Assessing Proficiency Of Private And Public Sector Employees On Management Information Technology

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ABSTRACT - With improved information technology, many businesses should be enhanced in the area of growth by savoring computers, their programs and any IT-based device. Employees must be proficient in managing information technology. The research was a combination of a case study, qualitative research and non-experimental research. A sample size of 200 employees was used. Frequencies, percentages and the chi-square test were used in the data analysis. Females generally have a higher proficiency in management IT. Private sector employees are able to handle management IT more effectively than public sector employees, and proficiency in management IT increases with years of working experience. Finally, access to IT training increases proficiency in management IT.

KEYWORDS: Information Technology, Management IT, Proficiency

I. INTRODUCTION
Information Technology (IT) is a credible tool in the development of the business sector of society. As a renewable field of human intelligence, the IT sector has been useful in managing change and development in businesses. Information technology (IT) is largely considered to “encompass the use of computers and telecommunications equipment to store, retrieve, transmit and manipulate data” (Daintiff, 2009) [1]. On the other hand, Management Information System (MIS) is related to management information technology (MIT), which is an aspect of MIS (O’Brien, 1999). Management IT deals with the tools, processes and people needed to grow the organization through effective exchange and dissemination of business-related information (Hsu and Pant, 1995) [2]. Management IT deals more about the ability of people to use computer, telephones and other devices and their related programs to communicate within the organization.

Business managements and administrations are characterized by the application of IT such as electronic communication, internet usage, graphic design and usage, databases management, data mining, basic computer skills, website creation, data analysis and the like (Butler et al, 2005). It is expressed universally by business experts that ability of employees to perform these tasks is paramount to the progress of an organization. Yet, gender, years of work experience and training are important variables that influence employees’ proficiency in management IT (Adeshina et al 2012; Ali, 2011; Butler et al, 2005 [3]; Fernandez and Moldogaziev (2011[4]). The economy is mainly divided into private and public sectors; hence it might be of interest to know the sector where management IT is better used, as a basis for improving its application.

Studies have independently shown how years of work experience, gender and training influence proficiency of employees in management IT, as well as the extent of the use of management IT in public and private sector organizations. Nonetheless, geographic and demographic differences in the populations used in these studies do not make way for their results to be applied to Ghana. I was therefore encouraged to examine the use of management IT in the private and public sectors, with added emphasis placed on the relationship which years of work experience, gender and training have with employee proficiency in management IT.

II. STATEMENT OF THE PROBLEM
With improved information technology, many businesses are being enhanced in the area of growth by savoring computers, their programs and any IT-based device. Nonetheless, there are many businesses
and organizations which are collapsing as a result of the fact that managements are unable to integrate with employees, customers and stakeholders through appropriate communications systems (O’Brien, 1999). This is due to a lack of knowledge by managements about the best ways of using management IT. Managements also do not know the relationships that exist between gender, years of work experience and training with employee proficiency in management IT. Meanwhile knowledge about this by management is imperative for designing schemes of improving management IT utilization. Managements lacking such knowledge are based on the absence of empirically proven evidences, further based on lack of research works in this vein. Despite the empirical evidences established by Adeshina et al (2012) Ali, (2011) and Fernandez and Moldogaziev (2011)[5], they cannot help to know the exact situation of employee proficiency in management IT in Ghana, especially in terms of public and private sector application. This is because the studies reviewed above were undertaken outside Ghana and situations of geographical and demographical differences cannot allow for the application of these findings in Ghana. Further, none of the reviewed works could touch on management IT to reveal its real application in private and private sectors, with adequate emphasis on how training, gender and years of work experience influence proficiency in management IT by employees in Ghana.

III. OBJECTIVE OF THE STUDY

The objective of the study was to examine the proficiency of public and private sector employees in managing Information Technology. Thus, the study was aimed at identifying any possible difference in the proficiency of public and private sector employees in terms of effective use of the computer, its basic and other IT-related programs in the administration and management levels.

IV. HYPOTHESES

H_{01}: Gender does not influence effective use of the computer and its basic and other IT-related programs in the administration and management levels.

H_{02}: Years of work experience do not impact accurate use of the computer and its IT-related programs.

H_{03}: The effectiveness of the use of computer and its IT-related programs by private and public sector employees is the same.

H_{04}: Access to appropriate computer training does not influence the effectiveness of the use of computers and its related programs.

V. LITERATURE REVIEW

Information Technology (IT) has become an indispensable tool in the development of human society, especially in the field of business management. As a renewable field of human intelligence, the IT sector has been useful in the area of business enhancement and adaptation. Information technology (IT) is broadly considered to “encompass the use of computers and telecommunications equipment to store, retrieve, transmit and manipulate data” (Daintiff, 2009)[1]. In a business context, the Information Technology Association of America has defined information technology (IT) as “the study, design, development, application, implementation, support or management of computer-based information systems”. In an academic context, the Association for Computing Machinery defines it as “undergraduate degree programs that prepare students to meet the computer technology needs of business, government, healthcare, schools, and other kinds of organizations. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones (Chandler and Munday, 2012)[6]. The history of IT can be traced to the days of the Sumerians, where humans were storing, retrieving, manipulating and communicating information in about 3000 BC (Butler, 2004)[7].

In the context of business or organizational management, information technology interplays with Management Information Systems (MIS). Management Information System (MIS) provides information that is needed to manage organizations efficiently and effectively (O’Brien, 1999). Management information systems are not only computer systems - these systems encompass three primary components: technology, people
(individuals, groups, or organizations), and data/information for decision making. In academic terms, the term is commonly used to refer to the study of how individuals, groups, and organizations evaluate, design, implement, manage, and utilize systems to generate information to improve efficiency and effectiveness of decision making, including systems termed decision support systems, expert systems, and executive information systems (O’Brien, 1999)[8].

Management Information System (MIS) is related to management information technology (MIT), which is an aspect of MIS (O’Brien, 1999). Management IT deals with the tools, processes and people needed to grow organizations through effective exchange and dissemination of business-related information (Hsu and Pant, 1995)[2]. Management IT deals more about the ability of people to use computer, telephones and other devices and their related programs to communicate within the organizational system. Literally, effective organizational management in terms of marketing, human resource, sales, logistics and operations involve the appropriate application of management (Baroudi, 1993)[9]. It is irrefutable that success in an organization depends on success made in each division of its management; hence the growth of the organization is not possible without the use of management IT that liaises individual departments through effective communication across people.

a) Employee Proficiency in Management IT in Terms of Gender

One area of concern deals with whether gender is an influence when it comes to proficiency in management information technology. In other words, it is important to know if the proficiency of male employees is higher or lower than their counterpart female employees when it comes to proficiency in management IT (i.e. The use of computers, telephones and other devices and their inbuilt programs to communicate among people in the organization) is different. Butler et al (2005)[3], based on empirical evidence said that males cannot be said to be more proficient in IT than females, neither can females. Rather, each gender can be said to be better in an area of IT. For instance females have better basic computer skills both in the arts and non-arts sectors than males (Butler et al, 2005)[3]. Yet, males understand computer hardware better than females, and the two genders are at par when it comes to the use of the internet. Females are also better off when it comes to electronic communication and database management. Adesina et al (2012)[10] was of the view that males and females have no difference when it comes to the ability to use the internet and teaching IT. Considering proficiency at individual aspects of IT, Butler et al (2005)[3] said that females are generally better. This is to say that females lead in terms of proficiency in many more aspects of managing IT.

b) Years of Work Experience and Management IT Proficiency

Like gender, years of work experience is a potential variable that may influence proficiency in management IT. This is to say that the number of years an employee has worked may influence his or her proficiency in management IT. Logically, increased number of years of working experience should increase an employee’s proficiency in management IT. This is supported by Adesina et al (2012)[10]. However, ageing can infiltrate acuity and the ability to use IT at the management level. Hence, IT proficiency cannot necessarily increase with increased years of working experience, whiles training on the use of computers and other IT resources may also enhance proficiency in IT application (Adesina et al, 2012)[10].

c) Management IT in the Public and Private Sectors

Baroudi (2012)[9] has expressed the need to use appropriate design of information technology for the development of organizations. This would bring to mind the use of management IT for growing businesses. When talking about the application of IT in the management or organizational level, the employees are the appropriate subjects to call to mind, as they are the people subject to the use of IT devices in communication (O’Brien, 1999)[8]. An important school of thought deals with whether management IT is better applied in private sectors. If this is the case, could it mean that private sector employees are more proficient in the use of
management IT? Fernandez and Moldogaziev (2011)[4] agreed with the assertion that private sector employees perform better than public sector employees, though it might not necessarily mean that private sector employees have better competences. Ali (2011) expressed the same view, except that some motivation factors help private sector employees enhance their job skills, including IT and computer skills, to defend and maintain jobs that meet their satisfaction. This implies that factors such as adequate employee motivation and training help private sector employees to be more passionate towards upgrading their IT and computer skills. Also, employees of the private sector apply IT and computers more often than their counterpart public sector employees by virtue of work demand, training and motivation (Ali, 2011)[5]. Hence, private sector employees have higher proficiencies in management IT than public sector employees.

d) Impact of Computer Training on Employees Proficiency in IT Management

Generally, the training develops knowledge and skill, though skill is more easily influenced by training than knowledge. This stresses the idea that proficiency in management IT among employees increase with their training. As seen early on, Ali (2011)[5] and Adeshina et al (2012)[10] have indicated empirically that this applies in the use of computers, their programs and other IT-based devices. Under normal circumstances, increased training on management IT should increase proficiency in it. It can therefore be said that proficiency is positively correlated to training.

e) Empirical Review of Literature

Based on the research work of Butler et al (2005)[3], it cannot be generally said that males are better off when it comes to the application of management IT. Yet, females can be said to lead in say graphic design, database management, and presentation programs, while males can be said to be better at word processing, hardware and website creation. The two genders are at par when it comes to internet usage and e-communication. When it comes to individual elements of IT, females have many areas where they lead (Butler et al, 2012)[7]. Adeshina et al (2012)[10] also said that the number of working experience positively influences proficiency in management IT; thus as employees have more years of working experience, their proficiencies in management IT increases, unless certain factors such as ageing curtail improvement. Fernandez and Moldogaziev (2011)[4] found that private sector employees perform better than public sector employees, though it might not necessarily mean that private sector employees have better competences. Ali (2011)[5] discovered the same result. Some motivation factors help private sector employees enhance their job skills, including IT and computer skills, to defend and maintain jobs that meet their satisfaction. This implies that factors such as adequate employee motivation and training help private sector employees to be more passionate towards upgrading their IT and computer skills. Also, employees of the private sector apply IT and computers more often than their counterpart public sector employees by virtue of work demand, training and motivation (Ali, 2011). Hence, private sector employees have higher proficiencies in management IT than public sector employees.

Despite the following empirical evidences were established, they cannot help to know the exact situation of employee proficiency in management IT in Ghana, especially in terms of public and private sector application. This is because the studies reviewed above were undertaken outside Ghana and situations of geographical and demographical differences cannot allow for the application of these findings in Ghana. Further, none of the reviewed works could touch on management IT to reveal its real application in private and private sectors, with adequate emphasis on how training, gender and years of work experience influence proficiency in management IT by employees in Ghana. This encouraged me to undertake this study.

VI. METHODOLOGY

a. Research Design

The research was undertaken as a case study of Accra, and the quantitative research paradigm was also employed. The study was made a case study of Accra in order to give it much depth of investigation.
Also, the researcher could best handle the research problem in the context of a case study. The quantitative research paradigm was also employed due the fact that hypothesis testing was central to the study.

b. Sample and Sampling Techniques

Convenience sampling was employed alongside the stratified sampling technique. A stratified sampling paved way for the sample to be categorized into “public sector employees” and “private sector employees”. For each category, a sample of 100 was used, making an overall sample size of 200. Meanwhile, public and private sector firms whose operations need frequent and deep use of computers and IT-related programs were chosen for the target population.

c. Tools of Data Analysis

Frequencies, percentages and the chi-square test were used in the data analysis. The chi-square test was specifically used to test the four hypotheses outlined above. This is because pairs of variables manipulated in data analysis were either ordinal or nominal. As generally known, such variables are analyzed using non-parametric statistical tools; in this case, the chi-square was appropriate.

VI. RESULTS OF THE STUDY

The study unfolded management processes that demand the use of information technology or processes that underlie the use of information technology. These processes are electronic communication (e-communication), basic computer skills, word processing, spreadsheet management, database management, statistics program, data analysis, presentation/PowerPoint program, graphic/illustration programs, internet use, hardware and internet creation. Of the above processes and IT areas, a majority of respondents indicated word processing. Table 1 below shows summary of the hypotheses tested. Considering the $X^2$ and $X^2{\text{(crit)}}$ values, each hypothesis in the table above is not confirmed, as $X^2 > X^2{\text{(crit)}}$. Therefore males and females do not have the same level of proficiency when it comes to managing IT – females generally have higher proficiency.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Level of significance</th>
<th>$X^2$</th>
<th>$X^2{\text{(crit)}}$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender does not influence effective use of the computer and its basic and other IT-related programs at the administration and management levels.</td>
<td>0.05</td>
<td>21.69</td>
<td>5.99</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>The effectiveness of the use of a computer and its IT-related programs by private and public sector employees is the same.</td>
<td>0.05</td>
<td>25.74</td>
<td>5.99</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>Years of work experience do not impact accurate use of the computer and its IT-related programs.</td>
<td>0.05</td>
<td>38.57</td>
<td>9.49</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>Access to appropriate computer training does not influence the effectiveness of the use of computers and its related programs.</td>
<td>0.05</td>
<td>38.04</td>
<td>9.49</td>
<td>Not confirmed</td>
</tr>
</tbody>
</table>

Table 1: Summary – Chi-square Tests

In addition, private sector employees are able to handle management IT more effectively than public sector employees. Furthermore, proficiency in management IT increases with years of working experience. Thus as more years are spent on the job, employees’ management IT proficiencies increase. Last but not least, access to IT training increases proficiency in management IT. This means that having access to IT training improves the proficiency of employees in management IT.

VII. CONCLUSIONS AND RECOMMENDATIONS

Processes, tasks and mediums of information technology were found in the study. These processes, tasks and mediums are electronic communication (e-communication), basic computer skills, word processing, spreadsheet management, database
management, statistics program, data analysis, presentation/PowerPoint program, graphic/illustration programs, internet use, hardware and internet creation. In addition, males and females do not have the same level of proficiency when it comes to management IT – females generally have higher proficiency. This means that females are generally much more able to use computers and other IT-related programs more effectively than males. In addition, private sector employees are able to handle management IT more effectively than public sector employees. This is another way of knowing that management IT is more effectively handled in private organisations than public sector organisations. Also, proficiency in management IT increases with years of working experience. Thus as more years are spent in the job, employees’ management IT proficiencies increase. Last but not least, access to IT training increases proficiency in management IT. This means that having access to IT training improves the proficiency of employees in management IT.

Considering the above results, firms are encouraged to delegate most tasks of management IT to females to boost productivity, since they have better proficiencies than males. Public sector managements are also challenged to draw schemes of monitoring and upgrading the proficiency of employees in management IT. Training is suggested to be carried out for employees, be it private sector or public sector, as the study has informed that increasing access to training increases proficiency in management IT. To be able to savor management IT also, employers must ensure that experienced employees are well motivated and kept, since proficiency in management IT is enhanced with increasing work experience.

REFERENCES


