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THE IMPACT OF NEW ICT APPLICATIONS INTO EDUCATION SERVICES IN TANZANIAN HIGHER LEARNING INSTITUTIONS

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ABSTRACT

The advancement of Web 2.0 technologies and applications has influenced many service industries. This offers a promising approach for improving education. Education systems worldwide face major challenges due to the soaring demand for better and quality education. The aforementioned challenges influence the new education approaches using new technologies and social media. This paper assesses the usage and impact of new information and communication technology (ICT) applications to the education services in Tanzanian Universities. The study was conducted at Mbeya University of Science and Technology (MUST), whereby secondary and primary data were collected using questionnaires and reviews from the previous works. The paper found that, the usage of new ICT applications in academic programs will improve student learning and prepare them for a dynamic and collaborative education.

KEYWORDS: *ICT, Web 2.0, Knowledge skills, learning skills.*

1. INTRODUCTION

The awareness of new ICT applications included in recently web 2.0 technologies is important for changing the learning and training process in higher learning institutions. The institutions have been continuing to deploy ICT infrastructure and services to support the academic progress. By utilizing ICT in learning and training provides dynamic and resource sharing in academic arena (Mathai, 2014)

Regardless of immense efforts to point ICT as a tool as an instrument of instructing and learning, the actuality remains that numerous understudies and faculty compose just constrained formal academic utilization of computer technology (Selwyn, 2006). The competence in ICT raises questions about the importance of using ICT within higher learning institutions. Many students wish they had extra understanding regarding to ICT and related skills (Andersson, 2006). Earlier studies in the writing find the confirmation for a positive effect of ICT speculation on instructive execution.

Tanzania, as it is in several nations in the world, has been taken by the trend of embracing current technology in education. As indicated by

the United Republic of Tanzania-Ministry of Communications and Transport (2003), there have been moves to embrace technologies in numerous learning institutions, more significantly in higher learning institutions (Tanzania National ICT Policy of 2003).

The key question is whether the students have really integrated ICT in learning or not, and if they have, to what extent they have done so; or, if not, what is the essence of the problem of not doing so? Amy, Baylor, and Ritchie (2002) argue that the way in which technology is used in the classroom is not enough to measure its success. They state it is turning out to be progressively clear that technology, all by itself, does not specifically change educating or learning. Rather, the vital element is how technology is integrated into exchanging instructions. The authors believe that, these and other saw difficulties of technology incorporation by different scholars raise questions on the nature of technology integration practices in institutions and thus a necessitate for formatively evaluating them so that the benefits of technology in education are maximally realized.

In any case, numerous recent research studies on this topic demonstrate that numerous

institutions students are neglecting to integrate technology into existing situation. Bauer & Kenton (2005) stated in their study that although students were having sufficient skills and innovative, they did not integrate technology consistently as a learning tool. Reynolds, Treharne & Tripp (2003) likewise underlined proceeding problems in the adoption of ICT by students and stated the need for further research on how ICT can improve education.

With respect to learning methodologies, the paradigm must evolve towards student-centered methodologies, which make the student a dynamic component in learning, suitably guided and accommodated by effective and committed tutorial support. In this change of model, it is currently difficult to overlook the potential of Information and Communication Technologies

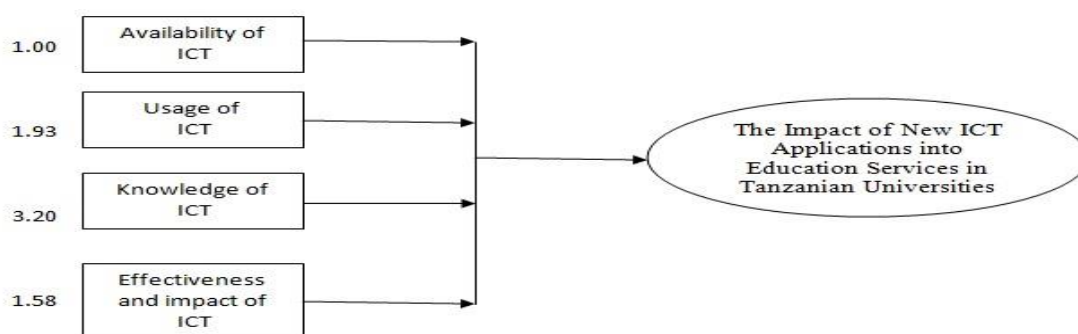
(ICT), and particularly that of the Internet (Mayiwar & Sadik, 2005).

In the area of ICT in Education, students are encouraged to undertake collaborative work on the role and use of ICT in society and in education at large, with the purpose of ensuring both reflection and a feeling of collaboration in research, angles which ought to be esteemed in a scholarly culture.

2. METHODOLOGY

To check the impact of new ICT applications in education services in Tanzanian universities, we exploit four independent variables named: Availability of ICT, usage of ICT, knowledge of ICT, and Effectiveness of ICT. Figure 1 demonstrates the conceptual framework of the components assessed.

Figure 1. Conceptual Framework



Availability of ICT:-

The first factor that we consider in the utilization and effect of new ICT applications in Tanzanian higher learning institutions is the availability of ICT. The factor is considered as constant parameter. This is due to the fact that usage and impact of ICT cannot be well assessed without the availability of the ICT. In this regard we assumed that, the students at universities have basic-equipped ICT devices.

Usage of ICT:-

The second variable that we utilize to check the usage and impact of new ICT applications in Tanzanian higher learning institutions is the usage of ICT. This variable helps us to find out in what manner can students utilize the most recent technology in their studies. Respondents' responses were assessed at five Likert scale and questions were:

- 1.Usage of latest ICT tools in university/college.
- 2.Use of new ICT applications in supporting studies.
- 3.Usage of Internet for accomplishing projects and assignments instead of books or library.

Knowledge of ICT:-

The third variable that we utilize to check the usage and impact of new ICT applications in Tanzanian universities is the knowledge of ICT. This variable helps us to find out the knowledge and skill of the students regarding the use of new ICT applications in their studies. Respondents' reactions were evaluated at five Likert scale and questions were:

- (1) Knowledge in using basic ICT devices.
- (2) Knowledge in using basic ICT applications.
- (3) Knowledge in using social media applications to support their studies.

Effectiveness and Impact of ICT:-

The last and fourth independent variable that we utilize to check the usage and impact of new ICT applications in Tanzanian universities is the Effectiveness of ICT. This variable helps us to find out the Effectiveness of ICT in Tanzanian Universities. Respondent's reactions were evaluated at five likert scale and questions were:

- (1) Due to ICT, Students can enhance their learning skills.
- (2) ICT provides vast knowledge to students through Internet.
- (3) Use of advanced mobile phones assists the students for better learning.

(4) ICT can be used to enhance educational efficiency at the local, regional and national level.

Sampling:-

We have conducted research to assess on the Usage and Impact of ICT in Tanzanian higher learning institutions. For this intention we have made diverse samples using proper sampling; a

type of non-probability sampling. We have used questionnaire as our information gathering method for our study. Interval scale is used for formulating the questions we have utilized five likert scales beginning with strongly disagree to strongly agree in our questionnaire.

Table 1. Number male and female responded					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	71	80.7	80.7	80.7
	Female	17	19.3	19.3	100.0
	Total	88	100.0	100.0	

Nominal scale is being utilized to check the aggregate number of female and male. For our research we conducted the survey from MUST using questionnaire technique for this we issued 110 questionnaires and we got back 88 questionnaires. So to check the response rate we perform following formula:

$$\frac{\text{Responded number of questionnaire}}{\text{Total number of questionnaires}} * 100$$

$$\frac{88}{110} * 100 = 80\%$$

Thus, the response rate is 80%.

3. DATA ANALYSIS AND INTERPRETATION

Table 2. Descriptive Statistics

	N	Mean	Std. Deviation
Usage of ICT	88	1.93	1.311
Knowledge of ICT	88	3.20	1.116
Effectiveness and Impact of ICT	88	1.58	.562

The table 2 demonstrates general response of the tested sample (mean) from different departments in MUST consist of 110 students. After data gathering from the students, we analyze that usage and impact of ICT as a dependent variable is 1.93 and regarding to this variable respondent deviate from their mean equal to 1.311, and results lie from 0.619-3.241, which shows that response of students lie between never to usually. They are agreeing that sometimes usage of new ICT applications brings a positive impact on the education sector in universities. They are agreeing that sometimes the usage of the new ICT applications improves their studies.

Knowledge of ICT as an independent variable is 3.20 and regarding to this variable, respondents deviate from their mean equal to 1.116, and result lie from 2.084-4.316, which shows that response of students lie between less to better knowledge of ICT. This result shows that students have good knowledge in using basic ICT devices, basic ICT applications and using social media applications to support their studies.

Effectiveness of ICT as an independent variable is 1.52 and regarding to this variable respondents deviate from their mean equal to 0.562, and result lie from 0.958-2.082, which shows that response of students lies between strong agree to agree. This result shows that students are

agreeing that due to new ICT applications, Students can enhance their learning skills. ICT provides vast knowledge to students through Internet. Use of smart phones helps the students for better learning. ICT can be used to enhance educational efficiency at the local, regional and national level.

4. CONCLUSION

The major finding of this research is that with the availability of new ICT applications, the usage of ICT is essential in improving the educational efficiency of students. This indicates that with the availability of new ICT applications in high learning institutions is necessary for the students to improve their learning skills as well as latest technologies of ICT are helpful for the students to better prepare for a dynamic and collaborative education. Results also show that ICT can be supportive to bring the beneficial knowledge of students related to their studies. Our findings suggest that with the availability and usage of ICT in high learning institutions will result to more efficiency of the students. Students were agreeing that they have good knowledge of using new ICT applications is helpful to enhance the educational efficiency in national, regional and local level. Subsequent to the analysis of all the results we conclude that ICT brings a positive impact in high learning institutions.

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