



## Adoption of ICT Practices and Its Effect on Employee Job Satisfaction in County Governments of Kenya: A Case Study of Nakuru County

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**Abstract:** The main purpose of the paper was to assess adoption of information communication and technologies practices and their effect on job satisfaction among employees in county government. Using a five point likert questionnaire data was collected from 167 employees of Nakuru County government. Findings from multiple regression model indicated that communication technologies, computerized financial system and computerized human resource had significant and positive effect on job satisfaction. However, it was revealed that the county governments lacks a computerized financial system which assists them to increase their efficiency and effectiveness in utilizing auditing services. Based on the results, the study indicated that the existence of a computerized financial system that serves the public faster and easier as well as making decision faster is in doubt. It is therefore necessary for the county to adopt computerized financial system.

**Keywords:** Communication Technologies; Computerized Financial System and Computerized Human; ICT; Job Satisfaction

### I. INTRODUCTION

Job satisfaction is an important criterion for the success of an organization where it is closely associated with job turnover and life satisfaction [1]. Employees can make or break an organization [2]; they are considered valuable assets to the corporation, and the success of any company is directly linked to the satisfaction of the employees who embody that company.

The business world is continuously changing due to the advances and developments in technology. Innovations in technology can change the way business activities are performed. Information Technology (IT) has played an important role in business since the 1950s and the use of technology to reduce costs, improve operations, enhance customer service, and improve communications has progressed rapidly over the past four decades [3]. The ability of most modern organizations to use Information Technology efficiently significantly contributes to their success. Along with this, the availability and performance of the organization's information technology employees is crucial. Organizations utilize information technology professionals to plan, develop, maintain and integrate the systems used in these organizations. This dependency on information technology employees could be devastating to a business if some of the key employees were to leave. The business impact may include loss of corporate memory, disrupted projects that may over-run on defined schedules and budgets and quality

Also, the amount of information that workers transmit during their normal work days has grown and so has research on how people actually deal with the increased amount of information and the communication associated with it. According to Finland National Knowledge Society Program, today's society requires various skills to deal with

information. Skills such as, capability to absorb knowledge readily, complicated problems solving, independent searching of information, information creation and innovation are seen as essential in the future. The report also notes that in the increasingly networked society the capabilities to perform work in various contexts and the sharing of information become important. Imposing such requirements on individuals' skill levels certainly seem prone to affect the everyday work they do [4]

[5], [6] argues that information technology have affected every profession in the last twenty years. The employees are not left out in these profound changes to business and methods of communications. Technology is providing the tools that are revolutionizing the role of employees from that of information recorders to business strategists making them much more critical to the success of an enterprise [7]. According to [8] information technology is the harnessing of electronic technology in its various forms to improve employee performance and job satisfactions 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.

The Kenya Government has started a connectivity and e-service delivery project. It is supported by the World Bank under the Transparency Communication Infrastructure Project (TCIP). The Kenya Vision 2030 identifies ICT as a key pillar to growth and prosperity. E-Government saves citizen's travel time to Government offices and allows round-the-clock access to services. Commendable efforts have been made on e-applications, capacity building and infrastructure development. However, with the devolved government in place which oversee counties agriculture (crop and animal

husbandry), fisheries, health services, cultural activities, public entertainment and public amenities, county transport, trade development and regulation, county planning and development, pre-primary education, village polytechnics, home craft centers and childcare Facilities, It will be very problematic to the county government on ensuring effective service delivery to its citizen without proper effective governance reforms like technology “digital” governance on implementation of specific county government policies (www.Softkenya.com)

This paper examines the extent to which current uses of technology have the potential to support reform of county governance. The rapid adoption of information technologies state governments in US suggests that, ICT may be valuable tools for governance reform. Nonetheless, there is little systematic empirical evidence regarding the quality of government services on-line and the extent to which government use of technology provides the information and interactive capabilities that can meaningfully improve governance. This paper analyzes the extent to which information technology has been adopted and effectively implemented by various countries or state governments globally and tries to factor in their idea into Kenyan county government. It paper examined the patterns and empirical of IT practice adoption and its relationship with governance. It further addresses:

## II. PROBLEM FORMULATION

Despite the ever more pervasive presence of technology in the workplace, there have been few empirical studies of the effect of computer use on job satisfaction. For many workers, their daily activity is now highly dependent on the use of computers. For example, high levels of computer use are a feature of those who have come to be labeled as “knowledge workers,” -- namely those workers whose main tasks involve the collection, manipulation, interpretation and communication of information. Indeed, for many workers, most information regarding the organization (e.g., contact information, policies and procedures, employee benefits, etc.) is available only electronically. Our core question is: to what extent does reliance on computers for performing one’s job affect the level of satisfaction with the job? This paper is an empirical examination of the relationship of job satisfaction with dependence on computing and information-seeking tasks by focusing on workers who currently use computers in their jobs. All of the workers in the sample use a computer for at least 5 hours per week, and many use computing very extensively in the work environment. In this report we examine conventional variables which have been found to be associated with job satisfaction and we also incorporate variables related more directly to computerization into the analysis to explore any additional effects.

Several researches discussed computer and internet use, the use and benefits of IT, the level of IT adoption, impact of IT on architecture, engineering and construction and others benchmarked IT adoption across different countries such as U.S., Nordic countries, Brazil, China, Canada, Turkey, South Africa, Australia... etc. [9]; [10]; [11]; [12]; [13]; [14]; [15]; [16]; [17]; [18]; [19]; [20]; [21]; [22]; [23] Despite the popularity of Information Technology and job satisfaction research, little empirical evidence exists of the relationship between IT adoption and job satisfaction within the county government in Kenya. This research fills these knowledge gaps by exploring the relationship between IT adoption and

job satisfaction from the perspective of counties. Therefore, this paper hypothesized that:

Ho1: Computerized Financial System has no significant effect on Employee Job Satisfaction

Ho2: computerized human resource has no significant effect on Employee Job Satisfaction

Ho3: Communication technologies has no significant effect on Employee Job Satisfaction

## III. EMPIRICAL REVIEW

[24]’s study on 144 employees of a company operating in Singapore found that job satisfaction and computerized financial systems were highly correlated. [25] replicated the study on 157 subjects from 7 organizations in Malaysia and found similar results. This study believes there is a significant relationship between job satisfaction use of computerized financial systems.

Becker and [26] argue that combining an employer of choice strategy with a high performance computerized financial system is most likely to lead to enhanced firm financial performance due to increased job satisfaction. US firms increasingly use high performance work practices; in a longitudinal study of 462 establishments with at least 50 employees, [27] found that the percentage using quality circles increased from 29 percent in 1992 to 59 percent in 1997. The use of job rotation increased from 24 percent to 47 percent during the same time period, and Total Quality Management (TQM) increased in frequency from 24 percent to 51 percent.

Some authors have proposed that the use of a HRIS would reduce HR costs by automating information and reducing the need for large numbers of HR employees; by helping employees to control their own personal information thus improving job satisfaction; and by allowing managers to access relevant information and data, conduct analysis, make decisions, and communicate with others without consulting an HR professional [28]; [29]. Ideally, with an appropriate use of HRIS, less people should be needed to perform administrative tasks such as record keeping and more time would be made available for HR managers to assist by providing data on a strategic level. Many of these authors believe the future to be bright for HRIS as it creates new paths for human resources and for the organizations that effectively use HRIS.

[30] investigated the effect of communication technologies on job satisfaction and the corporate performance of the Jordanian share-holding companies. His study aimed at exploring the extent to which management information systems (MIS) are available in Jordanian share-holding companies, the degree of utilization and their effect on the corporate performance. It is also worth mentioning that the study was conducted on 53 shareholding companies. The study has arrived at the conclusions that communication technologies help improve the job satisfaction among employee and hence improved firm performance.

[31] studied communication technologies and its effect on the effectiveness on job satisfaction and decisions in Jordanian banking sector. The intention was to identify the importance of communication technologies to the effectiveness of decision making process in 11 of the Jordanian banks; the study concluded that there is a positive relationship between the communication systems adopted in the studied banks with the effectiveness of decision making and job satisfaction.

#### IV. DATA ANALYSIS

The data collected was analyzed using Pearson moments of correlation and multiple regression analysis. Correlation analysis was used to measure the degree of relationship between the variables. Hypotheses were tested at 0.05 level of significance (95% confidence level) from the multiple regression model which showed the relationship between the independent variable and dependent variable. The data was analyzed using SPSS version 20 and the results presented in a tabular form. The analysis of the data collected from the respondent followed a number of basic statistical techniques in order to identify and interpret the ratings of respondents such as means, standard deviations, t- test for independent variable.

The multiple regression model used by this study is given as;

$$y_{it} = \alpha_{it} + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon_i \quad (1)$$

Source: (author, 2013)

Where,

$y$  =job satisfaction

$\alpha$ = constant.

$\beta_1 \dots \beta_4$ = the slope which represents the degree in which tax compliance changes as the independent variable change by one unit variable.

$x_1$  = computerized financial system,  $x_2$  = computerized human resource,  $x_3$  = communication technologies,  $\varepsilon$  = error term

#### V. RESULTS AND DISCUSSIONS

##### DESCRIPTIVE STATISTICS

##### A. Computerized Financial System

From the above findings, there is doubt whether the county has computerized financial system which assists them to serve the public faster and easier (Mean = 3.42, SD = 1.115) and to also make decision faster (Mean = 3.33, SD = 0.941).As well, it was not certain whether the county has computerized financial system which assists them to complete their auditing tasks more quickly using computerized financial system (mean = 2.8307, SD = 0.87568).However, it was revealed that the county lacks a computerized financial system which assists them to increase their efficiency and effectiveness in utilizing auditing services (mean = 2.4604, SD = 0.58121) and to perform auditing task even at home using my laptop (mean = 2.203, SD = 0.40637).Finally, the county also lacks a computerized financial system which assists them to know the state of payment transactions (mean = 2.1609, SD = 0.39125) and to solve public complaints on bills and other transactions (mean = 1.9964, SD = 0.44079).

##### B. Computerized Human Resource

From the above findings, the county has computerized its human resources system in such a way that there is streamlined and standardized processes (mean = 3.78, SD = 0.401).As well, the county has computerized human resources system which record and analyze absence, attendance and labor turnover (mean = 3.51, SD = 0.285).However there was doubt whether the county has

computerized human resources system which holds details about employees' jobs, including grade, pay and benefits, hours, locations, job description or role definition ( mean = 3.43, SD = 0.269).There was also uncertainty as to whether county has computerized human resources system which hold personal details about individual employees including career history, skills and qualifications, leave and absence records (mean = 3.26, SD = 0.182) and also produce reports summarizing different aspects of this information (mean = 3.22, SD = 0.312).Finally, there was doubt whether the county has computerized human resources system which increases access to HR data (mean = 2.87,SD = 0.1).

##### C. Communication technologies

From the above findings, it was not fully established whether the county has telephones which we communicate with our fellow colleagues in other department (mean = 3.42, SD = 1.115).Similarly, there was doubt whether the county has Video mediated conference which are used during meetings at the county (mean = 3.33, SD = 0.941).As well, it was also not certain whether computer mediated text transfers are used for record keeping purposes (mean = 3.26, SD = 1.182).Finally ,it was not fully established whether employees work better with their colleagues in different time zones using video mediated conference ( mean = 2.87, SD = 1.1).

##### D. Correlation results

The correlation model in table 4 indicates a significant positive relationship between computerized financial system ( $r=0.654$  and  $p\text{-value}=0.000 < \alpha=0.01$ ) and employee job satisfaction. The correlation table also shows that there is a significant positive relationship between computerized human resource and employee job satisfaction ( $r= 0.494$  and  $p\text{-value}=0.000 < \alpha=0.01$ ).Finally, communication technologies showed positive significant relationship with employee job satisfaction ( $r= 0.330$  and  $p\text{-value}=0.00 > \alpha=0.01$ ).

##### E. Hypothesis Testing

The results of multiple regressions, as presented in table 5 revealed that computerized financial system has a positive and significant effect on employee satisfaction with a beta value of  $\beta_1 = 0.527$  ( $p\text{-value} = 0.000$  which is less than  $\alpha = 0.05$ ). Therefore, the researcher rejects the null hypothesis and it is accepted that for each unit increase in receivables, there is 0.527 unit increase in employee satisfaction. In line with the results, a study by [24] found that job satisfaction and computerized financial systems were highly correlated.

The results of table 5 also showed that the standardized coefficient beta and p value of computerized human resource were positive and significant (beta = 0.182,  $p < 0.05$ ). Thus, the researcher rejects the null hypothesis and it is accepted that, computerized human resource has a positive and significant effect on employee satisfaction.

Finally, communication technologies has a positive and significant effect on employee satisfaction with a beta value of  $\beta_3 = 0.124$  ( $p\text{-value} = 0.009$  which is less than  $\alpha = 0.05$ ). Therefore, the researcher rejects the null hypothesis and it is accepted that for each unit increase in communication technologies, there is 0.124 unit increase in employee satisfaction. Consistent with the results of the study, [30] in his investigation of the Jordanian share-holding companies concluded that communication technologies facilitates job satisfaction thereby leading to improved firm performance.

## VI. CONCLUSION

The significance of this study was that it provided insight into the positive influence of computerized financial system, computerized human resource system and communication technologies on job satisfaction. Based on the results, the study indicated that the existence of a computerized financial system that serves the public faster and easier as well as making decision faster is in doubt. Further, there is lack of a computerized financial system that makes it possible to increase efficiency and effectiveness in utilizing auditing services. As a result, it is an uphill task to solve public complaints on bills and other transactions together with knowing the state of payment transactions.

Further analysis indicates that the computerized human resource system has made it possible for the county to have streamlined and standardized processes that makes it possible to record and analyze absence, attendance and labor turnover. The shortfall however was the uncertainty as to whether the computerized human resources system has the ability to hold details about employees such as job description and role definition, career history and leave and absence records. Additionally, there is doubt whether the computerized human resource system increases access to human resource data.

Finally, findings on communication technologies revealed that the presence of telephones that are used to communicate with fellow colleagues in other departments is limited to some extent. Similarly, there was uncertainty whether video mediated conferences are used during meetings at the county. Additionally, the availability of computer mediated text transfers for record keeping purposes was also in doubt.

## VII. RECOMMENDATION

In view of the findings and conclusions, the following recommendations are made.

The study has indicated that computerized financial system has a positive influence on employee job satisfaction. It is therefore necessary for the county to update its computerized financial system so that it can be able to solve public complaints on bills, increase efficiency on utilizing auditing services and to also make decisions faster.

To address the problem of uncertainty of the effectiveness of computerized human resource system, the county needs to streamline and standardize its processes so that it can be able to hold details about employees and also increase access to human resource data.

Finally, communication technologies are also of great significance in enhancing employee job satisfaction. The county therefore needs to embrace the use of computer mediated text transfers so as to enhance record keeping and at the same time increase employee job satisfaction. Investment on telephone that will be used to communicate is also necessary in order to enhance effective delivery of information which will eventually lead to employee job satisfaction.

This study investigated the adoption of ICT practices and its effect on employee job satisfaction in county government of Nakuru County. The study was not without limitations. For instance, there was generalizing of findings to Nakuru County. Thus, for further studies, there is need to increase the scope of the study. Finally, future research can be conducted to link intra organizational relationships with the adoption of ICT.

Table I. Computerized Financial Analysis

The county has computerized financial system which assist me to.....		Mean	Std. Deviation
1	.....complete my auditing tasks more quickly using computerized financial system	2.830	0.875
2	.....To perform auditing task even at home using my laptop	2.203	0.406
3	....to increase my efficiency and effectiveness in utilizing auditing Services.	2.460	0.581
4	..... me to know the state of payment transactions	2.160	0.391
6	.....to solve public complaints on bills and other transactions	1.996	0.440
7	.....to service public faster and easier	3.42	1.115
8	..... to make decision faster	3.33	0.941

Table II. Computerized Human Resource

The county has computerized human resources system which ....	Mean	Std.
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		Deviation
.....increased access to HR data	2.87	0.1
.....hold personal details about individual employees including career history, skills and qualifications, leave and absence records	3.26	0.182
....hold details about employees’ jobs, including grade, pay and benefits, hours, locations, job description or role definition.	3.43	0.269
..... produce reports summarizing different aspects of this information	3.22	0.312
.....record and analyze of absence, attendance and labor turnover	3.51	0.285
.....streamline and standardized processes	3.78	0.401

Table III. Communication technologies

	Mean	Std. Deviation
The county has telephones which we communicate with our fellow colleagues in other department	3.42	1.115
The county has Video mediated conference which are used during meetings at the county	3.33	0.941
we work better with our colleagues in different time zones using video mediated conference	2.87	1.1
we use computer mediated text transfers for record keeping purposes	3.26	1.182

Table IV. Correlation results

		Employee Satisfaction	Computerized financial system	Computerized human resource	Communication technologies
Employee Satisfaction	Pearson Correlation	1			
	Sig. (2-tailed)	0			
Computerized financial system	Pearson Correlation	.654**	1		
	Sig. (2-tailed)	0.000			
I. COMPUTERIZED HUMAN RESOURCE	Pearson Correlation	.494**	.539**	1	
	Sig. (2-tailed)	0.000	0.000		
Communication technologies	Pearson Correlation	.160**	.264**	.183**	1
	Sig. (2-tailed)	0.008	0.000	0.002	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table V. Table Type Styles

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-0.68	0.291		-2.334	0.02
Computerized financial system	1.135	0.118	0.527	9.653	0.000
Computerized human resource	0.274	0.08	0.182	3.428	0.001
Communication technologies	0.247	0.094	0.124	2.633	0.009

R Square= 0.47 Adjusted R Square = 0.462  
 a Dependent Variable: Employee Satisfaction

## II. REFERENCES

- [1] Kumar and J.V. Hillegersberg, “ERP Experiences and Evolution”, Communications of the ACM, Vol. 43, No. 4, April 2000, pp. 23-26
- [2] Deal J. (2007). Employees – Greatest assets or greatest expense (Electronic Version). Retrieved on October 22nd,2008, from: <http://www.empowerment-gateway.com>

- [3] Peslak A. (2005). The importance of information technology: An empirical and longitudinal study of the annual reports of the 50 largest companies in the United States. *The Journal of Computer Information Systems*, Spring: 32-42
- [4] Valtioneuvosto, 2006. National Information Society Strategy 2007-2015, The Information Society Programme, Prime Minister's Office
- [5] Adedoyin, O. O. (2010). Factor-analytic study of teachers' perceptions on self-efficacy in Botswana junior secondary schools: Implications for educational quality. *European Journal of Educational Studies*, 2, 139-155.
- [6] Appah, E. and Emeh, Y. (2011). Information Technology and Internal Auditors' Activities in Nigeria, *Asian Journal of Information Technology*, 10(6): 201- 208.
- [7] Jaiyeola, R. (2007). Information Communication Technology as a Tool for Effective Knowledge Management, 9, 4, 6-18.
- [8] Uzoka, F.M. (2002). Effects of Information Technology on Customers' Satisfaction in Nigerian Financial Institutions. *The Nigerian Accountant*, 35(4): 5-8
- [9] Andresen, J., Björk, B. & Betts, M. 2000. A Framework For Measuring IT Innovation Benefits
- [10] Arif A. and Karam A. (2001). Architectural practices and their use of IT in the western cape province, South Africa. *Journal of Information Technology in Construction (ITcon)*, Vol. 6, No. 2, 17-3
- [11] El-Mashaleh M.S. (2007). Benchmarking information technology utilization in the construction industry in Jordan. *Journal of Information Technology in Construction (ITcon)*, Vol. 12, No. 19, 279-291.
- [12] El-Mashaleh M., O'Brien W.J. and Minchin R.E. (2006). Firm performance and information technology utilization in the construction industry. *Journal of Construction Engineering and Management*, Vol. 132, No. 5, 499
- [13] Goh, A. (2005). Harnessing knowledge for innovation: an integrated management framework. *Journal of Knowledge Management*, Vol. 9 Iss: 4, pp.6-18
- [14] Lim KH, Sia CL, Lee MKO, Benbasat I (2006) Do I trust you online, and if so, will I buy? An empirical study of two trust-building strategies. *J Manage Inf Syst* 23:233-266
- [15] Oladapo A. (2007). An investigation into the use of ICT in the Nigerian construction industry. *Journal of Information Technology in Construction (ITcon)*, Vol. 12, No. 18, 261-277.
- [16] Peansupap V. and Walker D. (2005). Factors enabling information and communication technology diffusion and actual implementation in construction organizations. *Journal of Information Technology in Construction (ITcon)*, Vol. 10, No. 14, 193-218.
- [17] Rivard H. (2000). A survey on the impact of information technology on the Canadian architecture, engineering and construction industry. *Journal of Information Technology in Construction (ITcon)*, Vol. 5, No. 3, 37-56.
- [18] Rivard H., Froese T., Waugh L.M., El-Diraby T., Mora R., Torres H., Gill S.M. and O'Reilly T. (2004). Case studies on the use of information technology in the Canadian construction industry. *Journal of Information Technology in Construction (ITcon)*, Vol. 9, No. 2, 19-34
- [19] Samuelson O. (2002). IT-Barometer 2000 - The use of IT in the Nordic construction industry. *Journal of Information Technology in Construction (ITcon)*, Vol. 7, No. 1, 1-26.
- [20] Samuelson O. (2008). The IT-barometer – A decade's development of IT use in the Swedish construction sector. *Journal of Information Technology in Construction (ITcon)*, Vol. 13, No. 1, 1-1
- [21] Scheer S., Leusin de Amorim S., Santos E., Ferreira R. and Caron A. (2007). the scenario and trends in the Brazilian IT construction applications' experience. *Journal of Information Technology in Construction (ITcon)*, Vol.12, No. 13, 193-206
- [22] Tas E. and Irlayici F. (2007). A survey of the use of IT in building product information acquisition in Turkey. *Journal of Information Technology in Construction (ITcon)*, Vol. 12, No. 22, 323-335
- [23] Zhu Y. and Wang Y. (2007). The organization of information standards in the Chinese construction industry. *Journal of Information Technology in Construction (ITcon)*, Vol. 12, No. 14, 207-219
- [24] Dessler, G. (2005) *Human Resource Management*, 10.ed., USA: Prentice Hall. Jaiyeola, R. (2007). Information Communication Technology as a Tool for Effective Knowledge Management, 9, 4, 6-18.
- [25] Abdullah, R. (1998) "User Information Satisfaction and Job Satisfaction: Exploring the Relationships", Masters Thesis, International Islamic University Malaysia .
- [26] Becker, B. and Huselid, M. (1999) "Overview: Strategic Human Resource Management in Five Leading Firms", *Human Resource Management*, Winter, Vol 38, No. 4, pp 287-301.
- [27] Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, 70, 323-367.
- [28] Awazu, Y. and Desouza, K. (2003) 'Knowledge management', *HR Magazine*, November, pp. 107-112.
- [29] Ball, L. and Moffitt, R. (2001) "Productivity Growth and the Phillips Curve", *Economics Working Paper*
- [30] Hendrickson, A. R. (2003) *Human Resource Information Systems: Backbone Technology of contemporary human resources.*
- [31] Balci (2004), *Research in the social sciences : Methods , techniques and principles*, Ankara: Pegeen .