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Evaluating the use of information systems among employees in food and beverage companies in Lagos, Nigeria

Nelson Ige
nelsonadewoleige@gmail.com

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Prof. Alegbeleye, G. O., & Ige, Nelson, A

nelsonadewoleige@gmail.com

Department of Information Resources Management

Babcock University, Ilishan, Ogun State, Nigeria

Abstract

Information system is a collection of interrelated components that collect, process, store, organize, retrieve, manage and provide information to support business activities, decision making, and performance in an organization. Information systems use is a computerized database of information, organized, and programmed in a way that produces regular reports on the operations for every employee in the company. This paper presents findings from adapted questionnaire on the extent of information systems use by employees in Lagos State of Nigeria.. The study was carried out using a survey design to collect data from 200 respondents in 10 companies. Data collected was analyzed and presented in tables. Based on the six variables model of information systems use, the study still found the level of information systems use among employees in food and beverage companies in Lagos State, Nigeria to be high (Mean= 3.03, SD=0.67). It can be concluded that despite the negative perception of people to information systems use in these companies, employees' extent of information systems use was still high. It can be recommended that employees should be allowed to use information systems to boost their performance on the job, to meet the business challenges and demands especially in this information age.

Keywords: Information Systems Use, Employees, Food and Beverage Companies, Lagos, Nigeria.

Word count: 2,987

Introduction

In the challenging business environment, with changes in customer demands the main aim of every manufacturing organization is to improve its productivity but this can never be achieved without the efficient performance of employees and one of the major challenges facing many countries has been the need to improve the performance of employees. Therefore, information systems use (ISU) is relevant in these companies, the employees are responsible for the operation and execution of business activities. Gelderman (2008) reported that the low and insignificant correlations between the information system usage indices and employee performance measures

add weight to the doubts that already existed about the validity of information system usage as a success criterion. However, Kemei's (2016)study showed that with improved information system ability to disseminate up-to-date information, employee performance in an organization will be improved, thus, information related to employees tasks is entered only once and updating can be done once only when employees information changes. Wei (2013) observed that information system use makes it easy for the company's staff and management to work independently without necessarily asking each other for certain assistance from the human and information resources professionals.

Information system is a computer-based system that is used to manage administration of processes and procedures. Information systems use brings benefits to organizations and the employees to perform adequately and learning from the challenges associated with its usage can also assist the managers on the way to utilize information systems to enable its employees perform the various tasks in the organization for better output. It is believed that with the advancement in technology, everything to human existence is possible that allows an employee to perform. In the last decades, information technologies and increased competition have changed the business environment in the food and beverage companies in Nigeria. It is observed that several food and beverage companies do not pay adequate attention to information systems use but only focus on organizational financial objectives rather than the means to achieve the objectives (Adegoke, 2018). As a result of the narrow focus of several food and beverage companies, employees' effectiveness and efficiency have been on the decline. It is not clear whether employees in food and beverage companies have found a better way of improving their use of information systems for effective performance on their job. This prompted the current study on the evaluation of information systems use among employees in food and beverage companies in Lagos, Nigeria using the six variables; electronic mail services, internet, hardware/computer systems, software resources, audio/video conferencing and telephone use as measure of information systems use proposed by Guigue (2007) instrument for collecting information on the extent of information systems use.

Research Questions

The study sought to determine the extent of information systems use in Lagos, Nigeria using six variables measure of information systems use proposed by Guigue (2007). The research questions were:

1. What is the extent of electronic mail services use by employees in food and beverage companies of Lagos State, Nigeria.

2. What is the extent of internet use by employees in food and beverage companies of Lagos State, Nigeria., Nigeria?

3. What is the extent of hardware/computer systems use by employees in food and beverage companies of Lagos State, Nigeria.

4. What is the extent of software resources use by employees in food and beverage companies of Lagos
State, Nigeria.

5. What is the extent of audio/video conferencing use by employees in food and beverage companies of Lagos State, Nigeria.

6. What is the extent of telephone use by employees in food and beverage companies of Lagos State, Nigeria.

Literature Review

Although little works have been done on the construct of information systems use, however, this study agreed with the work of Davis (1989) on technology acceptance model (TAM) which is one of the dominant theories in technology acceptance theory that explains how information systems users receive and use technologies. The Technology Acceptance Model (Davis, 1989) is a parsimonious theory of information technology adoption in organizations. It proposes that individual reactions toward a piece of technology influence intentions to use the technology, which ultimately influence employee performance. TAM has been regarded as being a potential diagnostic tool to test the user acceptance of new systems, in order to check and evaluate the addition of new system user acceptance strategies (Hong, Liang & Chang, 2005). TAM has been used in various fields to explain and confirm the influence of information systems on user attitudes. Davis's (1989) exploration of the student usage of word processing tools in TAM has been confirmed. Lin and Lu (2010) explored the usage of internet web pages, and the empirical results showed that there is a positive correlation between the perceived ease of use and the perceived usefulness, and that the perceived usefulness also has a positive correlation to usage intentions. The perceived ease of use, however, has a more significant effect on internet usage

attitudes than the perceived usefulness, and that the perceived ease of use has a positive correlation to the perceived usefulness.

It is explained that the important predictive indicators for an individual's acceptance of technology include the perceived usefulness, behavioral intentions, computer experiences, and the support from higher management levels. TAM model was designed to predict the acceptance of technology usage and also to examine individual user's reaction towards a new application. TAM provides contextual models to predict technology adoption in organizations based on individual, cognitive, and organizational variables. Technology adoption is one of the processes where organizations or individuals decide to make full use of an innovation in their daily operation or business. As mentioned by Venkatesh (2003), "for technologies to improve productivity, they must be accepted and use by employees in organizations" (p.426). Technology works as a tool to help employees or organizations to improve their productivity levels. In order to enhance employee performance levels and remain competitive, food and beverages companies in Lagos State, Nigeria need to keep up with technological changes as well as innovation activities.

Technology Acceptance Model (TAM) was propounded by Fred Davis in 1989. It is based on the theory of reasoned action (TRA) and theory of planned behaviour (TPB). The basic premise of the Technology Acceptance Model is that the more accepting users are of new systems, the more they are willing to make changes in their practices and use their time and effort to actually start using the system. TAM assumes that there are two specified beliefs that determine computer usage: perceived usefulness and perceived ease of use, eliminating subjective norms and normative beliefs. The TAM model suggests that perceived usefulness and perceived ease of use influence users' attitudes towards using a new technology. Davis (1989) posited that the perceptions of ease of use and usefulness were key indicators of consumer's intention to adopt a new technology.

Perceived usefulness referred to the tendency to use or not to use a technology to the extent it is believed that it will help or enhance an individual's ability to perform his or her job better. Perceived ease of use involved the level of effort it would take to use an application such that the degree a person believes a system is free of effort, he or she would be more likely to use and

accept the system. Perceived ease of use also influenced perceived usefulness in that the easier the system is perceived to be to use, the more useful it would be (Davis, 1989).

Information systems use is determined by perceived usefulness and perceived ease of use, which is related to attitudes towards use, which in turn, relates to intention and finally to behavior. According to the study conducted by Davis et al., (1989), users show positive feelings towards the new technology if they believe that it is good for their job performance. Thus, users' attitudes towards using a new technology will be more positive. In fact, such attitudes will furthermore influence the user's behavioural intention and his\her actual use of the system. In addition, external variables can also have impact on users' internal attitudes, beliefs, and intentions. They, furthermore, influence the TAM. Previous studies prove that different external variables actually influence perceived usefulness and perceived ease of use. Hong et al., (2005) asserted that the following five external variables that influence individual's perception: the computer's self-efficacy, knowledge of the search domain, relevance, terminology and screen design. However, external variables include the institutional factor, the social factor, and the individual factor. The rapid development of information systems and the advancement of healthcare technologies, information technology (IT) have become pervasive in the food and beverage sector. Many people view IT innovations specifically the internet as strategic tools. Furthermore, Venkatesh and Davis (2000) updated the TAM to include external variables and the integration of the three dimensions of perceived usefulness, perceived ease of use, and intention to use.

Method

The survey research design was used in this study. The choice of using this research design was to find out at the time of study, the happenings in the food and beverage companies. The sample of the population of employees was 200. The instrument, adapted questionnaire was used to obtain opinions from employees on their use of information systems. David (1989) and Guigue (2007) explained the theoretical and practical bases for testing the variables of information systems use by employees in the organizations. The scale had been applied to measure information and communication technologies use in eighty-four manufacturing companies in South West Nigeria drawn across the three scales of small, medium and large companies (Olamade, 2014). The researchers reported reliability test result of r=.79. The scale was also

used in the micro finance bank (Fadeyi, 2018) with a reported reliability test result of r=.76, which show a relatively strong reliability (Devellis, 1991).

Analysis and Presentation of Data

Research Questions 1 to 6

Table 1: Information Systems Use among Employees in Food and Beverage Companies

Items	VGE(%)	GE(%)	SE (%)	LE()	Mean(*M*)	SD	GMean(M (SD)
Electronic mail services							
Sending documents	84(42)	81(40.5)	30(15)	5(2.5)	3.22	0.69	**3.18(0.67)**
Interactions through customized e mails	70(35)	90(45)	37(18)	3(1.5)	3.14	0.65	
Internet							
Performing transactions	74(37)	84(42)	32(16)	10(5)	3.11	0.69	
Providing interactions	115(57)	77(38.5)	5(2.5)	3(1.5)	3.6	0.58	**3.36(0.64)**
Hardware/Computer systems							
Store/manage business information	60(30)	87(43.5)	31(15.5)	22(11)	2.95	0.68	**3.1 (0.67)**
Enable daily transactions	90(45)	80(40)	18(9)	12(6)	3.24	0.66	
Software resources							
Enable the use of software applications	83(41.5)	88(44)	24(12)	11(5.5)	3.23	0.65	
Performing prompt update of information	53(26.5)	60(30)	48(24)	39(19.5)	2.64	0.78	**2.94 (0.72)**
Audio/Video conferencing							
Conducting online seminars/conferences	85(42.5)	82(41)	18(9)	15(7.5)	3.19	0.77	
Demonstrating business information	87(43.5)	85(42.5)	17(8.5)	11(5.5)	3.24	0.79	**3.22(0.78)**
Telephone use							
Communicating business information	102(51)	83(41.5)	9(4.5)	6(3)	3.41	0.61	**3.42 (0.61)**
Making quick exchange of business information	103(51)	84(42)	8(4)	5(2.5)	3.43	0.60	
Grand Mean (G*M*)							**3.20 (0.68)**

Scaling and Scoring: VGE=Very Great Extent, GE=Great Extent, SE=Some Extent, LE= Little Extent. ***Decision Rule; if mean is less than(≤) 1.5 = Little

Extent; 1.5 to 2.49 = Some Extent; 2.5 to 3.49 = Great Extent; 3.5 to 4.0= Very Great Extent. F (%) = Frequency (in percentages)

Table 1, shows the various extent of information systems use in food and beverage companies in Lagos State, Nigeria, based on Guigue (2007) adapted six variables model. It reveals that the general usage of information systems was high (*AVM/GM* = 3.20, *SD* = 0.68). The overall items measured under information systems use had mean scores ≥ 2.5 and ≤ 3.7, which explains that the items scaled were moderately high.

The findings on research questions one, shows that employees had a great extent of information systems use (*M* = 3.18, *SD* = 0.67). This indicates that the employees effectively make use of the information systems in sending documents and interactions through customized e-mails.

The findings on research questions two shows that the employees (*M*= 3.36, *SD*=0.64) use the internet services to improve their job activities.

The third research question revealed that employees had moderate extent of hardware/computer systems use (*M* = 3.1, *SD* = 0.67). This finding implies that not all the employees use hardware/computer systems in the organizations.

The findings on the fourth research question also shows that employees extent of information systems use was moderate (*M* = 2.94, *SD* = 0.72) in the use software resources. This explains that not all the employees operationally use software resources for enhance work activities.

Fifth research question shows that the employees extent of audio/video conferencing use to improve job activities was high (*M* = 3.22, SD = 0.78). This implies that the employees were participating on demonstrative skill learning to improve their business information.

The findings on research questions six reveals that employees extent of telephone use was high in advancing business information (*M* = 3.42, *SD* = 0.61). This high extent implies that most employees use telephone for work progresses.

In a general instance, the finding implies that employees use information systems use to improve their business activities to a great extent.

Table 2: Respondents

Managers	30	15
Supervisors	40	20
Operational staff	130	165

Discussion of Findings

Information systems use indicators of this study were developed based on the six variable model of Guigue (2007). The findings revealed that the employees use of information systems were at a great extent ($Mean = 3.20$, SD = 0.68). The findings implicated telephone use to a high extent of information systems use ($Mean = 3.42$), while, software resources use ($M = 2.94$, SD = 0.72) was to an extent. Meanwhile, hardware/computers ($M = 3.1$, SD = 0.67) had an extent use. This implies that the employees efficiently use

the electronic mail services, internet, hardware/computer systems, software resources, audio/video, telephone to advance business activities. Chironga (2011) posited that information technology acts as an enabling tool in attaining customer service advantages in three ways: operational efficiency; clerical effectiveness/automation; and/or information generation and strategic effectiveness. Developments such as the satellite television and Internet have created new means and audiences through which companies can disseminate their information (Mahmoud, 2008).

Conclusion

The findings of this study can be concluded that the extent of information systems use in food and beverage companies in Lagos, Nigeria was high. The finding on telephone use by employees revealed that the employees were to a great extent use the telephones in carrying out business activities, like communicating business information, making quick exchange of business information, among others. In the same vein, the findings of the study show that

not all the employees use hardware/computer systems and software resources in facilitating business information/activities. Therefore, the study recommended that the employees should appropriate the information systems use to enhance business information to a very great extent.

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