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Knowledge Management and Competitive Advantage: A Study of Remou Oil Nigeria Limited

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Abstract

The study examines the relationship between knowledge management and competitive advantage in Remou Oil Nigeria Limited. The study sought out how knowledge management (technocratic, economic, social, explicit, tacit and behavior) enhances competitive advantage in Remou Oil Nigeria Limited in terms of cost advantage, differentiation advantage and economic value of the product. A Point in time data was collected from primary source covering a period of 16 months from January 2016 to April, 2017. The population of this study was 50 staff of Remou Oil Nigeria Limited. The population was used as a sample size. Ordinary least Square method of multiple regressions with a statistical package of e-view and SPSS were adopted and findings reveal that relationship between knowledge management and competitive advantage in Remou Oil Nigeria Limited is statistical significant. These indicate that knowledge management (technocratic, economic, social, explicit, tacit and behavior) are significantly contributing to competitive advantage in Remou Oil Nigeria Limited in terms of cost advantage, differentiation advantage and economic value of the product. The study therefore recommends that Remou Oil Nigeria Limited should maintain their knowledge management skills since it statistical significant in achieving competitive advantage over competitors in terms of cost advantage, differentiation advantage and economic value of the product.

Keywords: Knowledge Management, Competitive advantage, cost advantage and Differentiation Advantage

Introduction

Remou Oil Nigeria Limited knowledge include know-how skills, mental skills, mixing of products skills, differentiating products, different ways of approaching problems, and organizational routines which enable them to have competitive advantage over other competitors in the market. Knowledge management's such as technocratic, economic, explicit, social, tacit and behavioral knowledge have good impact on Remou Oil Nigeria Limited and

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will continue to help them to achieve-competitive advantage such as cost advantage, differentiation advantage, and economic value of product which is difficult to imitate or substitute.

Remou Oil Nigeria Limited is competing with other firms in the oil industry such as Total Nigeria Plc, Sellins Oil, Okon's Oil, Revenoul Oil Nigeria Limited, etc., in Ikot Ekpene, Akwa Ibom State. It seem that if Remou Oil Nigeria Limited de-emphasize the importance of knowledge management this is likely to reduce the organizational output and productivity, reduce organizational memory and diminish organizational learning, and thus these may make the organization not to have a good competitive advantage over competitors in the market. Also, failure to understand and connect knowledge management such as technocratic, economic, explicit, social, tacit and behavioral knowledge into employees daily work activities and lack of management support, inappropriate information and communication technology, organizational culture and structure, difficulty in communicating the benefits of knowledge management to employees, lack of resources, difficulty measuring the value added, and a narrow organizational focus on knowledge management is also likely to make the organization not to have competitive advantage over its competitors in the market.

Scholars in the past have studied the impact of knowledge management on business activities. For example, the study conducted by Kenneth (2014) sought to investigate Safaricom Limited knowledge management as strategic tool for achieving competitive advantage. He used interviewed guide to collect primary and a content analysis and qualitative analysis were employed. Bahram and Hussein (2013) study knowledge Management a way to gain a competitive advantage in firms with a particular reference to manufacturing companies. Also, Moses, Joseph, and Augustine (2010) examine the relationship between knowledge management and competitive advantage, in a developing country, Uganda; with a particular focus on the interacting influence of market orientation. However, this study is different from the previous studies because it is study in Akwa Ibom State and reference is on Remou Oil Nigeria Limited. The study employed the used of point in time data and used e-view statistical software package and multiple regressions to predict or established the cause and effect relationship between variables.

The main objective of this study is to examine the relationship between knowledge management and competitive advantage of Remou Oil Nigeria Limited; while the specify objectives of this study are firstly to evaluate the relationship between technocratic knowledge management and competitive advantage of Remou Oil Nigeria Limited. Secondly, to examine the relationship between economic knowledge management and competitive advantage of Remou Oil Nigeria Limited. Thirdly, to determine the relationship between social knowledge management and economic value of product of Remou Oil Nigeria Limited. Fourthly, to examine the relationship between behavioral knowledge management and competitive advantage of Remou Oil Nigeria Limited. Finally, to evaluate the relationship between explicit knowledge management and competitive advantage of Remou Oil Nigeria Limited and determine the relationship between tacit knowledge management and competitive advantage of Remou Oil Nigeria Limited.

This study is limited on the knowledge management and competitive advantage of Remou Oil Nigeria Limited which focused on 16 months from January2016 to April, 2017. This period was chosen because the Remou Oil Nig. Ltd located in Abak Road, in Ikot Ekpene, Akwa Ibom State is considered imperative as the firm initially operation line as a single product line in 2013 but the firm structure later changed to multiple product lines in 2016 such as Tonimus oil, HD 90 oil, total 40 oil, premium oil, versa vista blended oil, Tonimus 90.

Therefore, the hypotheses formulated for this study include. These hypotheses are stated in a null form:

- H₀₁ There is no significant relationship between technocratic knowledge management and competitive advantage of Remou Oil Nigeria Limited.
- H₀₂ There is no significant relationship between Economic knowledge management and competitive advantage of Remou Oil Nigeria Limited.
- H₀₃ There is no significant relationship between social knowledge management and competitive advantage of Remou Oil Nigeria Limited.
- H₀₄ There is no significant relationship between behavioural knowledge management and competitive advantage of Remou Oil Nigeria Limited.
- H_{05} There is no significant relationship between explicit knowledge management and competitive advantage of Remou Oil Nigeria Limited.
- H₀₆ There is no significant relationship between tacit knowledge management and competitive advantage of Remou Oil Nigeria Limited.

Concept of Knowledge Management

Knowledge management is an emerging management concept that refers to knowledge as an organized and managed philosophy in order to be used within an organization (intraorganizational) and sometimes even between organizations (inter-organizational) (Subramani & Venkatraman, 2003). Also, Rao (2004) defines Knowledge management as the combination of organizational culture, strategic goals, individual needs, and the expertise of its people to create an atmosphere of learning and growth. Furthermore, Awad and Ghaziri (2004) asserted that Knowledge management is the process of gathering and making use of a firm's collective expertise wherever it resides on paper, in databases or in people's minds. Knowledge management refers to the creation and subsequent management of an environment that encourages knowledge to be created, shared, learned, and organized for the benefit of the firm (Sarrafzadeh, et al. 2006).

More so, Megan and Jon (2007) posit knowledge management to be the process through which organizations generate value from their intellectual and knowledge-based assets. Knowledge management is a conscious effort to get the right knowledge to the right people at the right time so that it can be shared and put into action (Aziri, Veseli & Ibraimi, 2013). Robbins, Judge & Sanghi (2007) also states that knowledge management is the process of organizing and distributing an organization's collective wisdom so that the right information gets to the right people at the right place.

Knowledge management therefore are technocratic, economic, social, explicit, tacit and behavioral knowledge. Technocratic knowledge are based on information or management technologies, it is largely in place to support and condition employees in everyday tasks. Technical knowledge enablers include a number of information communication technologies (ICTs) such as document management systems, information management systems, searching and indexing systems, expert systems, and communication and collaborative systems. Such systems can be used by the firm to support and enhance the acquisition, conversion, application, and protection of organizational knowledge. The economic knowledge is on itself, as it uses knowledge management in order to create revenue streams through exploiting knowledge, exploration knowledge, resources management knowledge intellectual capital. The behavioral knowledge promotes sharing, creating and using knowledge as a resource (Earl, 2001). It is a knowledge that addressed excess behavior of the employees, inappropriate behavior, deficit behavioral knowledge of the employees and appropriate behavioral knowledge of the employees. Social knowledge management enablers refer to the sum of the actual and potential

resources available that derive from the relationships and interactions of social entities (i.e., individuals, departments, and firms) (Nahapiet &Ghoshal 1998).

Social knowledge is classified as moral knowledge, conventional knowledge, personal knowledge and interpersonal knowledge. Tacit knowledge focused on knowledge which is at the ontological dimension that requires the use of metaphors and an extensive process of socialization. Sharing of tacit knowledge is made possible through networking among those who possess it, and this is referred to as Communities of Practice (CoP). This knowledge is difficult to transmit or share with one another such as innovation, sales, emotional intelligence, leadership and intuition. Explicit knowledge in contrast is formal and systematic; can be codified, collected, stored, verbalized, accessed, articulated and disseminated. It is not bound to a person and has primarily the character of data. Explicit knowledge exists at the epistemological dimension where explication is possible using written or coded formats (Nonaka, 1994). Explicit knowledge is documented and public; structured, fixed content, externalized, and conscious (Duffy, 2000). Explicit knowledge is what can be captured and shared through information technology.

However, knowledge management focuses on the process of controlling or coordinating the technocratic knowledge, economic knowledge, social knowledge, explicit knowledge, tacit knowledge and behavioral knowledge of the employees by the owners of the organization to ensure that employees who possess would facilitate the achievement of an organizational objectives and goals.

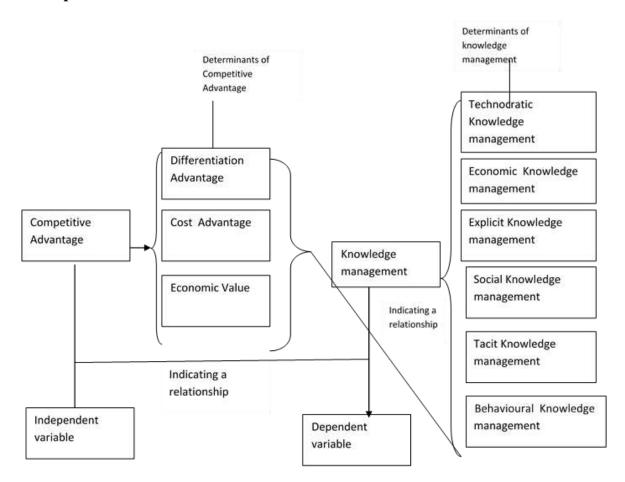
Concept of Competitive Advantage

Competitive advantage another concern area of this paper refers to efforts and marketing opportunities business possesses to be ahead of other competitors in the market... Based on the line of thinking that porter (1990) refers to competitive advantage as exists when the firm is able to deliver the same benefits as competitors but at lower cost (cost advantage) or deliver benefits that exceed those of competing product (differentiation advantage). Competitive advantage in Porter's perspective (Singh,2012) is being able to increase earnings despite the competitive pressures. Accordingly, Barney & Hesterley (2006), observed that a firm has a competitive advantage when it is capable of creating more economic value than rival firms. Grant (2010) however argue that if competitive advantage is identified solely with superior profitability, then "why do we need the concept of competitive advantage at all?" The reality is that competitive advantage can be measured in a number of different ways and by factoring

in key performance indicators that may be of utmost importance to different organisations. However, comparative advantage is the unique activities that a firm perform to its customers in order to create economic value of its product, cost advantage of its product and product differentiation advantage in such ways to outweighs other competitors in the market.

In addition to these hypotheses formulated above, the conceptual framework for the study is shown below known as OpusMurJiy Knowledge Advantage Model, 2018.

Conceptual Framework



Opus Knowledge Advantage Model, 2017

The model for this study is conceptualized by the researchers to explain the inter-relationship between the knowledge management and competitive advantage. The theory believes that firm ability to manage their knowledge ensured competitive advantage within the industry it operates. Firm ability to manage its technocratic knowledge such as document management system, information management system like ICT, searching and indexing system and

communication helped the organization to gain competitive advantage over other industry. Economic knowledge is believing by the developer of this theory that revenue stream of an organization, exploitation of available business opportunities knowledge, intellectual capital knowledge and resources management knowledge will actually ensure competitive advantage in an organization. The theory also notes that social knowledge management in the form of moral knowledge, conventional knowledge, personal knowledge and interpersonal knowledge guarantee firm having competitive advantage over other firms in the industry. The theory showed that firm that adopted behavioral knowledge in the form of excess behavior, inappropriate behavior, deficit and appropriate behavior tend to gain a competitive advantage in terms of cost advantage, differentiation advantage and economic value advantage in the organization. Also, theory protract that firm tend to used explicit knowledge such as dissemination of information, collection of information, stored and accessing information management which enable the organization to achieved a good competitive advantage over other industries. Firm that apply tacit knowledge tend to be innovative, used emotional intelligence concepts, apply good leadership styles such as democratic, transactional and transformational, and then used intuition principles or knowledge to understand the employees, customers and shareholders and this ensured competitive advantage over other firms in the industry. This theory can be applying in all situation and in every organization that seek to gain advantage over other firms within the industry.

Empirical Studies

Studies from other scholars also help to provides explanations to achieve the objectives off the study. Kenneth (2014), for example, investigated Safaricom Limited and refers to knowledge management as strategic tool for achieving competitive advantage. He adopted a case study approach and the population were all the staff which totaled to be 1980 The researcher, used interview method to collect primary data The study used open-ended questions that enabled the researcher to collect qualitative data. The respondents of this study thus include staffs who are working at Safaricom. A content analysis and qualitative analysis were employed. The data were then presented in a continuous prose as a qualitative report on risk knowledge management as a strategic tool for competitive advantage at Safaricom limited Kenya. From a target of five respondents all respondents targeted completed the interview guide making a response rate of 100%. The study found that knowledge management Safaricom has developed a range of products and services which include roaming services, data messaging, M-pesa,

voice services, information and security services, Video Conferencing Telepresence, Virtual Computing and much more.

Also, Bahram and Hussein (2013) study knowledge Management a way to gain a competitive advantage in firms with a particular reference to manufacturing companies. The population of the study is 879 and the researchers purposively used 300 staff of different manufacturing companies. They developed a questionnaire and send it to companies located in the industrial town where managers interviewed revealed that knowledge management has an impact on the surface of the competitive advantage's Knowledge management and competitive advantage, Innovation , Organizational performance, Customer satisfaction, The study variables were. Ranged the in 2,013th were tested. The results indicate that Knowledge management has made a significant competitive advantage.

Besides, Moses, Joseph and Augustine (2010) examine the relationship between knowledge management and competitive advantage, in a developing country, Uganda; with a particular focus on the interacting influence of market orientation. A sample size of 718 organizations was selected from a population of 11,153 organizations using a simple random sampling method. Primary data were collected through a self-administered questionnaire. Descriptive and inferential statistics were used in the analysis. The findings show that there is a positive correlation between knowledge management and competitive advantage; which emphasized that relationship is greatly enhanced by the interaction impact of market orientation. When market-based knowledge is appropriately responded to, it will augment the competitiveness of the organization. It also implies that that competitive advantage is best achieved through a combination of knowledge-based resources.

Knowledge-based theory

In order to under appreciate and comprehend philosophy and ideas about people behaviors with regards to business activities in the market, theories are propounded. The theory considered for this study is Knowledge-based theory which was developed by Grant (1996) which states that the source of competitive advantage in dynamic business environment is not the knowledge that is repository to the organization, because the value of such knowledge erodes quickly due to obsolesce and imitation. Rather, sustained competitive advantage is determined by non-proprietary knowledge in the form of tacit individual knowledge. He also argues that tacit knowledge can form the basis of competitive advantage because it is both unique and relatively immobile. It should however be noted that knowledge is possessed by individuals and not the

organization, thus, a crucial element of competitive advantage is the ability to integrate the specialized and tacit knowledge of individuals. The main idea of the knowledge-based theory of the firm is that organizations exist in the way that they do because of their ability to manage knowledge more efficiently. In other words, organizations are social entities that use and store internal knowledge, competencies and capabilities that are vital for the firm's survival, growth and success (Hakanson, 2010). The theory assumes that organizations are all heterogeneous knowledge-bearing entities that apply knowledge to the production of their goods and services (Foss, 1996). Firms are able to organize the way they do because they are depositories of productive knowledge.

Methodology

This study used survey research design and employed the used multiple regression method to analyzed data. Data for this study were gathered from primary source through the use of questionnaire administered to the respondents who are the staff of Remou oil Nigeria Limited. The firm has a population of 50 employees and out of these 50 employees, 10 were the functional managers including marketing, production, store, accounting, transport, administrative managers. The junior staffs in the organization were 40 and the method of selecting sampling size was purposive sampling. Therefore the researcher used all population as the sample size. The questionnaire was administered to all staff randomly and the researchers collected the vital information needed for this study through the help of a staff (Mr. Pius Benson) that worked as a marketing manager at Remou oil Nigeria Limited. A five-point Likert scale was also designed such as strongly agreed, agreed, undecided, strongly disagreed and disagreed. However, 41 copies of questionnaire were with Mr. Pius Benson which the researchers used and a multiple statistical model was developed. The reliability of the instrument was tested and result indicates 0.86 for knowledge management with 24 items and 0.67 for competitive advantage with 3 items which are above 0.61 as Cronbach's Alpha standard using SPSS to compute. Therefore the questionnaire found to be reliable. The model function was given as:

Where Y is the dependent variable, α is the intercept, β_I is the coefficient and x is the dependent variable. The dependent variable which is competitive advantage was measured with cost advantage, differentiation advantage and economic value advantage. The independent variable which is knowledge management was measured with technocratic knowledge (document

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management system, information management system, searching and indexing management system, expert management system and communication), economic knowledge management (revenue stream, exploiting knowledge, intellectual capital, resources knowledge management), behavioural knowledge (inappropriate behavioural knowledge, excess behavioural knowledge, deficit behavioural knowledge and appropriate behavioural knowledge), explicit knowledge (dissemination, collected, stored and accessed) and tacit knowledge (emotional intelligence, intuition, innovation and leadership)

The above model was expatriated as follows:

The multiple regression models are stated below:

Where:

CA=Competitive Advantage

TK= Technocratic Knowledge

EK= Economic Knowledge

EXK= Explicit Knowledge

SK= Social Knowledge

TAK= Tacit Knowledge

BK= Behavioural Knowledge

 β_1 = coefficient

 $\pi = Constant$

The study used normality test to also indicate whether the data collected from the respondents were normally distributed or not and if they are normally distributed, the researcher when further to test regression but if they are not normally distributed, the researcher log the data in order to obtain good fit of the data that guarantee efficient output.

Data Analysis

Table 1: Technocratic Knowledge Management

| Technocratic Knowledge | SA | A | U | SDA | DA |
|--|-----------|-----------|---------|----------|-----------|
| Remou Oil Nigeria Limited are concentrated on document management system | 12(29.26) | 13(31.70) | 1(1.43) | 6(14.63) | 9(21.95) |
| Remou Oil Nigeria Limited often used information management system | 10(24.39) | 11(26.83) | 2(4.88) | 8(19.51) | 10(24.39) |
| Remou Oil Nigeria Limited usually used searching and indexing management system | 15(36.59) | 12(29.27) | 1(2.43) | 7(17.07) | 6(14.63) |
| Remou Oil Nigeria Limited used frequently expert system and communication | 11(26.82) | 19(9.76) | 1(2.43) | 4(9.76) | 6(14.63) |

Source: Survey, 2017

Table 2: Mean

| Table 2. Mican | L | | | | | | | | | | |
|----------------|----|----|---|---|----|-----|----|------|--------|-----------------|-----------|
| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
| | | | | | | | | | | | Mean |
| Document | 12 | 13 | 1 | 6 | 9 | 136 | 41 | 3.31 | High | 3 rd | |
| management | | | | | | | | | _ | | |
| system | | | | | | | | | | | |
| Information | 10 | 11 | 2 | 8 | 10 | 126 | 41 | 3.07 | High | 4 th | |
| management | | | | | | | | | | | 3.39 |
| system | | | | | | | | | | | |
| Searching | 15 | 12 | 1 | 7 | 6 | 146 | 41 | 3.56 | High | 2 nd | |
| and | | | | | | | | | | | |
| indexing | | | | | | | | | | | |
| Expert | 11 | 19 | 1 | 4 | 6 | 148 | 41 | 3.61 | High | 1 st | |
| management | | | | | | | | | | | |
| system | | | | | | | | | | | |

Author's Computation

The above table indicate that the mean value of technocratic knowledge management was acceptable because the sectoral mean was above the average and this implies that document management system, information management system, searching and indexing management system and expert management system were acceptable but in ranking, expert management system was the 1st, searching and indexing was the 2nd, document management system was third and lastly was information management system. It also indicates that Remou Oil Nigeria

Limited hardly coordinate or manage information system due to the fact organization due to have other branches.

Table 3: Economic Knowledge Management

| Economic Knowledge | SA | A | U | SDA | DA |
|---|-----------|-----------|---------|-----------|----------|
| Remou Oil Nigeria Limited always manage revenue stream of the organization | 10(24.39) | 14(34.15) | 2(4.87) | 9(21.95) | 6(41.63) |
| Remou Oil Nigeria Limited exploit business opportunity and market | 15(36.59) | 9(21.95) | 3(7.32) | 11(26.83) | 3(7.32) |
| Remou Oil Nigeria Limitedutilised more intellectual capital | 13(31.71) | 13(31.71) | 2(4.87) | 7(17.07) | 6(41.63) |
| Remou Oil Nigeria Limited manage scare resources well in the organization | 12(29.27) | 16(39.02) | 1(2.44) | 5(12.19) | 7(17.07) |

Source: Survey, 2017

Table 4: Mean

| Table 4. Meal | L | | | | | | | | | | |
|---------------|----|----|---|----|---|-----|----|------|--------|-----------------|-----------|
| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
| | | | | | | | | | | | Mean |
| Revenue | 10 | 14 | 2 | 9 | 6 | 136 | 41 | 3.31 | High | 4 th | |
| stream | | | | | | | | | | | |
| Exploitation | 15 | 9 | 3 | 11 | 3 | 145 | 41 | 3.53 | High | 1 st | |
| | | | | | | | | | | | |
| Intellectual | 13 | 13 | 2 | 7 | 6 | 143 | 41 | 3.49 | High | 3 rd | 3.46 |
| capital | | | | | | | | | | | |
| Scare | 12 | 16 | 1 | 5 | 7 | 144 | 41 | 3.51 | High | 2 nd | |
| resources | | | | | | | | | | | |

Author's Computation

The above table indicate that the mean value of economic knowledge management was acceptable because the sectoral mean was above the average and this implies that revenue stream management, exploitation of opportunities and resources management, intellectual capital management and scare resources management were acceptable but in ranking, exploitation of resources was the 1st, scare resources was the 2nd, intellectual capital was third and lastly was revenue stream management. It also indicates that Remou Oil Nigeria Limited hardly managed revenue stream.

Table 5: Social Knowledge Management

| Social Knowledge | SA | A | U | SDA | DA |
|--|-----------|-----------|---------|----------|-----------|
| Remou Oil Nigeria Limited always encourage employees to practises justices, rights, duties and other social welfare - moral knowledge | 15(36.58) | 6(14.63) | 3(7.31) | 4(9.75) | 13(31.70) |
| Remou Oil Nigeria Limited thought employees to good ways of addressing people – conventional knowledge | 19(46.34) | 9(21.95) | 4(9.75) | 3(7.31) | 6(14.63) |
| Remou Oil Nigeria Limitedensure that employees solved issued that are personal- personal knowledge | 20(48.78) | 14(34.14) | 1(1.43) | 2(4.87) | 4(9.75) |
| Remou Oil Nigeria Limitedalways help employees to relate with each other in the organization- interpersonal relationship | 12(29.26) | 13(31.70) | 1(1.43) | 6(14.63) | 9(21.95) |

Source: Survey, 2017

Table 6: Mean

| Table U. Micali | | | | | | | | | | | |
|-----------------|----|----|---|---|----|-----|----|------|--------|-----------------|-----------|
| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
| | | | | | | | | | | | Mean |
| Moral | 15 | 6 | 3 | 4 | 13 | 137 | 41 | 3.34 | High | 3 rd | |
| knowledge | | | | | | | | | _ | | |
| Conventional | 19 | 9 | 4 | 3 | 6 | 155 | 41 | 3.78 | High | 2 nd | |
| knowledge | | | | | | | | | | | |
| Personal | 20 | 14 | 1 | 2 | 4 | 167 | 41 | 4.07 | High | 1 st | 3.63 |
| knowledge | | | | | | | | | _ | | |
| Interpersonal | 12 | 13 | 1 | 6 | 9 | 136 | 41 | 3.31 | High | 4 th | |
| knowledge | | | | | | | | | _ | | |

Authors' Computation

The above table indicate that the mean value of social knowledge management was acceptable because the sectoral mean was above the average and this implies that moral knowledge, conventional knowledge, personal knowledge and interpersonal knowledge were acceptable

but in ranking, personal knowledge was the 1st, (organization used more personal knowledge to work), conventional knowledge was the 2nd, moral knowledge was third and lastly was interpersonal knowledge. It also indicates that Remou Oil Nigeria Limited hardly used interpersonal knowledge in the organization. They feel that interpersonal knowledge is the knowledge that is between individual inner most mind and can be expressed by on him or her.

Table 7: Behavioural Knowledge Management

| Behavioural Knowledge | SA | A | U | SDA | DA |
|---|-----------|-----------|---------|----------|----------|
| Remou Oil Nigeria Limitedoften managed inappropriate behaviour in the organization | 17(41.46) | 12(29.27) | 2(4.88) | 5(12.19) | 5(12.19) |
| Remou Oil Nigeria Limited does not manage deficit behaviour in the organization | 15(36.58) | 16(39.02) | 1(2.44) | 3(7.32) | 6(14.63) |
| Remou Oil Nigeria Limited encourage appropriate behaviour | 14(34.15) | 12(29.26) | - | 8(19.51) | 7(17.07) |
| Remou Oil Nigeria Limited try to manage excess behaviour in the organization. | 18(43.90) | 11(26.82) | 3(7.32) | 4(9.76) | 5(12.19) |

Source: Survey, 2017

Table 8: Mean

| Table 6. Mean | | | | | | | | | | | |
|---------------|----|----|---|---|---|-----|----|------|--------|-----------------|-----------|
| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
| | | | | | | | | | | | Mean |
| Inappropriate | 17 | 12 | 2 | 5 | 5 | 154 | 41 | 3.76 | High | 2 nd | |
| behaviour | | | | | | | | | | | |
| Deficit | 15 | 16 | 1 | 3 | 6 | 154 | 41 | 3.76 | High | 2 nd | |
| behaviour | | | | | | | | | | | |
| Appropriate | 14 | 12 | - | 8 | 7 | 140 | 41 | 3.41 | High | 3 rd | 3.68 |
| behaviour | | | | | | | | | | | |
| | | | | | | | | | | | |
| Excess | 18 | 11 | 3 | 4 | 5 | 156 | 41 | 3.80 | High | 1 st | |
| behaviour | | | | | | | | | | | |

Authors' Computation

The above table indicate that the mean value of behavioral knowledge management was acceptable because the sectoral mean was above the average and this implies that inappropriate behavioral knowledge, deficit behavioral knowledge, appropriate behavioral knowledge and excess behavioral knowledge were acceptable but in ranking, excess behavioral knowledge was the 1st, inappropriate behavioral knowledge was the 2ndanddeficit behavioral knowledge was also second and lastly was appropriate behavioral knowledge. It also indicates that Remou Oil Nigeria Limited hardly used encouraged appropriate behavioral knowledge in the organization.

Table 9: Explicit Knowledge Management

| Explicit Knowledge | SA | A | U | SDA | DA |
|--|-----------|-----------|---------|----------|---------|
| Remou Oil Nigeria Limited- frequently disseminate information to employees | 19(46.34) | 15(36.58) | 1(1.43) | 3(7.32) | 3(7.32) |
| Remou Oil Nigeria Limited usually collected information in order to manage the organization | 15(36.58) | 16(39.02) | 2(4.88) | 6(14.63) | 2(4.88) |
| Remou Oil Nigeria Limited often stored information for future reference | 13(31.71) | 17(41.46) | 1(1.43) | 8(19.51) | 2(4.88) |
| Remou Oil Nigeria Limited give room for employees to access the information about the organization | 18(43.90) | 14(34.15) | - | 7(17.07) | 2(4.88) |

Source: Survey, 2017

Table 10: Mean

| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
|-------------|----|----|---|---|---|-----|----|------|--------|-----------------|-----------|
| | | | | | | | | | | | Mean |
| Disseminate | 19 | 15 | 1 | 3 | 3 | 167 | 41 | 4.07 | Very | 1 st | |
| information | | | | | | | | | High | | |
| Collected | 15 | 16 | 2 | 6 | 2 | 156 | 41 | 3.80 | High | 3 rd | |
| information | | | | | | | | | | | 3.89 |
| Store | 13 | 17 | 1 | 8 | 2 | 154 | 41 | 3.76 | High | 4 th | |
| information | | | | | | | | | | | |
| Access | 18 | 14 | - | 7 | 2 | 162 | 41 | 3.95 | High | 2 nd | |
| information | | | | | | | | | | | |

Authors' Computation

The above table indicate that the mean value of explicit—knowledge management was acceptable because the sectoral mean was above the average and this implies that dissemination of information, collection of information management, storing of information management and accessing information management were acceptable but in ranking, dissemination of information management was the 1st, accessing information management was the 2nd and collecting information management was third and lastly was storing of information management. It also indicates that Remou Oil Nigeria Limited hardly stored information or data in the organization.

Table 11: Tacit Knowledge Management

| TacitKnowledge | SA | A | U | SDA | DA |
|--|-----------|-----------|----------|----------|----------|
| Remou Oil Nigeria Limited always engage in innovation | 16(39.02) | 15(36.58) | 4(9.75) | 3(7.31) | 3(7.31) |
| Remou Oil Nigeria Limited encourage expression of emotions based on outcomes- emotional intelligence knowledge | 17(41.46) | 13(31.70) | 6(14.63) | 3(7.31) | 2(4.87) |
| Remou Oil Nigeria Limited understand the employees using logic – intuition knowledge | 15(36.59) | 13(31.70) | 2(4.87) | 7(17.07) | 4(9.76) |
| Remou Oil Nigeria Limited management expresses it leadership style fairly to the employees | 15(36.58) | 14(34.15) | 1(1.43) | 4(9.76) | 7(17.07) |

Source: Survey, 2017

Table 12: Mean

| 200010 1201120 | **** | | | | | | | | | | |
|----------------|------|----|---|---|---|-----|----|------|--------|-----------------|-----------|
| Variables | 5 | 4 | 3 | 2 | 1 | FX | N | Mean | Rating | Ranking | Sectorial |
| | | | | | | | | | | | Mean |
| Innovative | 16 | 15 | 4 | 3 | 3 | 164 | 41 | 4.00 | Very | 1 st | |
| knowledge | | | | | | | | | High | | |
| Emotional | 17 | 13 | 6 | 3 | 2 | 163 | 41 | 3.98 | High | 2 nd | |
| intelligence | | | | | | | | | _ | | 3.82 |
| knowledge | | | | | | | | | | | |
| Intuition | 15 | 13 | 2 | 7 | 4 | 151 | 41 | 3.68 | High | 3 rd | |
| knowledge | | | | | | | | | _ | | |
| Leadership | 15 | 14 | 1 | 4 | 7 | 149 | 41 | 3.63 | High | 4 th | |
| knowledge | | | | | | | | | | | |

Authors' Computation

The above table indicate that the mean value of tacit knowledge management was acceptable because the sectoral mean was above the average and this implies that innovative knowledge, emotional intelligence knowledge, intuition knowledge and leadership knowledgewere acceptable but in ranking, innovative knowledge management was the 1st, emotional intelligence knowledge management was the 2nd and intuition knowledge management was third and lastly was leadership knowledge management. It also indicates that Remou Oil Nigeria Limited hardly apply leadership knowledge management since leadership behaviour is personal in the organization.

Table 13: Competitive Advantage

| Competitive Advantage | SA | A | U | SDA | DA |
|--|-----------|-----------|---------|----------|-----------|
| Remou Oil deliver the same benefits as competitors but at lower cost (cost advantage) | 21(51.21) | 13(31.70) | - | 4(9.75) | 3(7.31) |
| Remou Oil deliver benefits that exceed those of competing product (differentiation advantage) | 20(48.78) | 15(36.58) | - | 6(14.63) | - |
| Remou Oil is capable of creating more economic value than rival firms | 6(14.63) | 13(31.70) | 2(4.87) | 3(7.31) | 17(41.46) |

Source: Questionnaire Administered, 2017

Tests of Normality

| | Kolmo | ogorov-Sm | irnov ^a | Shapiro-Wilk | | | | | | | | |
|----|-----------|-----------|--------------------|--------------|----|------|--|--|--|--|--|--|
| | Statistic | Df | Sig. | Statistic | Df | Sig. | | | | | | |
| CA | .168 | 41 | .687 | .229 | 41 | .573 | | | | | | |

a. Lilliefors Significance Correction

IJSS, 2019, Volume 3, Issue 16, p. 164-185.

The dependent variable is tested for normality such that Kolmogorogy Smimov is more than 1% level of significance, 5% and 10% level of significance which indicates that the data collected is normally distributed.

Regression Result using

E-view Statistical software Package

$$CA = \alpha + \beta_1 TK + \beta_2 EK + \beta_3 EXK + \beta_4 SK + \beta_5 TAK + \beta_6 BK$$

Dependent Variable: CA Method: Least Squares Date: 07/21/17 Time: 11:49

Sample: 141

Included observations: 41

| Variable | Coefficient | Std. Error | t-Statistic | Prob. | | | |
|--------------------|-------------|-------------|-------------|----------|--|--|--|
| С | 0.178077 | 0.631157 | 0.282144 | 0.7795 | | | |
| TK | 0.289560 | 0.200274 | 1.445822 | 0.0074 | | | |
| EK | 0.184441 | 0.202687 | 0.909980 | 0.0092 | | | |
| EXK | 0.329314 | 0.171230 | 1.923225 | 0.0029 | | | |
| SK | 1.175445 | 0.184015 | 6.387759 | 0.0000 | | | |
| TAK | 0.012916 | 0.199592 | 0.064714 | 0.0088 | | | |
| BK | 0.312318 | 0.233499 | 1.337557 | 0.0009 | | | |
| R-squared | 0.964132 | Mean deper | ndent var | 10.85366 | | | |
| Adjusted R-squared | 0.957802 | S.D. depend | dent var | 3.921486 | | | |
| S.E. of regression | 0.805558 | Akaike info | criterion | 2.559689 | | | |
| Sum squared resid | 22.06340 | Schwarz cr | iterion | 2.852250 | | | |
| Log likelihood | -45.47361 | Hannan-Qu | inn criter. | 2.666223 | | | |
| F-statistic | 152.3186 | Durbin-Wa | 0.968130 | | | | |
| Prob(F-statistic) | 0.000000 | | | | | | |

Source: Data output using e-view 9.0 statistical package, 2017

Decision Rule: 1% level significance

The f-statistic value of 152.3186 is significant at p statistic value of 0.00 and a Durbin Watson value of 1.96which provides evidence of existence of linear relationship between knowledge management (technocratic, economic, social, explicit, tacit and behavior, though some of all the independent variables indicate significant from their p value and also the general F-stat value is positive and significant) and competitive advantage (economic value, differentiation advantage and cost advantage) in Remou Oil Nigeria Limited. The $R^2 = 0.96$ indicates that only 96% knowledge management (technocratic, economic, social, explicit, tacit and behavior)

embarked upon by the Remou Oil Nigeria Limited contributes immensely to competitive advantage of the product but 4% can explained by other factors not noted in the regression model which is refer to as error term. Therefore, we accept the alternative hypothesis that there is a significant relationship between knowledge management (technocratic, economic, social, explicit, tacit and behavior) and competitive advantage of the product in Remou Oil Nigeria Limited.

Discussion of the findings

From the above analysis, the relationship between knowledge management and competitive advantage in Remou Oil Nigeria Limited is statistical significant. These indicate that knowledge management(technocratic, economic, social, explicit, tacit and behavior) are significantly contributes to competitive advantage in Remou Oil Nigeria Limited in terms of cost advantage, differentiation advantage and economic value of the product. The finding is in tandem with the finding of Bahram and Hussein (2013) and Moses, Joseph and Augustine (2010) who found that there is a significant relationship between knowledge management and competitive advantage. The study is also in line with Knowledge-based theory which believed that the source of competitive advantage in dynamic business environment is not the knowledge that is repository to the organization, because the value of such knowledge erodes quickly due to obsolesce and imitation. Rather, sustained competitive advantage is determined by non-proprietary knowledge in the form of tacit individual knowledge, social, economic, behavioral and explicit knowledge.

Conclusions and Recommendations

This study concludes that the relationship between knowledge management and competitive advantage in Remou Oil Nigeria Limited is statistically significant. These indicate that knowledge management (technocratic, economic, social, explicit, tacit and behavior) are significantly contributes to competitive advantage in Remou Oil Nigeria Limited in terms of cost advantage, differentiation advantage and economic value of the product. The study therefore recommends that Remou Oil Nigeria Limited should maintain their knowledge management skills since it statistically significant in achieving competitive advantage over competitors in terms of cost advantage, differentiation advantage and economic value of the product.

This study therefore is significant to the management and potential entrepreneurs to learning about knowledge management as emerging marketing-management practices to achieve organizational objectives. It also provides insight for potential managers to know important elements that shape customer-business relationships in a competitive marketing environment. Knowledge-management is not only useful to Remou Oil Nigeria Limited but also to other business firms as they strive to attract customers' attentions for their services and products in the market.

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Appendix 1

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|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|---|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|-------------------|
| X | X | X | X | T | Y | у | Y | Y | Е | Z | Z | Z | Z | S | В | В | В | В | В | Е | Е | Е | Е | X | T | T | T | T | A | C | C | C | C |
| 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | 4 | K | 1 | 2 | 3 | A |
| _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | 1 |
| 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 |
| ٥ | - | - | - | 2 | - | ٥ | ٥ | | 2 | ٥ | - | - | ٥ | 2 | - | - | - | - | 2 | - | ٥ | ٥ | ٥ | 2 | ٥ | ٥ | ٥ | ٥ | 2 | - | - | - | 1 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 |
| | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | 1 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 1 |
| J | 5 | 5 | 5 | 2 | 5 | J | J | J | 2 | J | 5 | 5 | 5 | 2 | 5 | 5 | 5 | 5 | 2 | 5 | J | J | J | 2 | J | J | 5 | J | 2 | 5 | 5 | 5 | 1 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 |
| | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | 1 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 2 | 3 | 5 | 4 | 4 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | | | | 1 |
| 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| _ | | _ | _ | 1 | | _ | _ | _ | 1 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | _ | _ | 2 | _ | _ | | 1 |
| 5 | 4 | 5 | 5 | 9 | 4 | 5 | 5 | 5 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| 5 | 4 | 5 | 4 | 8 | 4 | 5 | 5 | 5 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 1 |
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| 4 | 4 | 5 | 4 | 7 | 4 | 5 | 5 | 4 | 8 | 5 | 5 | 5 | 4 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| | | | | 1 | | | | | 1 | | | | | 1 | | | | | 2 | | | | | 1 | | | | | 2 | | | | 1 |
| 4 | 4 | 5 | 4 | 7 | 4 | 5 | 4 | 4 | 7 | 5 | 5 | 5 | 4 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 5 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 4 | 4 |
| 1 | 1 | 5 | 1 | 1 7 | 1 | 5 | 1 | 1 | 1 7 | 5 | 5 | 5 | 1 | 0 | 5 | 5 | 1 | 5 | 0 | 5 | 5 | 1 | 5 | 9 | 5 | 5 | 5 | 5 | 0 | 5 | 5 | 1 | 1 |
| 7 | 7 | J | _ | 1 | _ | J | _ | _ | 1 | J | J | J | _ | 1 | J | J | _ | J | 1 | J | J | _ | J | 1 | J | J | J | J | 1 | J | J | _ | 1 |
| 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 5 | 5 | 4 | 8 | 5 | 4 | 4 | 5 | 8 | 5 | 4 | 4 | 5 | 8 | 5 | 5 | 4 | 4 | 8 | 5 | 5 | 4 | 4 |
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| 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 5 | 5 | 4 | 8 | 5 | 4 | 4 | 5 | 8 | 5 | 4 | 4 | 5 | 8 | 4 | 5 | 4 | 4 | 7 | 5 | 5 | 4 | 4 |
| 1 | 1 | 1 | 1 | I | 1 | 1 | 1 | 1 | I | 1 | _ | 5 | 1 | l | 1 | 1 | 1 | 5 | I 7 | _ | 1 | 1 | 5 | 1 8 | 1 | 1 | 1 | 1 | I 6 | _ | 5 | 1 | 1 |
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| 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 5 | 5 | 4 | 8 | 4 | 4 | 4 | 5 | 7 | 5 | 4 | 4 | 4 | 7 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 4 | 4 |
| | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | 1 |
| 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 5 | 4 | 7 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | 3 |
| | | | | 1 | | 4 | 4 | 4 | 1 | _ | | | | 1 | | | | | 1 | | | 4 | 4 | 1 | 4 | | | | 1 | _ | | ~ | 1 |
| 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 4 | 3 | 2 |

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| 4 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 6 | 3 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 2 | 0 |
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| 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 6 | 2 | 1 | 1 | 1 | 1 5 | 1 | 1 | 1 | 1 | 1 6 | 1 | 1 | 1 | 1 | 1 6 | 1 | 1 | 1 | 1 | 1 6 | 1 | 4 | 2 | 1 |
| 4 | _ | 4 | 4 | 1 | 4 | 4 | 4 | 4 | 1 | 3 | 4 | 4 | 4 | <i>J</i> | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | _ | U |
| 4 | 2 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 1 | 9 |
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| 3 | 2 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 1 | 9 |
| | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | |
| 2 | 2 | 4 | 4 | 2 | 2 | 3 | 3 | 4 | 2 | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 1 | 9 |
| 2 | 2 | 2 | 4 | 1 | 2 | 2 | 2 | 4 | 1 | 2 | 4 | 4 | 2 | 1 | 4 | 4 | 2 | 4 | 1 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 1 | 0 |
| 2 | 2 | 3 | 4 | 1 | 2 | 2 | 3 | 4 | 1 | 2 | 4 | 4 | 2 | 1 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 0 | 4 | 4 | 4 | 4 | 0 | 4 | 4 | 1 | 9 |
| 2 | 2 | 2 | 4 | 0 | 2 | 2 | 2 | 3 | 9 | 1 | 3 | 4 | 2 | 0 | 4 | 4 | 2 | 4 | 1 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 3 | 4 | 5 | 4 | 4 | 1 | 9 |
| _ | _ | _ | _ | 1 | _ | _ | _ | 5 | | 1 | 5 | _ | _ | 1 | _ | _ | _ | _ | 1 | 7 | _ | 7 | _ | 1 | _ | _ | 5 | _ | 1 | _ | 7 | 1 | |
| 2 | 2 | 2 | 4 | 0 | 2 | 2 | 2 | 2 | 8 | 1 | 3 | 4 | 2 | 0 | 3 | 4 | 2 | 4 | 3 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 1 | 9 |
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| 2 | 2 | 2 | 3 | 9 | 2 | 2 | 2 | 2 | 8 | 1 | 3 | 4 | 2 | 0 | 3 | 4 | 2 | 3 | 2 | 4 | 4 | 3 | 4 | 5 | 4 | 3 | 2 | 2 | 1 | 4 | 4 | 1 | 9 |
| _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | _ | | _ | 1 | _ | _ | _ | _ | 1 | | _ | _ | | 1 | _ | _ | _ | _ | 1 | | | _ | _ |
| 2 | I | 2 | 2 | 7 | 2 | 2 | 2 | 2 | 8 | 1 | 3 | 4 | 2 | 0 | 2 | 3 | 2 | 3 | 0 | 4 | 3 | 2 | 4 | 3 | 3 | 3 | 2 | 2 | 0 | 4 | 4 | I | 9 |
| 1 | 1 | 2 | 2 | 6 | 2 | 2 | 2 | 2 | Q | 1 | 2 | 1 | 1 | Q | 2 | 2 | 2 | 3 | O | 1 | 3 | 2 | 2 | 1 1 | 3 | 3 | 2 | 2 | 1 | 1 | 4 | 1 | O |
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| 1 | 1 | 2 | 2 | 6 | 2 | 2 | 2 | 2 | 8 | 1 | 2 | 4 | 1 | 8 | 2 | 2 | 2 | 2 | 8 | 4 | 2 | 2 | 2 | 0 | 3 | 3 | 2 | 2 | 0 | 4 | 4 | 1 | 9 |
| 1 | 1 | 2 | 2 | 6 | 2 | 2 | 2 | 1 | 7 | 1 | 2 | 3 | 1 | 7 | 2 | 2 | 1 | 2 | 7 | 3 | 2 | 2 | 2 | 9 | 3 | 3 | 2 | 1 | 9 | 2 | 4 | 1 | 7 |
| 1 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 2 | 1 | 5 | 2 | 1 | 1 | 2 | 6 | 2 | 2 | 2 | 2 | 8 | 2 | 3 | 2 | 1 | 8 | 2 | 1 | 1 | 4 |
| 1 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 2 | 1 | 7 | 2 | 1 | 1 | 4 |
| 1 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 8 | 2 | 2 | 1 | 1 | 6 | 2 | 1 | 1 | 4 |
| 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 2 | 2 | 7 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 1 | 3 |
| 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 3 |
| 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 3 |