

Influences of Information and Communication Technologies in Administrative functions in the Higher Educational Institutes

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Abstract

Administrative functions toil as the backbone of any sectors, especially in the higher educational institutes; such as financial, academic, by-law, and other activities too. This study review the influences of ICT in administrative services in the higher educational institutes based on past research works. The required data were collected using qualitative technique and systematic literature review has been analyzed to find the positive and negative influences of ICT in administrative functions. The majority of the literature reviews positively support the influences the ICT in the administrative duties in higher educational institutions such as quickest work within a given time meantime there are negative consequences too such as no prior experience using the information systems and IT equipment. In addition to that, no proper training provided to the administrative staff to work with the ICT-enabled environment was another issue. It was strongly suggested to develop management information systems based on the cloud that can be used via mobile phones which can be developed based on staff's requirements, provide proper training to the administrative staff members, and motivate staff to use ICT services provided by the universities. There were some limitations while engaging with this study, such as a very few number research works were available on the internet for the literature review and less number of recently published papers available.

Keyword: ICT, Information system, systematic review, Administrative functions, Higher education

1. Introduction

The State Universities play an important role in the Higher Education System in Sri Lanka to uplift the country by various domains. Administrative Officers and administrative functions are just as important as students and academic staff to carry out the educational activity in the University System. The duties of the Administrative Officers are not defined. Since all the administrative officers in the University are representatives of a Registrar of a University, their duties are defined based on the responsibilities of the Registrar. Accordingly, every Administrative officer plays a vital role in developing the administrative structure of the Higher Educational Institution. Generally, the main duty of administrative officers is to be the custodian of the property and record of the Higher Educational Institution. The duties of the Administrative Officers are to maintain the details of fixed assets, inventory records, examination records, staff records, students' records and financial statements of the Higher Educational Institution. Also, the administrative officers are providing all necessary facilities for learning and teaching activities of the Academic Staff and the

Students. Further, the Administrative Officers implement all the Orders, Ordinance, By-Laws, Regulations, Rules and other directions made by the relevant authorities from time to time.

Information and communication technology (ICT) is known as an extended synonym for information technology (IT) which can be defined as a diverse set of technological tools and resources. These resources are used to communicate, create, disseminate, store and manage the information such as radio, television, computer, internet, mobile phones and fax machine (Tinio V.L, 2003). In the age of booming technology, running a business without or fewer technologies is like trying to breathe without lungs (Christiana, 2008). In that respect, ICT provide services to various sectors such as health care, education, business, and transport. Surely, ICT help to migrate from manual procedure to computerized or automated system to reduce the time consumption and increase the work efficiency in all the sectors.

For Higher Educational Institutions, Information and Communication Technology (ICT) is inevitable. It is of the highest use to administrative activities as it is for learning and teaching activities. In the early days, all the employees' duties, not administrative functions of the Higher Educational Institutions, were left behind in Information and Communication Technology. In the course of the year, all officers, including administrative officers, participate in the development of Information and Communication Technology in the Higher Educational Institutes. Moreover, administrative officers have made progress in making some use of Information and Communication Technology in their duties compared to the past. But the need for administrative officers to absorb Information and Communication Technology continues to be adequately utilized.

2. Review of Literature

The analysis confirmed that the administrative staff of the University of the Philippines of Open University uses all the available ICT resources to accomplish their office administrative tasks in a successful manner, at the same time security issues were the major problem face by them (Amoloza, 2013). Meanwhile, a review work based on school staff found that the administrative staff had less confidence in terms of the use of ICT services due to a lack of technical skills and the author suggested providing required devices to the administrative staff with proper training (Simin Ghavifekr, Seger, Afshari, & Siraj, 2013). But, another statistical analysis shows that the administrative staff of higher educational institutes of Bangladesh shows their interest in the use of ICT devices and services (Miraz, Saleheen, S.A.M Manzur Hossain Khan, & Rahman, 2016). Meanwhile, an analysis conducted among the Nigerian universities confirmed that the impact of ICT applications was less than the expected level in various administrative tasks such as student registration, examination process, financial activities, and other information access via the University's website (Egoeze, Misra, Maskeliūnas, & Damaševičius, 2018); the same findings were concluded in research conducted in Indian universities too (Pohekar, 2018). But, another study was revealed that the ICT services mainly providing service for general administrative activities (Jaleel, 2014).

Researcher stated that there were 4 main factors such as cost, availability, usage, and knowledge of ICT was a positive impact on the viability of the ICT services in administrative tasks in the higher educational institutes, but the cost was the noteworthy factor (Chakraborty, Dhara, & Santra, 2018).

Author mentioned that the government of India was taken several actions to improve the administrative tasks of higher educational institutes by providing step by step development of information system through ICT services (Mukhopadhyay & Parhar, 2014).

A study was mentioned that the implementation of ICT in higher educational institutes helps to reduce the complexity and improve overall administrative processes (Krishnaveni & Meenakumari, 2010). Likewise, another case study has pointed out that, the effective and new implementation of ICT technologies in administration will help for successful administrative reforms (Sorin Dan ŞANDOR, 2012); in addition to this, administrative staffs were ready to use even if new technologies (Gedwar, 2016). Meanwhile, another article suggested that educational organizations can increase the effectiveness of administrative management by increase the usage of ICT services, equipment, and provide proper training to the staff (Oluoch, 2016). Furthermore, findings showed that the proper use and motivation of using the ICT management information system can increase the efficiency of the administrative task in the University (Qureshi & Muhammad Moinuddin Qazi Abro, 2016). It is confirmed that the ICT enabling electronic administrative procedures by implementing a management information system for monitoring, handling, and administering administrative tasks in educational institutions (Makewa, Meremo, Role, & Role, 2013). Staff support was for the use of ICT devices and applications to complete their administrative and managerial tasks but the motivation towards the use of ICT was low as they were not getting proper guidance in ICT technologies (Selwood, 2005). Similarly, a study was found that use of ICT in administrative procedures in schools help to improve the efficiency of their works; but only top level administrative employees use these services effectively, as those employees were getting proper training on using ICT services (MURIITHI STEPHEN NJOKA, 2015).

A qualitative study in a university in Botswana confirmed that the university staff needs proper training with ICT technologies before implementing them, as the majority of them avoiding to use those technologies; this is because of poor knowledge about the new technologies (Seitebaleng Susan Dintoe, 2018). Similarly, a study in a school suggested that, ICT services have to be there, but in the meantime, proper training must be given too (Margaret Haughey, 2003). Furthermore, an author strongly advised the administrative staff members to use the available ICT services effectively (Ghavifekr, Afshari, Siraj, & Seger, 2013). Another article was supporting the use of ICT in administrative services of educational places, and also, the article suggested implementing a nationwide policy to use the ICT in those places with enough financial support for training purposes (Saiti & Prokopiadou, 2009).

ICT services provided paperless works in administrative works in higher educational institutes (Pyla, 2010). The following statement supports this, record-keeping computerized systems effectively assisting administrative work procedures compared to manual book methods (Chidobi, 2015).

The researcher suggested that the administrative officers must develop their knowledge toward ICT applications and guide their subordinates to get updated training relevant to those ICT applications (Ukpoma Esther, 2019).

3. Methodology

This research work was completed using a systematic review of published research works related to ICT and higher education administrative functionalities. A systematic review is the statistical process of recognizing, analyzing, extracting, and decoding the required set of data from the published articles

(Kariapper, Nafrees, Razeeth, & Pirapuraj, 2020). With that, qualitative methodology was followed as a statistical method for the data analysis process. Any statistical analysis of data in the form of non-comparable observation to represent a different view of a problem could be a qualitative method (Gerring, 2017). As this study was focused on the influences of ICT in administrative functionalities in the higher educational institutes, research works in line with ICT and administrative tasks were searched using various conditions included the keywords ICT, Administrative functions, Higher educational institutes with the help of Boolean operators AND, and OR. Furthermore, the majority of the required research papers for the review purpose were filtered based on the following criteria;

- Full article publications only
- Published in high index databases
- Free accessible research papers
- Published with in last five years
- International conferences, book chapters

Thereafter, all the selected papers were sort listed according to the research questions below that were formulated to reach the scope of this study.

Table 1: Formulated research questions

S.No	Research Questions	Motivation
1	What are the possible ICT solutions to achieve the administrative task easily?	Increase the work efficiency in less duration with high quality.
2	What are the positive faces of ICT in Administrative functions?	Motivate Higher educational institutes and relevant staff towards the maximum use of services provided by the ICT.
3	What are the issues of ICT in Administrative tasks?	Suggest possible solutions to reduce ICT issues in administrative works.

Based on the above conditions, criteria, and table 1, there were 25 research papers finalized out of 126 papers to extract the required data. Apart from the above-concluded articles, different research works were selected to complete the introduction and methodology part of this review article. Furthermore, the research work were concluded using the summarized information from all the review of literature, also suggestions and limitations of this research work stated with the conclusion.

4. Conclusion and Recommendations

There are various factors relying on administrative duties in the higher educational institutes in several areas such as circular accessibility, monitoring, payment, registration, examination, and meeting. Efficiency and better outcome of these sections can be achieved by reducing the error rates in their administrative work procedures. As per the above literature review, these errors can be reduced by replacing the manual methods with the computerized system. This review study was focused on the impact of ICT services on administrative duties in higher educational institutes. The qualitative technique was used to analyze the ICT influences in administrative duties on the collected data from the past studies using

systematic review. All the conducted researches have confirmed the importance of ICT services and applications in administrative duties; which were said that the ICT services and application increase the efficiency of the administrative tasks by reducing the error rate and completion time. Meanwhile, there were negative consequences too, such as hard to learn new technologies and no proper training provided to the administrative staff members. Furthermore, the majority of those works suggested providing proper training and motivation to the administrative officers. In addition to that, it is advised to develop a user-friendly management information system that can be used via mobile app based on both offline and cloud-based storage; and strongly suggested to collect and analyze administrative staff expectation regarding before developing any management information system.

Limitations and Future works:

Apart from these above matters, there were some limitations in this study, such as less number of available relevant research works and less number of recently published papers. Furthermore, as a first step to develop a management information system and to illustrate the importance of ICT services in the administrative duties, the authors have decided to conduct a statistical analysis to find administrative staff expectations to migrate from manual work procedures to the computerized environment by collecting data from the administrative staff member of the universities.

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