

Effects of Information and Communication Technology on Secretaries' Performance in Contemporary Organisations in Bayelsa State, Nigeria

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ABSTRACT

The study examines the effects of information and communication technology on the performance of public sector secretaries' in Bayelsa State, Nigeria. The quality of secretaries available is a function of reliable and acceptable reporting framework that will improve productivity in the public sector. This can only be achieved through an effective and efficient human resource development structure. To achieve the objective of the paper, primary and secondary data were used. The primary data was obtained through a well structured questionnaire administered to ninety five public sector secretaries' in Bayelsa State and the data obtained were analysed with econometric models of multiple regression and diagnostic test. The Cronbach's alphas model was used to verify the reliability of the instrument. The study found that the usage of computer, telecommunication and video techniques positively and significantly related to the productivity (performance) of public sector secretaries' in Bayelsa State, Nigeria. Based on these findings, the implications for human resource development mechanism practice and recommendations were discussed.

Keywords: ICT, Performance, Secretaries, Organisation.

INTRODUCTION

The information and communication technology in the 21st century have revolutionized all profession worldwide including the secretarial practice. Agbatogu et al (2011) says that technology has been a significant tool in almost all human endeavours. Jaiyeola (2007) argues that ICT is like an engine that could be used in so many ways, the same engine that makes the aircraft to move, could make a conveyor to convey finished product from production line to the storage location, the same could be used for automobile, grinding machine, etc. It is an implement in the hands of secretaries but enhances and improves its performance. Adedoyin (2010), Appah and Emeh (2012) argues that information technology have affected every profession in the last twenty years. The accounting profession is not left out in these profound changes to business and methods of communications. Technology is providing the tools that are revolutionizing the role of secretarial professionals from that of information recorders to business strategists making them much more critical to the success of an enterprise Jaiyeola (2007). According to Uzoka (2002), information technology is the harnessing of electronic technology in its various forms to improve the operations and profitability of the business as a whole. It provides significant improvements with facilities such as word processing, communication facilities in the form of electronic mail, databases in relation to filling and data retrieval. Such advances improve business efficiency, eliminating unnecessary delays in communication between routine filling and correspondence. Also Ofurum and Ogbonna (2008) says *information technology is the combination of computing, telecommunication and video techniques for the purpose of acquiring, processing, storing, and disseminating vocal, pictorial, textual and numerical information. The computing techniques provide the capacity for processing and storing of information; the telecommunicating techniques provide the capacity for communicating the information to users; and the video techniques, the capability for high quality display of images.*

Nemine and Torunarigha (2010) also stressed that technology is the systematic application of scientific knowledge in order to achieve practical results. It entails a combination of different approaches to solve a problem. It implies that technology is all about methods and the way people apply them in order to get results. Therefore, we live in a competitive environment where things are changing fast and for the better technologically and due to the growing complexity of modern day management, the office is also changing. Secretarial functions such as tying, mailing a letter that usually takes minutes or hours has to be carried out in seconds with high speed, accuracy and perfection. The advent of information and communication technology which has revolutionized secretarial functions and the office. The secretary has to be well equipped to meet the present challenges and the challenges of the future in a

contemporary office. Therefore, many experts in the Secretarial profession (Boladele, 2002; Onifade, 2009; Igbinedion, 2010) have concluded that there will be changes, dramatic changes that will reshape the office, and work environment with information and communication technology, work habits, impact on the personal lives of professionals and the way they work. The information and communication technology has revolutionized the work of the office, changing work patterns and attitudes of employees and this people are now working towards an acceptance of change (Khalid, 2000). The objective of this study therefore, is to examine the effect of information and communication technology on secretaries in contemporary organizations. To achieve this objective, the paper is divided into five interconnected sections. The next section presents the review of relevant literature. Section three examines the materials and methods used in the study. Section four presents the results and discussion and the final section examines the conclusion and recommendations.

LITERATURE REVIEW

Information and Communication Technology

Information technology is the combination of computing, telecommunication and video techniques for the purpose of acquiring, processing, storing, and disseminating vocal, pictorial, textual and numerical information. Uzoka (2002) defined information technology as the harnessing of electronic technology in its various forms to improve the operations and profitability of the business as a whole. Brightman and Dimsdale (1986) traced the root of the high-tech revolution back to 1828 when Charles Babbage produced the first programmable calculating device, the Analytical Engine. We might look to the more recent past, 1944, and mention Howard Aiken's Mark I, the first programmable computer. We might cite the first electronic computer, the slow, gigantic but ground-breaking ENIAC developed in 1946 by John Mauchly and Presper Eckert at the University of Pennsylvania. To be precise, we should also mention, dozens of other major developments in computers and electronic communications - known together as telecommunications. The genesis and notion of management information systems originated during the early 1960s largely through the effort of Kennedy Era, the "Whizkids". The introduction of new technology to process and transport data and information has proceeded at exceptional rates for more than three decades. This innovative introduction has significantly affected employees, managers, and their organizations. It was eighteen-year-old Frenchman, Blaise Pascal by name that first developed a mechanical adding machine in 1642. Later, this was improved upon by Gottfried Leibniz - a German mathematician who developed a calculating machine that could multiply by a repeated addition and divide by a repeated subtraction in 1694. However, Computer technology has undergone series of changes which reflect big size to miniature size of computers with their increasingly high processing speed of data into information for decision making (Nicholas, et al. 2009). Information technology according to Oliver, Chapman and French (1990) is a technology which supports activities involving the creation, storage, manipulation and communication of information (principally computing, electronics and electronic communications) together with their related methods, management and applications. It has also created countless opportunities and challenges for millions of individuals. In particular, the challenges of managers' responsible for introducing this technology have been exceptionally high. In our information and knowledge -based society, management must attempt to capture the advantages offered by information technology, yet they must also avoid the pitfalls along the way toward increasing automation. As information has altered the way many people do their jobs and has changed the nature of work in industrialized nations, the practice of management has been greatly affected. The management of many firms and their managers must therefore understand the implications of this new information technology revolution which require substantial future readjustment and quickly learn how to benefit from it (Frenzel, 1992). The explosion in electronic commerce is just one example of the many ways information technology is influencing how people do business and how they account for business financial and economic events (Moscove, et al., 2003). The blending of internet technologies and traditional business concerns impacting all industries and is really the latest phase in the ongoing evolution of business infrastructure and change the way to respond more immediately to customer needs (Grant, et al 2000). The role of accountant and objective of accounting systems which is to process financial and economic data into information for decision making is still the same. Also, the audit objective which is to render an opinion on the "true and fair view" of a client's financial statement still holds, however, the technical expertise that the auditor must possess to evaluate computer-based accounting systems has undergone considerable changes and the change will ever continue to be more radical and rapid (Ofurum and Ogbonna, 2008). ICT is seen as a way to promote educational change, improve the skills of secretaries and prepare them for the global economy and information society. ICT is used to improve delivery of and access to effective and efficient management of office and the organization as a whole. ICT as focus on secretaries, it tends to improve the understanding of the secretarial practice and functions, increase quality of secretaries work attitude thereby increase the impact of secretaries on the management of the office. While basically ICT based innovations

can occur in secretarial functions, their linkage to office management is essential to achieve intended outcomes of an organisation.

History of Secretarial Profession

Literature on the history of the secretarial profession shows that nobody knows when secretaries originated, but that the Romans were first to employ men as scribes who took down dictation. Men dominated secretarial jobs until the late 1880s. However, in the 1930s, women started to dominate the profession. In Nigeria, there were few secretaries in the early 1900's because there were no government established training institutions. Organizations employed typists and stenographers as secretaries. These "secretaries" trained in road-side secretarial institutes. These institutes did not have qualified instructors and adequate machines. Therefore, those who employed them were skeptical about their administrative competence, thus limiting their activities to routine or chore office jobs. In the late 1900's, the state and federal governments started recognizing the need to employ efficient secretaries and established Federal Training Centres in Lagos and Kaduna. The state governments later established Staff Development Centres. Admission requirements into these centres were low. Later, polytechnics were established by both state and federal governments in order to have better trained secretaries. At present, we have a few universities with a Secretarial Administration department where secretaries are trained. The polytechnics are still regarded as the best place to train secretaries. Secretaries command high respect and they easily get jobs. They are versatile because all organizations need them. In the early days of producing secretaries in Nigeria, people regarded those who went to commercial secondary modern or commercial secondary schools as dullards. The public regarded those who went to secondary grammar schools as highly intelligent - those who would become doctors, lawyers, engineers, etc. Things have interestingly reversed as commercial or business courses are becoming more versatile than the science courses. We now find doctors and other professionals who write accounting examinations.

Secretaries Roles and Responsibilities in Contemporary Organisation

The secretarial function, though a supportive function, requires a large amount of initiative, tact and resourcefulness to succeed. Ugiagbe (2002) defined a secretary as an assistant to an executive, possessing mastery of office skills and ability to assume responsibility without direct supervision, who displays initiative, exercises judgement, and makes decisions within the scope of his/ her authority. Boladele (2002) expressed that a secretary is a warm, endlessly helpful and under-standing individual whose sole aim is to alleviate, solve, prevent or soften problem workload and upsets for his/her executive. He/she is the means by which the executive initiates, handles and complete a project. According to Onifade (2009), a secretary is an assistant to a manager. Apart from the traditional responsibilities, such as typing, taking dictation and transcribing, managing records, receiving, storing and retrieving information or operating the computer, attending meetings, answering telephone calls, he now carries out research, prepares the manager's itinerary, makes travel bookings and hotel reservations, supervises the junior workers, and makes some decisions using his initiatives. He should be able to answer some questions on behalf of the boss. For example, a client who wants the price of a product should not wait to see the boss. A secretary who is familiar with the company's policies, price list and handbooks should relieve the boss of such burden by providing accurate information. He should be able to coordinate the administrative activities and organize the office for efficient performance. He should be able to use the internet and train new staff on the computer. The secretary is a member of a team in the workplace and therefore should always be cooperative and supportive. He should be able to write and present reports and disseminate information using websites and e-mail. He now shares with the manager the responsibilities that were hitherto reserved for the manager.

Igbinidoin (2010) identifies the secretary's responsibilities to include; taking dictation and transcribing it into correspondence which is at once dispatched to its business destination. He highlights of some forms of these correspondence to include: letters, memos, circulars, orders, quotations, acceptances, contractual terms, and conditions, invitations, etc. Each of these items he claimed will invoke a response from the addressees, who will perhaps order materials, proceed to manufacture, insure cargoes, book hotels or engage in some other expensive activity which forms part of the intricate network of business life. Therefore the secretary must be regarded with some respect with reference to these onerous functions that impinge on the success of the organization.

Prior Empirical Studies

An extensive body of literature exists on the usage, adoption, and implementation of IT. However, most of the existing studies have focused on the use of IT in general. Regrettably, empirical studies and the theory on how IT influences organizations is still underdeveloped. One area receiving little attention in the research on successful IT use is secretarial profession (Seyal, Rahim and Rahman, 2000). Some researchers investigated the relationship between organization characteristics and the use of IT, and factors influencing the use of IT in organizations. Seyal et al.(2000) examined the extent of use of IT in various small and medium business organizations in Brunei Darussalam. Their study attempted to assess the depth and breadth of IT usage in business. They concluded that the

chief executive's computer knowledge is positively associated with the use of IT and that businesses in different sectors have different information processing needs. Calhoun et al. also studied the impact of national culture on information technology usage in organizations and reported the association between some organizational characteristics and use of IT. On the other hand, culture, control and competition as the constitution of subjectivity, determine the locus of IT application in organizations. These studies do not consider the relationship between types of software used in organizations and their internal operations. It is evident from previous studies that types of IT tools in HRM functions were given due consideration. Elliott and Tevavichulada⁸⁵ bring some data that shed light on the types of software applications taking place in HRM and their integration to HRM activities (Mishra and Akman, 2010). Baldwin and Sabourin (2002) raise an important caveat that must be kept in mind when interpreting the results of these studies. Firm performance critically depends on how information and communication technologies are implemented. Successful implementation of these technologies requires a human resource strategy to develop the necessary worker skills. It requires that firms overcome financing problems associated with acquiring new and untried technologies. And, it requires innovation accompanied by the development of best practices in quality control and engineering.

MATERIALS AND METHODS

Population and Sample: The target population of this study was all secretaries' in the Nigerian public sector. However, the accessible population was a total of two and twenty-three hundred (223) secretaries' in the Bayelsa State Public Sector in January 2012 to February 2013 from the Civil Service Commission, Yenagoa, Bayelsa State. Simple random sampling technique was used to arrive at the sample of the study. The sample size of one hundred and forty-three (143) for the study was derived from the application of Yaro Yamen model.

Instrumentation

The instrument used for data collection was a 35-item instrument divided into three sections developed to assess information technology and secretaries' performance in contemporary organizations in Bayelsa State, Nigeria. The first section examines the organizations' and respondents characteristics. The second part of the questionnaire examines performance operationalised from the following variables of reward and employee welfare and productivity. Reward and employee welfare of the survey originates from Khan (2010) study of effects of human resource management practices on organizational performance in Pakistan. Reward and employee welfare was operationalised using competitive pay package that is disseminated to employees, performance-based pay, comprehensive incentive plans, and combination of monetary and non-monetary rewards, social recognition, and appreciation. Productivity of the survey originates from Malmir, Khalili and Darmichi (2012) study of classifying the effective factors human resources by using AHP and Topsis methods. Productivity was operationalised using exhibition of the precise information on organizational performance, job skills, wages and salaries, level of education, background and experience on the job. The third section of the questionnaire examines Information and communication, which was operationalised using the following variables of computing, telecommunication and video techniques. A five point scale of very high extent (5), high extent (4), moderate extent (3), low extent (2) and very low extent (1) were used to measure the response.

Reliability and Validity

The reliability has two aspects, that is, stability (ability to produce consistent results over time despite uncontrollable testing conditions or state of the respondents) and consistency (homogeneity of the items in the instrument tapping the construct) (Opatha, 2002; Ndiyo, 2005; Baridam, 2008). According to Osualla (2005), a reliable measure is one that is consistent. And because it gives a stable measure of a variable, a reliable measure is precise. The test-retest was done for estimating external reliability by using twenty (20) secretaries from the four Ministries in the Bayelsa State public sector. The test-retest coefficients of the instruments measuring computer, telecommunication techniques, video techniques and performance were 0.82, 0.72, 0.77, and 0.83 respectively suggesting that each instrument possesses a high degree of test-retest reliability. This suggested that there was a strong consistency of responses between the accountants. The Cronbach's Alpha is used to test the degree of internal consistency of an instrument. The Cronbach' alpha for the variables were 0.72, 0.81, 0.76 and 0.87.

Data collection procedure

A study of this type presents a number of data collection challenges. It requires as broad a sample as possible and at the same time requires that each data point provide comprehensive information on information technology on the performance of public sector secretaries' in Bayelsa State. Thus, the sample was drawn from the number of secretaries' in the Bayelsa State Civil Service as supplied by the Civil Service Commission of Bayelsa State. A total of one hundred and forty-three (143) questionnaires were sent to the respondents. A total of ninety-five (95) questionnaires were received with a response rate of sixty-six percent (66%).

Data Analysis

The study used quantitative techniques for the analysis of data. Econometric view (e-view) was employed for data analysis. Descriptive statistics and ordinary least square were used. The ordinary least square was guided by the following linear model:

$$PRO = \alpha + \beta_1 COM_1 + \beta_2 TEC_2 + \beta_3 VIT_3 + \varepsilon$$

Where: PRO = productivity; COM = computing; TEC =telecommunication; VIT = video techniques; β_1 - β_3 = the coefficients of the regression; α = intercept of the regression and ε = error term capturing other variables and the model were tested using the diagnostic tests to ascertain the assumptions of classical linear regression model.

RESULTS AND DISCUSSIONS

This section of the paper presents the results and discussion obtained from questionnaires administered to respondents from the sampled secretaries in the Bayelsa State Civil Service, Nigeria.

RESULTS FOR THE MODEL

Table 1: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	6.929189	Probability	0.121336
Obs*R-squared	13.34731	Probability	0.101264

Source: e-view output

Table one above shows the Breusch – Godfrey Serial Correlation LM test for the presence of auto correlation. The result reveals that the probability values of 0.12 (12%) and 0.10 (10%) is greater than the critical value of 0.05 (5%). This implies that there is no evidence for the presence of serial correlation.

Table 2: White Heteroskedasticity Test:

F-statistic	0.942165	Probability	0.496821
Obs*R-squared	9.519861	Probability	0.483577

Source: e-view output

Table two above shows the White Heteroskedasticity test for the presence of heteroskedasticity. The econometric result reveals that the probability values of 0.496 (50%) and 0.483 (48%) are considerably in excess of 0.05 (5%). Therefore, there is no evidence for the presence of heteroskedasticity in the model.

Table 3: Ramsey RESET Test:

F-statistic	0.067894	Probability	0.794795
Log likelihood ratio	0.071133	Probability	0.789695

Source: e-view output

Table three above shows the Ramsey RESET test for misspecification. The econometric result suggests that the probability values of 0.794 (79%) and 0.789 (79%) are in excess of the critical value of 0.05 (5%). Therefore, it can be seen that there is no apparent non-linearity in the regression equation and so it would be concluded that the linear model for the accounting services is appropriate.

Table 3: Multiple Regression Analysis

Dependent Variable: PRO

Method: Least Squares

Date: 03/20/13 Time: 15:58

Sample(adjusted): 1 95

Included observations: 94 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.275444	2.256856	1.451330	0.1488
COM	0.285935	0.095662	2.989017	0.0033
TEC	0.249495	0.106627	2.339885	0.0206
VIT	0.216547	0.102573	2.111150	0.0363
R-squared	0.318414	Mean dependent var		12.99346
Adjusted R-squared	0.261218	S.D. dependent var		3.098167
S.E. of regression	2.888766	Akaike info criterion		4.997962
Sum squared resid	1226.711	Schwarz criterion		5.116803
Log likelihood	-376.3441	F-statistic		5.567008
Durbin-Watson stat	2.16401	Prob(F-statistic)		0.000100

Source: e-view output

Table three above shows the multiple regression analysis for information and telecommunication technology and

the performance of public sector secretaries' in Bayelsa State, Nigeria. The result suggests that COM (Computer Usage), TEC (Telecommunication Usage) and VIT (Video Technology Usage) with p-values of 0.0033, 0.0206, and 0.0363 is less than the critical value of 0.05. Hence, we deduce that there is a significant relationship between information and telecommunication technology and the performance of public sector secretaries' in Bayelsa State, Nigeria. The R^2 (coefficient of determination) of 0.318414 and adjusted R^2 of 0.285935 shows that the variables combined determines about 32% and 29% of information and telecommunication technology improves the performance of secretaries in the public sector. The F-statistics and its probability shows that the regression equation is well formulated explaining that the relationship between the variables combined are statistically significant (F-stat = 5.567008; F-pro. = 0.000100).

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of information and telecommunication technology on the performance of public sector secretaries' in Bayelsa State, Nigeria. The review of relevant literatures provides strong evidence of the relationship between information and telecommunication technology and the performance of employees. This current study empirically substantiated the results of prior studies with regard to the association between the variables. The empirical results suggest that the usage of computer, telecommunication techniques and video techniques does improve the performance of public sector secretaries' in Bayelsa State of Nigeria. Hence, the paper concludes that the information and technology revolution with the advent of modern IT facilities has contributed to the quality of work performed by secretaries in Bayelsa State and Nigeria. The study shows that ICT use is correlated with workers skills suggesting that firms that use high levels of ICT also employ more knowledge workers. ICT use is also found to be correlated with organizational innovations in production and efficiency practices, HRM practices and product/service quality related practices, supporting the view that ICT and organizational changes are complements. More important, our findings seem to suggest that to be successful, firms typically need to adopt ICT as part of a "system" or "cluster" of mutually-reinforcing organizational approaches. We find that while ICT is productive on its own, it is more productive in firms that combine high levels of ICT with high levels of organizational changes in the areas of production and efficiency practices, HRM practices, product/service quality-related practices. The firms that combine ICT with organizational changes have a high incidence of productivity improvement and have high rates of innovation. Our results also suggest that ICT and human capital are complements in dynamic service and distribution service sectors. The firms that combine high levels of ICT and high levels of human capital have a higher incidence of productivity improvement and higher rates of innovation in this sector. Firm-level studies in both the U.S. and Canada show that ICT investment, when accompanied by organizational change and investment in human capital, has a significant impact on productivity and economic performance (Brynjolfsson and Hitt, 2000; Bresnahan, Brynjolfsson and Hitt, 2002; Black and Lynch, 2001; Baldwin and Sabourin, 2003). The most interesting finding is that new work practices are associated with improved firm performance only when the practices are implemented as a bundle – and not separately. In other words, successful firms adopt ICT as part of a system or cluster of mutually reinforcing organizational changes. The paper therefore recommends amongst others that constant training and retraining of employees using relevant ICT facilities should be used to improve the quality of secretaries.

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