Knowledge Sharing and Organisational Sustainability of ICT Firms In Nigeria

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ABSTRACT

This study investigates the effect of knowledge sharing on organisational sustainability of ICT firms in Nigeria using cross sectional research survey. A total of one hundred and eighty (180) workers were surveyed from twenty information and communication technology firms with convenience sampling technique. Sample size of one hundred and twenty three (123) was ascertained using Krejcie and Morgan sample size determination table. Questionnaire was used to collect data from the workers in the selected information and communication technology firms in Nigeria. Instrument was found valid with face validity, while Cronbach Alpha was used to ascertain reliability of the questionnaire. Frequency was used to analyse the respondents demographic characteristics while linear regression was used to analyse the hypotheses. The study found that knowledge sharing has positive significant effect on organisational sustainability. This study concludes that knowledge sharing measured in terms of socialization, internationalization and externalization promotes organisational sustainability through economic sustainability, social sustainability and environmental sustainability. The implication of the findings of this study is that; managers should
encourage knowledge sharing amongst all the employees in the workplace so as to promote organisational sustainability.

**Keywords:** knowledge sharing, organisational sustainability, socialization, internalization, externalization, economic sustainability, environmental sustainability, social sustainability

**Introduction**

As the culture and philosophy of information and communication technology environment changes, the stakeholders must also change with the trends especially as the workforce is made up of knowledge workers. Drucker (1993) contended that knowledge workers are individuals who have high levels of education and specialists skills combined with the ability to apply the skills to identify and solve organisational problems. The emergence of scientific management yielded positive result by replacing rule of thumb with scientific way of doing things in the workplace (Weihrich, Cannice and Koontz, 2008). It is on this premise that the period of analog management was replaced with knowledge based management where managers no longer depend solely on their personal experience but on the accumulation of its employees knowledge (Nonaka and Takeuchi, 1995). In support of this argument, Brent and Vital (2007) argued that knowledge in this current age of information technology is regarded as one of the major sources of achieving competitive advantage in a dynamic and competitive environment. Asrar-ul-Haq and Anwar (2016) added that knowledge is the lifeblood of every organisation and has been identified as a tool for competitive advantage. Thus, knowledge sharing is a fundamental tool for utilization of knowledge for solving organisational problems (Jacson, Chuang, Harden, Jiang and Joseph, 2006). Firms are now living in this environment of knowledge called knowledge economy. In the knowledge economy, the world is wide open to every organization in terms of the number of customers to reach; where to source for raw materials and so forth. Thus, telecommunication firms in Nigeria are utilizing this opportunity to advance their businesses within and outside the country through knowledge dissemination. It has been shown that knowledge sharing is associated with innovation,
creativity and talent attraction (Yu, Zhang and Shen, 2017). Zhou and Li (2012) added that firms that encourages dissemination of knowledge amongst its workforce experiences workplace harmony. Barari (2015) contended that knowledge sharing brings about teamwork that leads to high productivity and efficiency. Information and communication organisations prosperity is dependent solely on knowledge dissemination. Thus, it behooves on the managers of information and communication to ensure there is open communication, workplace democratic culture for dissemination of knowledge to be felt by every members of the organisation. Funmilola (2015) added that when an employee leaves an enterprise, managers’ focus should not be only on requesting for firms properties such as car, identity card but focus on extracting as much knowledge as possible from the exiting employee. This is because allowing employees with relevant knowledge to leave without capturing it on database or files will result to threats as rivals can take advantage of such employee by absorbing such employee with focus on copyrights and intellectual property.

Drawing from the above argument, organisational sustainability is the prime focus of every organisation especially in this era of digital revolution and climate change. Sustainability remains high point of discussion amongst scholars across many disciplines due to its widely acclaimed significance. Thus, in the quest for information and communication technology enterprises to meet the needs of future generation which focuses on environmental, social and economic sustainability, information on how it will be achieved must be effectively distributed within the organisation. Organisational sustainability has improves environmental preservation and conservation. Profit making that is geared towards improving the lives of the employees is said to yield positive result that add value to employees’ wellbeing. Researchers across the globe have investigated knowledge sharing with other workplace variables as outline here. Obeidat, Abdallah, Aqqad, Akhoershiedah and Maqableh (2017) examined the effect of intellectual capital on organizational performance in Jordan. Results of their study
revealed that knowledge sharing had a positive effect on organizational performance. Masoodul, Ibrahim, Muhammad and Sadia (2016) investigated knowledge sharing behavior of business teachers of Pakistani universities. Their findings show positive and significant relationship among all the study variables. Joosung (2018) examined the effects of knowledge sharing on individual creativity in Korean higher education institutions. Joosung’s finding revealed that knowledge sharing is positively associated with individual creativity. Meng-Lei, Jeou-Shyan and Yu-Hua (2009) investigated knowledge sharing and service innovation performance in hospitality firms in Taiwan. Their finding revealed that knowledge sharing has strong significant relationship with team culture and service innovation performance. Mohammad, Ali, Javad and Keramat (2015) examined the role of organizational citizenship behavior in promoting knowledge sharing in Kharazmi University, Tehran. Their finding revealed that organizational citizenship behavior has positive significant relationship with knowledge sharing.

The above trends of studies did not examined knowledge sharing and organisational sustainability. This is what propels the researcher to investigate the effect of knowledge sharing on organisational sustainability in the information and communication technology firms in Nigeria.

REVIEW OF LITERATURE

Knowledge Sharing

Knowledge sharing is the process of exchanging tacit and explicit knowledge mutually with intention of creating new information (Fournier and Flores, 2009 cited in Vajjhala and Vucetic, 2013; Hooff and Weenen, 2004). Knowledge sharing is a process in which the individual exchanges his/her knowledge and ideas through discussions to create new knowledge or ideas (Al-Zu’bi, 2011). Knowledge sharing is a set of behaviors that involve
the exchange of information or assistance to others (Bryant, 2003). Knowledge dissemination in an enterprise can be understood as a knowledge exchange process between employees and management to generate new knowledge for solving workplace problems (Hoof and Ridder, 2004). Hoof and Ridder (2004) argued that knowledge sharing activities comprises of two dimensions; knowledge donation and knowledge collection. Knowledge donation is a process of providing knowledge by establishing communication among individuals while knowledge collection is a process of acquiring knowledge from other individuals by consultation, persuasion and invitation to other individuals to share the knowledge that they possess (Hoof and Ridder, 2004). However, Lam and Lambermont-Ford (2010) stressed that knowledge dissemination is difficult because it depends on the individual's willingness to share such knowledge. This obstacle is known as knowledge stickiness because it becomes a social process that has complex difficulties and causal ambiguity (Szulanski, 1996; 2000).

Knowledge distribution usually happens among two individuals; one that possesses the knowledge and the one that acquires the knowledge (Ma, Qi and Wang, 2008). This process includes the dissemination of ideas, information, suggestions, and experiences associated with an enterprise (Tohidinia and Mosakhani, 2010). Knowledge sharing can also be defined as the activities that lead to the transfer and dissemination of knowledge between individuals, groups, or organizations (Ling, San and Hock, 2009). Knowledge sharing can also be viewed as a process whereby explicit or tacit knowledge flows between individuals, groups, departments or the organizations (Cyr and Choo, 2010; Masa’deh, Gharibeh, Tarhini and Obeidat, 2015).

**Dimensions of Knowledge Sharing**

Nonaka and Takeuchi (1995) outlined socialization, externalization, internalization, and combination as the processes through which firms generate new knowledge. Socialization here is concerned with disseminating tacit knowledge (Nonaka and Takeuchi, 1995). Duffy
(2000) contended that tacit knowledge is the personal and context specific knowledge of an individual that resides in the human mind, their behaviour and perception. Tacit knowledge is the knowledge that exists in individuals minds (Armstrong, 2009). When knowledge is disseminated, social learning takes place. Socialization in terms of knowledge sharing is the process of sharing one’s experience with another, thereby creating tacit knowledge in the form of mental models and technical skills (Bryant, 2003). Externalization refers to when tacit knowledge is converted into explicit knowledge (Nonaka and Takeuchi, 1995). This conversion is usually in the form of models, symbols, concepts, equation and signs (Nonaka and Konno, 1998). Internalization refers to converting explicit knowledge into tacit knowledge. Internalization involves converting explicit into tacit knowledge (Bryant, 2003). Knowledge that has been generated by others is absorbed by another individual and internalized (Bryant, 2003). Combination involves combining tacit knowledge and presenting it into new form (Seyed, Saeed and Farzaneh, 2014). An example of combination of knowledge is when information from different departments and agencies are collected and included in a single report (Seyed, Saeed and Farzaneh, 2014).

Organisational Sustainability

Elkington (1999) propounded the triple-P perspective which considers a firm sustainable if certain minimum performance is attained using people, planet and profit. Supporting the above argument, Broekhuis and Vos (2003) added that the three P’s stand for employees (people), environment (planet), and making profit (profit). The main premise is that an organization can only be responsible if the social and ecological environments are considered in their strategic plan (Broekhuis and Vos, 2003). From this perspective, an organization needs to find a balance between economic goals (profit) and goals with regard to the social (people) and ecological (planet) environment (Broekhuis and Vos, 2003). Organisational sustainability is ‘meeting the needs of shareholders, employees, clients, pressure groups,
communities without compromising its ability to meet the needs for the future (Dyllick and Hockerts, 2002). Wirtenberg, Harmon, Russell and Fairfield (2009) viewed organisational sustainability as the ability to achieve business goals and increase long-term shareholder value by integrating economic, environmental and social opportunities into its business strategies. Landrum and Edwards (2009) asserted that a sustainable enterprise is one that operates in the interest of current and future stakeholders in a manner that ensures long-term health and survival of the business. Wikström (2010) stated that from the business point of view sustainability can be defined as the ability of a company to make profits while sustaining the environment. Munck and Souza (2009) argued that sustainable organizational actions are those responsible for causing the least environmental impact possible due to operational activities, while simultaneously paying much attention to socio-economic development of present and future generations.

**Indicators of organisational sustainability**

Indicators of organisational sustainability as accentuated by Elkington (1999) include social sustainability, economic sustainability and environmental sustainability. Social sustainability is concerned with corporate attitudes associated with stakeholders that make up the organisation such as suppliers, contractors, employees, consumers as well as the general impacts on the society (Krajnc and Glavic, 2005). Organizational sustainability is not just about carrying out a business in an ethical way but with improving societal sustainability through organizational activities and influence (Roome, 2001). Economic sustainability on the other hand is associated with profit making by business so as to survive and benefit the economic systems at home and abroad (Roberts and Tribe, 2008). Marita (2011) added that sustainable businesses consider their economic impact on the community, such as creation of jobs by providing wages for the people or host community, and contribution to economic development. However, in order to achieve economic sustainability, firms must conduct its
activities in a responsible and recognized manner, with social and economic return for those involved (Munck, Munck and Souza, 2011). Environmental sustainability is concerned with organisation making responsible decisions that will reduce negative impact such as waste on the environment (Mandip, 2012). It has been shown that firms that are environmental conscious do not promote emissions or solid waste that will pollute the environment above the capacity the environment can accommodate (Cella-de-Oliveira, 2013). Jabbour and Santos (2008) added that environmental sustainability in organizations follow three step model. First step involves how organization reacts to environmental legislation and product requirements. The second step focuses more on prevention of harm to the environment especially on the prevention of pollution and effective waste disposal. The third step is concerned with proactive measures as well as change to ensuring long-term environmental sustainability.

Based on the extant review of literature, the following research hypotheses were formulated.

HO1: Socialization has positive significant effect on economic sustainability

HO2: Externalization has positive significant effect on environmental sustainability

HO3: Internalization has positive significant effect on social sustainability

RESEARCH METHODOLOGY

Research design employed in this study is cross-sectional research survey. Sekaran and Bougie (2016) argued that a cross-sectional survey is a study undertaken by a researcher in which data are gathered just once, perhaps over a period of days or weeks or months, in order to answer a research question.

Population and Sampling

Target population for this study consists of twenty information and communication technology firms operating in Port Harcourt, Nigeria. A total of one hundred and eighty (180)
workers were surveyed from the twenty information and communication technology (ICT) firms with convenience sampling technique. Sample size of one hundred and twenty three (123) was ascertained using Krejcie and Morgan (1970) sample size determination table.

Data Collection

Questionnaire was used to collect data from the workers in the selected information and communication technology firms in Nigeria. One hundred and twenty three (123) copies of questionnaire were administered to the respondents. Out of the one hundred and twenty three (123) copies of questionnaire administered, eighty three (83) copies were retrieved and found useful for data analysis. Validity of the instrument was determined using face approach, while Cronbach Alpha was used to ascertain the reliability of the instrument. The dimensions of knowledge sharing and measures of organisational sustainability falls within the acceptable reliability benchmark of 0.7 and 0.8 coefficient as contended by Nunnally and Bernstein (1994).

Measures

Dimensions of knowledge sharing was measured using the scale developed by Bock and Kim (2002); and Cummings (2004) with 6-items on five point Likert ranging from 5=Very great extent, 4=Great extent, 3=Moderate extent, 2=Low extent, 1=Very low extent. Maletic, Maletic and Gomišček (2012) 19-items validated questionnaires was adopted to measure economic sustainability (7-items); social sustainability (7-items); environmental sustainability (5-items)

Method of data analysis

IBM SPSS Statistics (20.0) was used to carry out the analyses. Frequency was used to analyse the respondents demographic characteristics while linear regression was used to analyse the hypotheses.
DATA ANALYSIS AND RESULTS

Table 1: Demographic characteristics of respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>78</td>
<td>94.0</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>Age Bracket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46 years &amp; above</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>36-45 years</td>
<td>14</td>
<td>16.9</td>
</tr>
<tr>
<td>26-35 years</td>
<td>67</td>
<td>80.7</td>
</tr>
<tr>
<td>18-25 years</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Educational Qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>39</td>
<td>47.0</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>25</td>
<td>30.1</td>
</tr>
<tr>
<td>Others</td>
<td>19</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Source: Field Survey (2019)

Table 1 above shows the results of demographic characteristics of participants under study. 78 respondents representing 94.0% are male; while 5 respondents representing 6.0% are females. 1 participant representing 1.2% are between 46 years and above; 14 respondents representing 16.9% are between 36-45 years; 67 respondents representing 80.7% are between 26-35 years; and 1 respondent representing 1.2% are between 18-25 years. 39 respondents representing 47.0% hold diploma certificates; 25 participants representing 30.1% hold bachelor degrees; 19 respondents representing 22.9% hold other educational qualifications.

Figure 1: Bar chart showing the gender of respondents’
Figure 2: Bar chart showing age bracket of respondents

Figure 3: Bar chart showing the educational level of respondents

Table 2: Socialization has positive significant effect on economic sustainability

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.747</td>
<td>.557</td>
<td>.552</td>
<td>.83297</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Socialization
Table 2 above shows the result of linear regression between socialization and economic sustainability. The R shows a substantial correlation between socialization and economic sustainability ($R = .747^a$). The R-square value indicates that about 56% of the variance in economic sustainability is explained by socialization. $F$-ratio revealed that the predictor variable is statistically significant and predicted the criterion variable, $F(1,81) = 3.96$, $p<0.05$, $R^2 = .557$ and with a high degree of correlation ($R=.747a$). $F$ calculated is greater than the tabulated (102.022 > 3.96). Since $F$ calculated (102.022) is greater than the tabulated value (3.98), alternate hypothesis is accepted while null hypothesis is rejected. Based on the above result the study found that socialization has a positive significant effect on economic sustainability.

**Table 3: Externalization has positive significant effect on environmental sustainability**
a. Predictors: (Constant), Externalization

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>78.067</td>
<td>1</td>
<td>78.067</td>
<td>129.258</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>48.921</td>
<td>81</td>
<td>.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>126.988</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Environmental sustainability
b. Predictors: (Constant), Externalization

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.727</td>
<td>.142</td>
<td></td>
<td>5.130</td>
</tr>
<tr>
<td>Externalization</td>
<td>.667</td>
<td>.059</td>
<td>.784</td>
<td>11.369</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Environmental sustainability

Table 3 above shows the result of linear regression between externalization and environmental sustainability. The R shows a substantial correlation between externalization and environmental sustainability (R = .784*). The R-square value indicates that about 62% of the variance in environmental sustainability is explained by externalization. F-ratio revealed that the predictor variable is statistically significant and predicted the criterion variable, $F(1,81) = 3.96, p<0.05$, $R^2 = .615$ and with a high degree of correlation (R=.784*). F calculated is greater than the tabulated (129.258 > 3.96). Since F calculated (129.258) is greater than the tabulated value (3.98), null hypothesis is hereby rejected and alternate hypothesis accepted. Based on the above result the study found that externalization has a positive significant effect on environmental sustainability.

**Table 4: Internalization has positive significant effect on social sustainability**

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
</tbody>
</table>
Table 4 above shows the result of linear regression between internalization and social sustainability. The R shows a substantial correlation between internalization and social sustainability (R = .743$^a$). The R-square value indicates that about 55% of the variance in social sustainability is explained by internalization. F-ratio revealed that the predictor variable is statistically significant and predicted the criterion variable, $F(1,81) = 3.96, p<0.05$, $R^2 = .552$ and with a high degree of correlation (R=.743$^a$). F calculated is greater than the tabulated (99.728 > 3.96). Since F calculated (99.728) is greater than the tabulated value (3.98), alternate hypothesis is accepted and null hypothesis is rejected. Based on the above result the study found that internalization has a positive significant effect on social sustainability.

**DISCUSSION**

Drawing from the results above, the study found that knowledge sharing has positive significant effect on organisational sustainability. Hypothesis one results show that
socialization has positive significant effect on economic sustainability. This is in line with Obeidat, Abdallah, Aqqad, Akhoershiedah and Maqableh (2017) finding which revealed that knowledge sharing had a positive effect on organizational performance. Hypothesis two results revealed that externalization has positive significant effect on environmental sustainability. This is in consonant with Joosung (2018) finding which show that knowledge sharing is positively associated with individual creativity. Hypothesis three results show that internalization has positive significant effect on social sustainability. This is in line with Meng-Lei, Jeou-Shyan and Yu-Hua (2009) finding which revealed that knowledge sharing has strong significant relationship with team culture and service innovation performance.

CONCLUSION AND IMPLICATION

This study concludes that knowledge sharing measured in terms of socialization, internationalization and externalization promotes organisational sustainability through economic sustainability, social sustainability and environmental sustainability. The implication of findings of this study is that; managers should encourage knowledge sharing amongst all the employees in the workplace so as to promote organisational sustainability.

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