IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 10, Issue 5 Ser. V (Sep. – Oct 2019), PP 28-33
www.iosrjournals.org

A Systematic Analysis on the Application of Information System in Accounting Learning Processes in Developing Countries

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Abstract: *IT job in teaching and enhancement of learning performance is an issue of interest globally, the adoption and use of IT tools is arguably at a low level in secondary schools. Thereforeits use in secondary and other lower level of Accounting education is been highly promoted among students and teachers.Different organizations have embarked on such initiative, this includes The Second Information Technology in Educational Study (SITES), sponsored by the International Association for the Evaluation of Educational Achievement (IEA),it distinguishes and depicted the educational utilization of ICT across 26 nations on the planet by investigating the utilization of ICT tools such as computers by School Teachers and other staffs. Factors influencing adoption and usage of ICT among teachers and student where also reviewed in this studies. Most papers analyzed the barriers base on the teacher and student's perspective. A new perspective suggested is policy approach and provision of necessary tools for effective use and proper financing for full implementation across schools. This study will be of importance to government and policy makers in search of ICT inclusive accounting.*

Keywords: *ICT, Schools, Information system, Accounting Learning and Performance*

Date of Submission: 11-10-2019 Date of acceptance: 26-10-2019

I. Introduction

Rapid advancements in information technologies from 1990s have significantly transformedbusiness data processing, processes and models and had a significant effect on accountingprofessions(Seethamraju,2010). Information system is one of the most vital driving forces advancing and enhancing performance in various aspects of our lives. A good number of information system tools have been engaged to enhance the efficiency of teaching and student performance in secondary schools. This trend in promotion of the use of information system technologies for instance laptops, LCD projectors, trolley with speaker and UBSsystem, and software like power point, flash and interactive courseware will help to support teaching and enhance the learning process. Arguably, the adoption of Information system tools among secondary schools is still at its lowest in most areas of the developing world.

Accounting has become a large technological foundation in the real world and accountants work in an information technology-enabled environment irrespective of the nature or role of organization and size. In spite of such widely held views that accountants' need skills in the implementation, management, selection, and use of information technologies at their work place, universities appear to be approaching the accounting education, mostly from a theoretical perspective only. Without use or embedding current and emerging information technologies in the teaching & learning of accounting and without incorporating various or different types accounting technologies & applications that are information technology based in the curriculum, whereas business schools in universities are not able to produce graduates with skills that are required or in demand (ALTC 2009 ;Kavanagh & Drennan, 2008)whereas the university accounting education has not been following suit (Seethamraju,2010;Kavanagh & Drennan, 2008).

Significant government investment in IT resources and an increased focus on approached to the entire school enhancement through inserting technology in teaching, learning and management. Research shows that incorporating IT is a steady, reflective process for most teachers and one that is influenced by a complex mix of components (Sara and Rosemary 2004).

Various literatures have analyzed the levels of adoption of IT and those elements that impact the adoption of the Information system tools in secondary schools. Harrison et al., 2002, pointed towards the potential yields from installing IT in learning, teaching and management while proof exist that the utilization of IT to teaching practice is still a rather disparate picture across phases and subjects as in the studies of Day, 2004; Harrison et al., 2002; Jones, 2004). Even though efforts have been made to provide schools with such facilities (Bee Theng and Chia Hua 2008), the role of IT in teaching and enhancing of learning performance, adoption

and use of IT is arguably at a low level in secondary schools. To be sure, the utilization of IT in education and training has been a key priority in most EU and OECD nations in the last decade, in spite of the fact that advancement has been uneven. IT has majorly affected on the education sector, on organizations and on teaching and learning techniques (Aleksander Aristovnik 2012).

In schools and classroom settings, teachers and school administrators are endeavoring to locate the most ideal approaches to harness IT technology to support their teaching and students' prosperity. In any case, achievements that are convincingly the outcome of the direct causal effect of ICT utilize are not in every case effortlessly identifiable (Kanget al., 2008).

A recent study by Rakhi Chitnis (2017); stated that As of now, there is a noteworthy number of activities to survey and monitor the proficiency of IT utilize and its effect on education, for example the SITES (the second information technology in educational study), sponsored by the International Association for the Evaluation of Educational Achievement (IEA), is an exemplary study which recognizes and depicts the educational utilization of IT across 26 nations on the globe by exploring the utilization of IT tools such as computers by School Teachers and other staffs.

The type of studies included in this paper review includes papers on the application of ICT in learning and teaching processes at secondary school level. These papers were acquired through the use of multiple keywords in search engines to access related works. After an extensive and exhaustive search a total of 45 articles were identified.

Table 1-4: Use of ICTs by Teachers in Schools for different activities

Table 1: Usage of ICTs for Teaching & Instructional Support

Period	**Usage Percentage**
Occasionally	13.70%
Monthly	10.80%
Weekly	34%
Daily	41%
Never	0.50%

Table 2: Usage of ICTs for Classroom Management Activities

Period	Usage Percentage
Weekly	29.70%
Monthly	26.90%
Occasionally	21.70%
Never	2.80%
Daily	18.90%

Table 3: Usage of ICTs for Communication

Period	**Usage Percentage**
Never	21.70%
Occasionally	37.70%
Monthly	12.70%
Weekly	17.90%
Daily	7.50%

Table 4: Usage of ICTs for Personal Development

Period	**Usage Percentage**
Never	36.80%
Daily	2.80%
Weekly	9.40%
Monthly	9.40%

Source: Discovering the Extent of ICT Adoption among Secondary School Teachers in Malaysia (Bheeteng Lau, 2008)

II. Factors affecting ICT adoption and development in schools

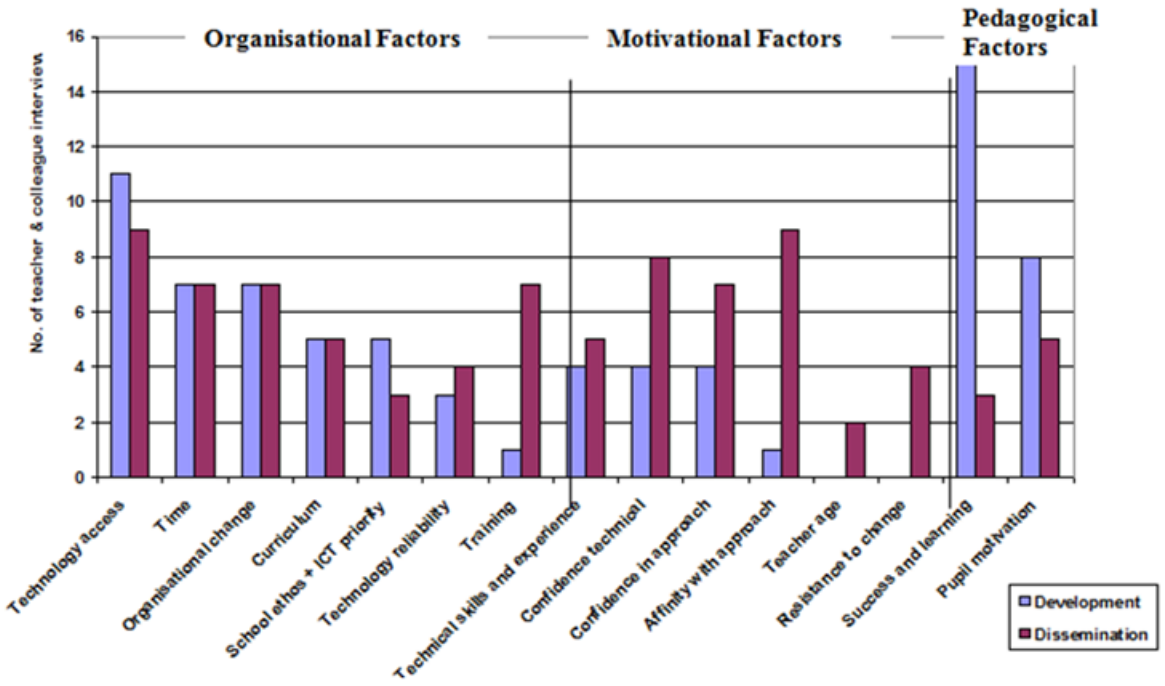
Khalid Abdallah Bingimlas (2009), grouped the barriers or factors affecting ICT adoption in Schools into 2 Teacher level barrier and school level barriers, the teacher level barriers incorporate lack of confidence, competence and resistance to change on the part of the teachers, while the school level barriers includes deficiency of enough teaching time, deficiency of In service training for the teachers, lack of accessibility and technical support.

ICT has been a main factor of efficient accounting system and improve organizational performance recently. ICT has been used to augment the reliability of accounting information and organizational performance. Accounting systems include the computer hardware and software fundamentals in recording accounting information. Organizational performance in this study was related to ability finances, ability to meet set goals and actions. However, to increase the benefits of information technology systems, the appropriate implementation and adoption procedures have to used, or else, there is little or no impact of these technologies on the earlier mentioned variables. The research investigated empirically the impact of information technology on accounting systems and organizational performance. Secondary data and Pearson's correlation was used for analysis for a sample of 20 staff in financial services and other related accounting departments in Covenant University. The results showed that there is a good significant positive relationship between ICT system and accounting system and a significant positive relationship between ICT and organizational performance (Taiwo,2016).

Numerous investigations have indicated the viable limitations working inside the working settings in which teachers as of now get themselves. Among those factors found to influence effect use of IT is teaching and learning in schools includes; Necessary infrastructure and teacher training and development.Research into the general utilization of IT in teaching has distinguished factors depicted as external to the practitioner, for example, access to and organization of facilities, resource availability, school culture including collaboration and support, and internal variables for example, perceived ease of use and usefulness of ICT for teaching (Dawes, 2001; Cox et al., 1999; Ertmer et al., 2000; Mumtaz, 2000; Philip and Yasemin 2013).

Sara and Rosemary (2004), in their findings grouped these factors into three broad groupsOrganizational factors, motivational factor, pedagogical factor(Fig.1).

Figure 1: Distribution of Factors Relating to Development and Dissemination of ICT-Supported Practices



Source: Adopted from Sara and Rosemary (2004).

Table 5 Instructional hours using ICT by level, 2012

	Primary	Lower secondary	Upper secondary
Cambodia	.	.	1 ~ 5
Bhutan	.	< 1	< 1
Philippines	.	1 ~ 5	...
Kyrgyzstan	-	1 ~ 5	-
Mongolia	< 1	< 1	1 ~ 5
Myanmar	< 1	< 1	1 ~ 5
Bangladesh	1 ~ 5	...	...
Iran	1 ~ 5	< 1	1 ~ 5
Indonesia	...	1 ~ 5	1 ~ 5
Azerbaijan	1 ~ 5	1 ~ 5	1 ~ 5
Georgia	1 ~ 5	1 ~ 5	1 ~ 5
Kazakhstan	1 ~ 5	1 ~ 5	1 ~ 5
Sri Lanka	1 ~ 5	1 ~ 5	1 ~ 5
Thailand	1 ~ 5	6 ~ 10	11 ~ 20
Malaysia	11 ~ 20	11 ~ 20	11 ~ 20
Armenia	...	> 21	> 21

Source: Source: UNESCO 2015 (A comparative analysis of ICT integration and e-readiness in schools across Asia)

III. ICT Adoption in teaching and learning process

There are significant contrasts in level of appropriation or adoption among nations, and between schools within the same country. A little percentage of schools in some nations have installed ICT into the educational programs, and show elevated amounts of viable and suitable ICT use to help and change teaching and learning over an extensive variety of branches of knowledge. Most schools in many nations, in any case, are in the early period of ICT adoption (Balanskat, 2006).

Diane Slaouti and Amanda Barton (2007), posited that although slightly dependent on the school all teachers engaged during the survey sensedgreatly confident on their ICT skills acquired throughout the year and agreed that their experience in the survey had given them the opportunities to utilize ICT in foreign languages, this is similar to the report ofSara and Rosemary (2004), they also reported in their study that all of the participating teachers were found to have sustained and additionally built up the specific practices they had started 3 years already (regardless of being uninformed that a follow-up study would ensue), and to utilize technology in different ways as well.

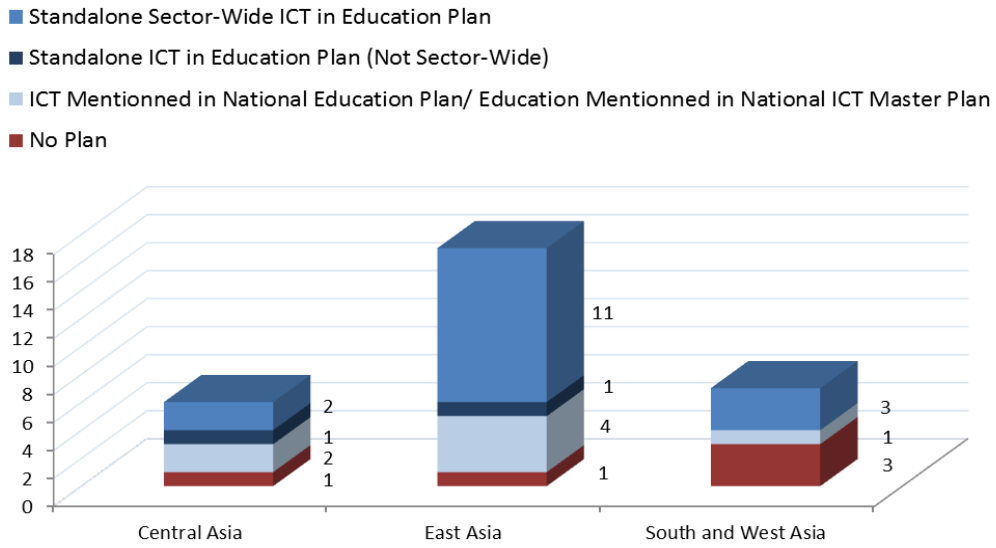
Dawes, (2001), in his studies found out that while the teachers were plainly a motivated group initially, their practice was not necessarily well developed. After some time they have moved towards being sure, integral users of ICT to regularly depicting it as 'a vital part of what we do.

Table6: Use of ICT Application by Teachers

	Teaching Courseware	Presentation Tools	Spreadsheet	Internet browsing
Weekly	42.90%	22.60%	23.60%	35.80%
Monthly	14.60%	22.60%	30.70%	26.40%
1-2 times a year	9%	17.50%	17%	12.30%
Never	2.40%	14.20%	13.20%	7.50%
Daily	30.20%	20.30%	8%	17%

Source: Exploring the Extent of ICT Adoption among Secondary School Teachers in Malaysia (Bheeteng Lau, 2008).

Figure 2: statistics on the implementation and adoption of ICT across Asia



Source: UNESCO 2015 (A comparative analysis of ICT integration and e-readiness in schools across Asia)

IV. Approach used in the papers

Studies on IT adoption in school teaching varies in procedure and tactic, hence appraisals between countries must be completedguardedly (Rakhi Chitnis, 2017). Sara and Rosemary (2004), used a case study approach by taking sample comprising of 3assemblages: 16 of the original TiPS project teacher-researchers, six of their nominated colleagues (the head of department or another colleague who had used the approach or materials) and the five representative research co-coordinators. Individual interview was administered to 5 of the teacher-researchers; teachers whom had undertaken joint projects were interviewed in batches of 5. Then the colleagues were asked to comment on take-up within or beyond the department.

Diane Slaouti and Amanda Barton (2007), used a combination of cohort and a case study approach, they first carried out a survey on newly qualified foreign language teachers (n = 22) who had graduated from the foreign language PGCE program at the University of Manchester and afterwards taken up their first posts in September 2003. This was followed by identification of six case-study teachers for interview. It was found that the teachers had some self-declared interest in the utilization of ICT in their teaching.

V. Conclusion

From the analysis of the literature review there is consensus on the interest of teachers on learning the use of IT for teaching in schools (Diane Slaouti and Amanda Barton 2007). Although they encounter a number of challenges which have been highlighted in the review, most approaches to evaluating the impact of IT on teaching and learning processes have used the teachers performance and student academic performance to measure IT effectiveness, which has not been efficient means of measurement.

The major barriers to effective IT adoption in schools includes like of competence, confidence and resistance to change in the part of the teachers, while school based problems includes; lack of enough time, effective training of teachers and provision of appropriate ICT tools. Pedagogical methodologies to utilize new technologies in the secondary classroom are vigorous,they spreadover time and are consolidated through integration into departmental schemes of work as found by Sara and Rosemary (2004).

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Basel J. A. Ali "A Systematic Analysis on the Application of Information System in Accounting Learning Processes in Developing Countries." IOSR Journal of Economics and Finance (IOSR-JEF), vol. 10, no. 5, 2019, pp. 28-33.