, management memory, cultural memory and R&D memory. Personal memory deals with the implicit and explicit employee's knowledge in the organization (Lemken, Kahler & Rittenbruch, 2000). Personal memory is the knowledge (both tacit and explicit) of members of the organization. The tacit knowledge is often seen as ideas, skills and experience of employees, and such knowledge are often not codified. Personal memory also contains knowledge of information relating to one's past experiences. Beig and Ghavamifar (2009) stated that the personal memory is an individual memory which often appear in a dual form; tacit knowledge and explicit knowledge. The tacit knowledge is often subjective and not easy to transmit while the explicit knowledge is very subjective and can be communicated with ease. Management memory deals with the cooperation mechanism and information flow among the members of the organization and the management. Managerial memory helps keep the mission, vision and business plan of organization (Beig & Ghavamifar, 2009). Cultural memory according to Toulabi, Dehghani and Taha (2013) is an OMM component which impact worker's performance and further identifies their directions, objectives and mental conditions. Beig and Ghavamifar (2009) noted that firms culture encourages collaboration in organization. Anton (2016) stated that cultural memory is a complex phenomenon which help in remembering determining group identity and thus enhances future collective claims. Cultural memory can be useful in creating and enhancing other memory in organizations (Toulabi, Dehghani & Taha, 2013). Finally, R&D memory is the information relating to conducted training courses for company workers and cooperating with research centers and university.

Competitive Advantage (CA)

Increasing firms' competitive edge is a continuous desire and goal which all firms that wishes to continue in business must strive to achieve. A firm that presently dominate the market domain may fizzle out of business in the foreseeable future if such firms are unable to follow the trend in the market place by providing value that are superior to that of rivalries. Competitive advantage (CA) was first described by Ansoff (1965) as distinct characteristics or properties of a firm's product which pave a means of achieving superior competitive position. Porter (1985) contended that CA is attained when firms delivers value which meet buyer's expectations. Over the decades, other scholars have investigated the idea of competitiveness. Two streams of CA were proffered by Sigalas and Pekka-Economou (2013) where they demarcated the conceptualization of CA. Firstly, the stream sees CA in terms of firm's performance in which a firm achieve above average returns, higher profitability, marginal cost and economic profit. Secondly, the stream looked at CA as it relates to the its determinants or sources in terms of cost leadership, location, product features and differentiation.

Furthermore, Basanko, Dranove and Shanley (2000) stated that a company has CA when it gains economic profit higher in comparison with average profit in the given industry creating and enhancing a distinct capability which are lacking in other firms do create a competitive edge for the company. Porter (1985) and Barney (1991) contended that firms should pay attention on its external position and its internal capabilities. In alignment with the above argument, a firm that is able to optimally utilize its internal capabilities can boost their external position in the market domain. Competitive advantage is made up of two words; firstly, competitive implied firms' ability to compete with other rivalries. Advantage is a condition that puts a firm in a superior or favourable position. From the foregoing CA denotes a firm ability to achieve favourable position in the industry by competing effectively with rivalries through its internal capabilities. Gaining CA is a function of a firm been able to differentiate it operations from that of competitors (Potjanajaruwit, 2018; Tende & Ekanem, 2018). Simpson, Taylor and Barker (2004) pointed out that CA pave way for firms to boost sustainable growth of the firm. CA of companies are achieved through continuous investment in boosting the strength of the firm's internal capability and to create values that are impossible to imitate by rivalries. Elijah and Millicent (2018) concluded that gaining CA over rivals, firms should be able to provide value to buyers and effectively perform activities in a more efficient manner than that of competitors in the market place.

Empirical Insight

Scholars have made numerous attempts at investigating how various constructs are linked with CA of firms and how OMM relates with several organizational variables. Toulabi, Dehghani and Taha (2013) looked into how OMM relates with organizational learning among public enterprise in Kerman. Three thousand, one hundred and nineteen (3119) workers from the public organization were studied. 342 staffs were drawn with the help of Cochran formula. The sampling style utilized was the systematic sampling. Questionnaire served as the tool that was utilized in data gathering. The retrieved data was analyzed with the help of spearman correlation test. It was observed that personal memory, management memory, cultural memory and R&D memory does positively relate with organizational learning. They concluded that OMM helps in

knowledge accumulation in companies which thus boost productivity and effectiveness of firms and learning process. Rastgoo (2016) inquire into how OMM impact knowledge sharing in Bushehr. 301 workers served as the population of which 170 was sampled for the study. Questionnaire was utilized in gathering data and the data was subjected to structural equation modeling and smart PLS2. The outcome depicts that the component of OMM relates substantially with knowledge sharing. Nafei (2019) looked at how firm's performance can be predicted from OMM standpoint. 11550 workers in industrial firms in Sadat city, Egypt was covered. 377 sample size was derived from the population. Data gathering was done using questionnaire. Structural equation modeling was utilized. The finding depicts that management memory, marketing memory and technological memory relates substantially with performance of companies. Moorman and Miner (1997) studied how OMM impact performance of new product and creativity. Sample of 396 was drawn from population of 1992. Questionnaire was utilized in data gathering. Analysis was done using regression model. The result revealed that increase in OMM reduces creativity of new product. But it was observed that OMM has a positively bearing with performance of new product. Aftabi and Fadaee (2016) looked into how OMM and organizational learning affects competitive advantage of banks in Guilan Melli. The chi-square was employed in analysis. The study observed that OMM has a noteworthy link with CA in terms of organizational innovation and market innovation of banks in Guilan Melli. Mansouri, Razmavar and Ali (2014) did investigation on how OMM relates with innovation and absorption capacity. 372 workers were covered using chi-square in analyzing data collected via questionnaire. The study observed that OMM relates positively with absorptive capacity and innovation. Camison and Villar-Lopez (2011) further looked into how OMM and learning capabilities predict sustained competitive advantage. 159 firms in Spain was covered. Questionnaire distributed via postal was used in gathering data. Partial least square was utilized in analyzing data. Result revealed a noteworthy relationship amongst OMM and competitive advantage.

Hypotheses

- Ho₁: There is no significant relationship between individual memory and competitive advantage of oil and gas firms in Rivers State, Nigeria.
- Ho₂: There is no significant relationship between management memory and competitive advantage of oil and gas firms in Rivers State, Nigeria.
- Ho₃: There is no significant relationship between cultural memory and competitive advantage of oil and gas firms in Rivers State, Nigeria.
- Ho₄: There is no significant relationship between R&D memory and competitive advantage of oil and gas firms in Rivers State, Nigeria.

Methodology

The cross-sectional survey was carried out and a total of fifteen (15) oil and gas firms in Rivers state were covered as the population of the study. 602 Supervisors and managers drawn from the 15 selected firms served as the respondents. The Krejcie and Morgan (1970) table for sample size determination was utilized to arrive at a sample size of 234. Therefore, 234 questionnaires were distributed to respondents in the 15 firms. Questionnaire was utilized in data collection

from respondents. Well-structured questionnaire which took the form of an open ended and multiple-choice format was utilized. The questionnaire was structure into two parts, the first deal with personal and demographic representative of the respondents. While the second section produced respondent's idea as it relates to the studied variables. The response to these items were measured on a 4-point likert scales ranging from 1 – 4. Where 1 = Strongly disagree, 2 = Disagree 3 = Agree and 4 = Strongly agree. The systematic sampling was utilized so as to ensure that all respondents are given equal chances of been selected. The independent variable (organization memory) was measured in terms of personal memory, management memory, cultural memory and R&D memory as contained in Toulabi, Dehghani and Taha (2013). 4 items were used in measuring each of the construct. Conversely, competitive advantage was measured with 8 items. The measurement items were subjected to content validity which was done by scholars in the field of management. The Cronbach Alpha was used in determining the reliability which gave an alpha value of .831, .744, .936, .873 and .891 for personal memory, management memory, cultural memory, R&D memory, and competitive advantage respectively. Spearman rank order correlation coefficient was utilized to analyze the retrieved data so as to ascertain the correlation amongst OMM and competitive advantage.

Results

From the 234 copies of questionnaires that were distributed to respondents, only 218 (93%) copies were retrieved successfully and utilized in the study. 172 respondents were male which represented 78.9% of retrieved copies while 46 respondents were female which occupied 21.1% of retrieved copies of questionnaire. This implies that the managerial cadre is dominated by male folks. 53 (24.3%) of the respondents' have first degree and its equivalent as highest educational qualification while 165 (75.7%) have higher degree. 196 respondents which represented 89.9% were married, 15 respondents representing 6.9% were single while 7 respondents representing 3.2% were divorced. The hypotheses were tested at 95% confidence interval implying a 0.05 level of significance. The decision rule is set at a critical region of $p > 0.05$ for acceptance of the null hypothesis and $p < 0.05$ for rejection of the null hypothesis.

Table 1 Personal Memory and Competitive Advantage

Correlations			Personal Memory	Competitive Advantage
Spearman's rho	Personal Memory	Correlation Coefficient	1.000	.517*
		Sig. (2-tailed)	.	.000
		N	218	218
	Competitive Advantage	Correlation Coefficient	.517*	1.000
		Sig. (2-tailed)	.000	.
		N	218	218

*. Correlation is significant at the 0.05 level (2-tailed).

From table 1, the P-value gave a value less than the significant level ($.000 < .05$). This denotes a noteworthy relationship amongst personal memory and competitive advantage. The rho value of .517 denote a strong correlation amongst the variable. Drawing from the stated decision rule, the null hypothesis was discarded and alternate hypothesis accepted.

Table 2 Management Memory and Competitive Advantage

Correlations			Management Memory	Competitive Advantage
Spearman's rho	Management Memory	Correlation Coefficient	1.000	.322*
		Sig. (2-tailed)	.	.000
		N	218	218
	Competitive Advantage	Correlation Coefficient	.322*	1.000
		Sig. (2-tailed)	.000	.
		N	218	218

*. Correlation is significant at the 0.05 level (2-tailed).

Drawing from the outcome in table 2, it is observed that a substantial correlation exists amongst management memory and competitive advantage, this is owing to the fact that P-value of .000 was less than .05 level of significance. ($.000 < .05$). The correlational value of .322 shows a moderate linear link between management memory and competitive advantage. Hence, alternate hypothesis was accepted while rejecting the null hypothesis.

Table 3 Cultural Memory and Competitive Advantage

Correlations			Cultural Memory	Competitive Advantage
Spearman's rho	Cultural Memory	Correlation Coefficient	1.000	.271*
		Sig. (2-tailed)	.	.001
		N	218	218
	Competitive Advantage	Correlation Coefficient	.271*	1.000
		Sig. (2-tailed)	.001	.
		N	218	218

*. Correlation is significant at the 0.05 level (2-tailed).

Drawing from the outcome of table three, it is observed that cultural memory relates significantly with competitive advantage, given the P-value of $.001 < .05$. which depict that cultural memory has linear link with competitive advantage. The rho value of .271 shows a weak but positive relationship. Hence, this led to rejecting the null and accepting the alternate hypothesis.

Table 4 R&D Memory and Competitive Advantage

Correlations

			R&D Memory	Competitive Advantage
Spearman's rho	R&D Memory	Correlation Coefficient	1.000	.528*
		Sig. (2-tailed)	.	.000
		N	218	218
	Competitive Advantage	Correlation Coefficient	.528*	1.000
		Sig. (2-tailed)	.000	.
		N	218	218

*. Correlation is significant at the 0.05 level (2-tailed).

The outcome of the analysis displayed in table 4 shows that the P-value was less than the significant level of .05. This implies in alignment with the decision rule that there is a substantial direct relationship among R&D memory and competitive advantage. The rho value of .528 depict a strong relationship amongst R&D memory and competitive advantage.

Discussion of Findings

Maintaining competitive stand in industry remains of paramount concern to firms that wishes to stand out in the market domain. Owing to the bivariate analysis, it was discovered that personal memory relates substantially with competitive advantage in oil and gas firms. The p-value of 0.000 was not up to 0.05, which in alignment with the decision role shows that a significant link exists between personal memory and CA. By implication, when personal memory increases, CA of the firm also increases. The correlation (r) figure of .517 indicated a strong linear correlation amongst the variable. This shows a strong effect of personal memory on CA of firms. The coefficient of determination (r^2) was 0.27. Thus 27% total variation in CA of oil and gas firms can be accounted for by personal memory in the organization. Furthermore, drawing from the second analysis, the outcome depicts that management memory has a substantial positive correlation with CA of oil and gas firms. This is given to the fact that 0.000 value was less in comparison to 0.05 significant level ($0.000 < 0.05$). The r value of .322 displayed a moderate and noteworthy relationship amongst management memory and CA. This shows that an increase in management memory, result in a moderate increase in CA of firms. Considering the coefficient of determination (r^2) of 0.10 it shows that 10% variation in CA can be explained by a unit change in management memory of the company. The bivariate result relating to the tested third hypothesis revealed that cultural memory has a linear relationship with CA of oil and gas firms.

The stated hypothesis which was given in null form was rejected owing that the $P\text{-value} = 0.001 < 0.05$ level of significance. This denote that cultural memory of firms increases the CA of the organization. The correlation (r) figure of .271 shows a weak but positive relationship amongst cultural memory and CA of oil and gas firms. From the coefficient of determination (r^2) which gave a value of 0.07 shows that 7% variation in CA can be accounted for as a result of increase in cultural memory of the organization. This suggests that cultural memory have a way of boosting competitiveness of firms.

Also, an investigation showing if R&D memory have a relationship with CA, revealed that a substantial correlation exists between R&D memory and CA of oil and gas firms. This result was obtained owing that $P\text{-value}$ of 0.000 was less than the given level of significance (0.05). again, the correlation (r) value of the analysis revealed a value of .528. This denote a strong linear relationship amongst R&D memory and CA of oil and gas firms. This shows that an increase in R&D memory can enhance CA of firms in the industry. However, the coefficient of determination (r^2) was 0.28. Thus, 28% change in CA of oil and gas firms can be accounted for by the presence of R&D memory in the firm. The findings aligned with the previous work of Mansouri, Razmavar and Ali (2014) which upheld that OMM relates positively with absorptive capacity and innovation. This indicate that OMM enhances the innovative and absorptive ability of firms and thus boosting their competitive stand. The study also concurred with the work of Camison and Villar-Lopez (2011) which inquired into how OMM predict competitive advantage. The study remarked that OMM have a linear impact on competitive advantage of companies. Similar outcome was observed in Aftabi and Fadaee (2016) which indicated that OMM relates substantially with competitive advantage. Thus, ensuring organizational memory management will go a long way to fostering the competitive edge of firms in a changing market domain.

Final Thoughts and Implications

Enhancing OMM is vital in increasing knowledge creation which will thus create a competitive edge for the firm. OMM serve as an all-embracing mechanism in ensuring knowledge accumulation in the firm which can thus influence the firm competitive edge in the market domain. Today's organization are seen to be a knowledge driven organization and only firms that possess requisite knowledge can compete favourably. Through OMM, knowledge accumulated over time are brought to bear when needed by the firm and such can help improve decision making, improve strategy formation and enhance behavioural adjustment needed in ensuring effectiveness, competitiveness and optimal performance of the firm. Considering the linear correlation between personal memory and competitiveness, it indicates that enhancing individual memory will boost firms CA. The tacit and explicit knowledge of employees are essential asset which firms can leverage on to increase their CA. Management memory is further important because it help increase cooperation mechanism and proper flow of information among the individual and management of this firm. This thus help improve proper work flow and boost the firm's operation which thus result in their competitive ability in the industry. Again, a vested kin interest in R&D memory help boost the firm's capability in tackling challenges and aid workers training which have a positive effect on firms' wellbeing and competitiveness. conclusively, increasing organizational memory management help enrich the wealth of knowledge of the firm and also ensure that accumulated experience over time are brought to bear in order to boost the competitive advantage of firms. In the light of the above, the management of the oil and gas

firms should identify and retain workers with high tacit and explicit knowledge as such will help enhance the competitiveness of the firm. The organization should embrace a culture that encourages knowledge sharing among its employees. The management should set mechanism in place to ensure continuous learning, knowledge storage and transfer among coworkers, as such will help in making informed decision and tackling problems in order to achieve competitive advantage. The management of oil and gas firms should enhance management memory by ensuring proper flow of information and cooperation mechanism between staffs and management, as such will help enhance their competitiveness in the industry. The employees should be given proper training on how to obtain, store, retrieve and share knowledge among coworkers as such will help enhance the fortune of the organization. The management should develop relevant culture and structure that encourages OMM in order to enhance the firm's competitiveness.

References

- Agbim, K. C. & Idris, A. J. (2015). Competitive advantage through knowledge dissemination: An empirical analysis of hotels in Makurdi metropolis, Benue State, Nigeria. *European Journal of Business and Innovation Research*, 3(1), 22 – 35.
- Ansoff, H. I. (1965). *Corporate strategy*, New York, McGraw-Hill.
- Ayazi, F. & Sham, F. (2007). Using ontologies in organizing implicit knowledge flow in the organization. *13th National Conference of Iranian Association*.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management Science*, 17(1), 99 – 120.
- Basanko, D., Dranove, D. & Shanley, M. (2000). *Economics of strategy*, New York, John Wiley & Sons.
- Beig, L. & Ghavamifar, A. (2008). Providing a conceptual model of organizational memory management in dynamic virtual organizational learning. *The 6th International Management Conference*.
- Beig, L. & Ghavamifar, A. (2009). *Organizational memory management building blocks of virtual organizations*. Iran, Iran telecommunication research center.
- Camison, C. & Villar-Lopez (2011). Non-technical innovation: Organisational memory and learning capabilities as antecedent factors with effects on sustained competitive advantage. *International Marketing Management*, 40, 1294 – 1304.
- Clare, G. & Uddin, S. (2019). Corporate image and competitive advantage for apparel companies. *Trends in Textile Engineering and Fashion Technology*, 5(4), 663 – 671.

- Clulow, V., Gerstman, J. & Barry, C. (2003). The resource-based view and sustainable competitive advantage: The case of a financial services firm. *Journal of European Industrial Training*, 27(5), 220 – 232.
- Croasdell, D. T. (2001). It's role in organizational memory management and learning. *Information systems management*, 18(1), 8 – 11.
- Cross, R. & Baird, L. (2002). Technology is not enough: Improving performance by building organizational memory management. *Sloan Management Review*, 41(3), 69 – 78.
- Hashem, T. N. (2016). The impact of organizational memory management use in marketing knowledge management on marketing audits in Jordanian Industrial Corporations. *Global Journal of Emerging Trends in e-Business, Marketing and Consumer Psychology*, 2(1), 337 – 350.
- Huber, G., Davenport, T. H. & King, D. (1998). *Some perspectives on organizational memory management. Unpublished working paper for the task force on organizational memory management.* In F. Burstein, G. Huber, M. Mandviwalla, J. Morrison, & L. Olfman (Eds.). *Presented at the 31st annual Hawaii International Conference on system sciences, Maui.*
- Jennex, M. E., Olfman, L. (2002). Organizational memory management/knowledge effects on productivity. A longitudinal study. *Proceedings of the 35th Annual International Conference on system sciences, IEEE Computer society.*
- Kang, S. & Na, Y. K. (2020). Effects of strategy characteristics for sustainable competitive advantage in sharing economy businesses on creating shared value and performance. *Sustainability*, 12, 1 – 21.
- Lemken, B., Kahler, H. & Rittenbruch, M. (2000). Sustained knowledge management by organizational culture. *Proceedings of the 33rd Hawaii International Conference on system sciences.*
- Mansouri, Z., Razmavar, T. & Ali, M. R. N. (2014). An investigation on the effects of organizational memory management and human capital on innovation and absorptive capacity. *Management Science Letters*, 4, 1223 – 1228.
- Nafei, W. A. (2019). Organizational memory management and organizational performance from the employee perspective: A study in the Egyptian context. *Case Studies Journal*, 8(2), 85 – 100.
- Nevo, D. & Wand, Y. (2005). Organizational memory management information systems. A transactive memory approach. *Decision Support Systems*, 39, 549 – 562.
- Nilakanta, S., Miller, L. L. & Zhu, D. (2006). Organizational memory management: Technological and research issues. *Journal of Database Management*, 17(1), 85 – 94.

- Nzewi, H. N. & Moneme, P. (2016). Business agility and competitive advantage of selected commercial banks in Anambra State, Nigeria. *Journal of Business and Finance Management Research*, 2(8), 81 – 88.
- Orga, J. I., Nnadi, C. S. & Chioma, E. N. (2018). The role of knowledge management on the competitive advantage of food and beverage firms in South East Nigeria. *Scholars Journal of Economics, Business and Management*, 5(7), 612 – 622.
- Porter, M. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York, Free Press.
- Porter, M. E. (1980). *Competitive strategy*. New York, the free press.
- Potjanajaruwit, P. (2018). Competitive advantage effects on firm performance: A case study of startups in Thailand. *Journal of International Studies*, 10(1), 104 – 111.
- Rastgoo, P. (2016). Impact of organizational memory management on knowledge sharing: Case study of Medical Sciences and Health Services University in Bushehr. *International Journal of Soft Computing*, 11(7), 459 – 464.
- Rose, R. C., Abdullah, H. & Ismad, A. I. (2010). A review on the relationship between organizational resources, competitive advantage and performance. *The Journal of International Social Research*, 3(11), 488 – 498.
- Shahmansouri, S., Esfaham, M. D. & Niki, N. (2013). Explain the theory of competitive advantage and comparison with industries based on advanced technology. *International Journal of Economy, Management and Social Sciences*, 2, 841 – 848.
- Sigalas, C. & Pekka-Economou, V. (2013). Revisiting the concept of competitive advantage: Problems and fallacies arising from its conceptualization. *Journal of Strategy and Management*, 6(1), 61 – 80.
- Simpson, M., Taylor, N. & Barker, K. (2004). Environmental responsibility in SMEs: does it deliver competitive advantage? *Business strategy and the environment*, 13(3), 156 – 171.
- Song, M., Benedetto, A. D. & Nason, R. W. (2007). Capabilities and financial performance: The moderating effect of strategic type. *Journal of the Academy of Marketing Science*, 35, 18 – 34.
- Stein, E. W. (1995). Organizational memory management: review of concepts and recommendations for management. *International Journal of Information Management*, 15(2), 17 – 32.
- Tende, F.B. & Ekanem, I.S. (2018). Strategic agility: An intervention prescription to competitive advantage of small businesses in Nigeria. *European Academic Research*, 6(4), 2286-4822.

- Toulabi, Z., Dehghani, M. & Taha, H. Z. A. (2013). A survey of the relationship between organizational memory management and organizational learning in public organisations of Kerman. *International Business Research*, 6(1), 90 – 96.
- Vahdati, H., Nejad, S. H. M. & Shahsiah, N. (2018). Generic competitive strategies toward achieving sustainable and dynamic competitive advantage. *Revista ESPACIOS*, 39(13), 25 – 35.
- Yezhuang, T., Li, Z. & Shufen, F. (2001). The radiant effect of organizational memory management from cultural-oriented to technical-operational-oriented. *Journal of Industrial Engineering Management*, 3(4), 34 – 45.