

COMPUTER USAGE IN INSTITUTIONS OF HIGHER LEARNING: CASE OF JKUAT

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Abstract

Universities worldwide are impressing adoption of computers in their operation and delivery of services. Enterprise Resource Planning systems (ERP) are among Management Information Systems (MIS) preferred for adoption. The adoption ensures optimization of ICT resources. JKUAT has implemented Sage ACCPAC ERP and in the process learnt lessons that can be shared. Through a survey conducted across the University, this paper sought to examine the effectiveness and correctness of computer usage at JKUAT. The findings of the survey pointed to the need of formulating a computer usage policy (CUP). The paper outlines the implications of operating without a computer usage policy.

Key words: Enterprise resource planning, information and communication technology, computer usage policy, management information system

1.0 Introduction

Policy statements explaining the correct and incorrect use of organizational information systems are thought to reduce the amount of misuse within an organization (Charles, B.F., Timothy P.C. & Thomas, W.J. 2005). Using written statements to reduce the occurrence of some undesirable action is based on the Theory of General Deterrence (TGD) which suggests that punishing offenders will prevent others from committing the same action. According to TGD, University computer usage policies should reduce the occurrence of computer misuse.

Information systems misuse and computer crime is defined as: unauthorized, deliberate, and internally recognizable misuse of assets of the local organizational information system by individuals. Possible abuses include violations against: Hardware (and other physical assets associated with computers, such as theft or damage to terminals, CPUs, disk drives and printers); programs (such as theft or modification of programs); data (such as embezzlement or modification of data) and computer service (such as unauthorized use of service or purposeful interruption of service).

Misuse and computer crime is widespread and is increasing in frequency in organizations implying that they must contend with customer perception of lack of security which can result in lost revenue. Computer misuse attempts can be grouped as either coming from inside the organization or from outside the organization. However, exposure to the University computer usage policy (CUP) can result in a fairly large increase in awareness among staff and also exposure to the deterrents drastically increases awareness of the consequences of misuse.

An employee orientation program must include discussion of correct and incorrect computer usage, penalties for misuse, moral appeals, and methods of enforcement along with tougher enforcement policies. Information systems misuse and computer crime is a serious and ongoing problem and the problem remains very significant. Computer Usage Policies have been used as an attempt to curtail access to material deemed inappropriate for the work environment. (Breakey, 2007), and violations of these policies have resulted in dismissal of employees (Broadwater, 2007). It is noteworthy that staff who are more familiar with the University's computer usage policies are less likely to conduct an act that would violate these policies.

Aspects of computer use can be assessed through three main dimensions. These are: the extent of functional use of computers; the frequency of use of computers and the degree of dependency on computers.

These refer to the degree to which staff work activities rely on the availability of computer facilities. Hence increased computer usage in different functions affects job satisfaction to a different degree. The amount of training and easy access to a computer have been reported to be the most important factors related to computer use.

The study was carried out with the aims to surveying on computer usage at Jomo Kenyatta University of Agriculture and Technology. It complements the efforts of the Information and Communication Technology (ICT) Directorate performance on proper computer usage in the University's departments.

2.0 Materials and Methods

Members of staff at the University were contacted through their respective Heads of Departments where they serve. The staffs were asked to complete a questionnaire regarding their awareness of University Computer Usage. Forty Two (42) departments responded to the questionnaire. The data was captured and analyzed for the purpose of this report.

3.0 Results

It emerged that almost all members of staff have computers of which most of them are connected to the internet. This indicates that the ICT Directorate's effort in establishing, spreading and supporting the LAN (Local Area Network) /WAN (Wide Area Network) /Internet infrastructure is by far and large bearing fruit.

Search engines have been properly utilized in that majority of the people are able to access scholarly journals and fill government forms. However, there is still a group of employees who use the search engine to do their personal assignments, search for job opportunities and participate in blogs.

Majority of the respondents use the internet as a research and a communication tool. In addition, there are other activities that the employees achieve using the internet; they range from social networking, commerce News and weather reports. No staff spends a day without access to internet and none spends a whole day on Internet. This could indicate that staff strike a balance overuse and underuse with an equivalent number using it more than 1 hour a day and not more than 1 hour a day.

It was noted that a significant majority of internet users use it for research and email. This is seen as a key driver towards the achievement of a university of global excellence in training, research and innovation for development while also utilizing less paper/ physical and more electronic means (electronic)

It was noted that a significant majority of the respondents utilize search engines to access scholarly journal and government forms. This is a strong indicator of sound use of computing facilities for scholarly purposes. On the other hand, and in line with the Kenya Vision 2030 a significant majority is turning to internet facilities to access government services.

The uses of information search apparent here is search of information on goods and services, on health and nutrition, communication on JKUAT email, reading and downloading all of which can be considered noble and inline with the university.

Upon intrusion, the information lost by the university would be more than 50%. This means that should there be a problem then, most of the University's operations would be halted due to the loss.

Majority of the respondents preferred Yahoo mail to the JKUAT mail. This poses a need to improve on the University's email so that more people utilize it. If properly utilized, the JKUAT mail is faster and more convenient to access than any other mail.

An element of awareness and skill verses preference is notable. With Yahoo mail and JKUAT mail being well known and the most preferred unlike the newcomers such as *@gmail.com* and Excite mail despite near similar functionality.

Effort is thus needed to useful systems and raise awareness and skill for increased acceptance and preference.

4.0 Recommendation

There is need for a scheduled backup of the information to ensure business continuity when loss strikes. On the other hand, the more than 40% personal information loss indicates that there is a lot of personal information being stored in the university's resources.

There would be a loss of more than 60% by the university and departments incase of intrusion. About a third (1/3) would lose vital personal information which means that mechanisms need to be in place: to protect JKUAT information resources; reduce presence of personal information on JKUAT ICT infrastructure and enhance infrastructure and policy enhancement for the short and long term protection of JKUAT information resources.

5.0 Conclusion

This study notes that the implementation of computer usage policies within the university would ensure that all users are familiar with the content of those policies and the penalties imposed for their violation. A backup schedule should also be put in place to protect the data stored on computers and a well understood procedure should be used for backup.