PERCEPTION OF ACADEMIC STAFF OVER THEIR CAREER DUE TO TECHNOLOGY IMPLEMENTATION AT SOHAR UNIVERSITY

Sulaiman Said AL-Shibli[1], Ahmad AbuShakra[2], Dr. M. Firdouse Rahman Khan[3]

[1,2,3] Faculty of Business, Sohar University

Email: ssshibli@soharuni.edu.om, ashakra@soharuni.edu.om, firdouse4u@yahoo.co.uk

Abstract

Purpose

The objectives of the study are to analyze ways through which technology introduced in Sohar University is helping the lectures teaching in the University and improves their research activities and to analyze the methods of administrative works of lectures in the University.

Design/methodology/approach

To carry out this research study, 133 samples were collected from academic staff working in all the faculties of Sohar University using a questionnaire. The questionnaire was containing the personal details, teaching, research and administration related factors. The data obtained was analyzed, and interpreted to obtain the result.

Findings

The study reveals that the academic staff feels the technology implementation has improved the teaching pattern and standards of the university and hence their teaching style also has changed. It is also proven that the academic staff feels the technology implementation has helped to improve their research career. It is shown that the academic staff feels the technology implementation has helped to reduce their administrative work.

Research limitations/Implications

It was reported that the technology implementation would be successful only when adequate training is given beforehand and mostly time is wasted for rectifying the technical bugs arising due to technological implementation.

Social implications

The study suggests that technology implementation is successful only if technical staff regularly maintains computers. They also suggested that there is a need for software skills training though it is time-consuming.

Originality/Value

Only a very few have examined the perception of the academic staff of all the faculties at University level in Oman, and it is a first-hand study of its kind, and the results will be useful to IT departments.

Keywords – Information Technology implementation, Technology Integration, Technology Advancements, Teaching, Research, Administrative Services.

INTRODUCTION

In a national economy, technological changes make a big impact. Any business needs to update the latest technology to keep their competitive advantage over others. Universities also update their technologies regularly. Technological updation in higher educational institutions (HEI) is highly significant and a priority. The Economist Intelligence Unit (2008) stated that technology place a major role in attracting students towards joining the institutions .Dodds (2007)said technology is a powerful tool to strengthen HEIs. Sohar University is the first private University in Oman with its mission: To be recognized internationally as an inclusive University of excellence through quality teaching, research, and engagement that increasingly adds value to the economy, society and culture of Oman. Initially it was functioning as a college in the name of Sohar College of Applied Sciences since 1996, and subsequently, in the year 2001, it earned the status of a University. Sohar University has seven faculties namely Faculty of Business, Faculty of Law, Faculty of Engineering, Faculty of Computing and Information Technology, Faculty of English and Language Studies, Faculty of Education and Art, and Graduate Foundation Program. The faculties consist of lecturers from various ethnics and various countries such as India, Pakistan, Iran, Jordan, Iraq, Bangladesh, Europe, Ukraine, British, Iceland, Sudan, Egypt, Philippines, etc. All the faculties have highly qualified doctors and lecturers. All of them with high profile and involved more in research activities. All their work aims at achieving the objectives of the University.

The University is using its own ERP system and students learning database management system called Sohar University Learning Management System (SULMS). Initially,a system called PEAK was in use since 2001. ERP was introduced during 2011, and the technology upgradation and implementation was done during the year 2001. However, upgradationwas done during the year 2011.

Need for Information Technology in Universities and HEIs

Dodds (2007) stated that Information Technology (IT) helps any educational institution to build infrastructure and environment. It plays an important role in the survival and growth of the institution. IT planning is very important and the investment in the filed IT is a bit costlier affair (Cooper &Zmud, 1990).Increasing investment in IT and the strategic role played by information systems make IT implementation an important research issue (Lai and Mahapatra, 1997).The Management likes to ensure the return of investments and benefits gained from such investment whatever be the innovation created throughsuch IT strategy. Thus management must balance the benefits and costs and to create a most effective IT environment for the University. Thus this study will help the University management in evaluating and decision making towards updating and implementing further technological advancement.

STATEMENT OF THE PROBLEM

There is around 200 academic staff working at Sohar University. Individual characteristics alone might not be sufficient for achieving success in implementation of an innovation. All the academic staff should agree that the technology implementation as innovation should bring results. But, staff in the University, are of different opinions claiming that the technology implementation has increased burden on them. They have reported facing issues with the electronic instrument and teaching support – instruments making problems causing trouble and delay in starting classes and finishing late resulting in the completion of their classes. They feel that the introduction and usage of electronic devices have increased the burden of their teaching and academic administration. So there is a dire need to find out whether there is real difficulty or it is only an imaginary belief in their minds. If problems persist in real terms, then the IT department can act accordingly to improve for a better solution to get real benefits from technology implementation in the University. The Technology implementation in Sohar University makes a direct impact on the academic staff and students and the major factor affected is academic staff. Work for the academic staff affects in three ways because their job is also affected in three ways – Research, Teaching, and Administration. So the research study will analyze this three factors in details.

REVIEW OF LITERATURE

Implementation of technological innovations has created plenty of opportunities for the society to engage in political, social, and economic developments (Matriano& Khan, 2017). Khan et al.(2017) stated that the technology integration in human life and the dramatic changes due to the revolution of technology had converted the way of work life to be more simple and clear. Weston (2005) defined technology integration as the sustained and meaningful use of an application for the core function of class instruction or learning. Dodds(2007) claimed that IT brings in the benefits of timesaving tools and reliable infrastructure. Jhurree(2005) asserted that IT has the potential to drive economic, social, political and educational transformations towards excellence. As per Agnew (2011),the areas of technology is impacted the administrative decision-making process and the lack of technical support is an obstacle to it. Kandiri(2014) recommended that there is need to manage technology transfer problem, innovation adopting nature and absorptive capacity in universities to enhance technology implementation effectiveness. Bauer& Kenton(2005) stated that IT is an effective means for widening educational opportunities, but most of the teachers neither use technology as an instructional delivery system nor integrate technology into their curriculum. Anthony (2011) claimed that teachers' beliefs and knowledge could influence technology implementation and integration and so continuous improvement efforts needed to align intersystem linkages .Khatib and Khan (2017) stated that the students try to communicate with their teachers through technological means, but teachers do not respond through such platforms. Statnikova (2005) found that the teachers are not easily satisfied with the new technology and so cannot adopt it. Angeli(2005) indicated that the task of preparing pre-service teachers to become technically competent is difficult and require more efforts. Cole, Simkins&Penuel(2002) stated that the prime key elements of success of the IT implementation program areto manage the IT mentoring system. Amerian(2007) suggested that providing digital backpacks to university faculty can facilitate their teaching and help to design learning activities in their classrooms. Wagner, Day, and Sun(2004) found that there were no coordinated institutional policies or strategies for promoting ICT literacy for staff and students, insufficient network infrastructure, insufficient national policy for ICT. The above review literature shows that there is a degree of usage of technology in teaching and learning, and thus questionnaire is prepared based on these arguments.

RESEARCH METHODOLOGY

To do this research study, samples were collected from133 academic staff working in Sohar University in all the faculties. The questionnaire consisted of two parts, the first part containing the personal details and the second part consisted of teaching, research, and administration related factors. Each question is related to technology implementation in the university designed

after due literature review. After collecting samples, data were analyzed, summary taken and with through interpretation conclusion was made.

FINDINGS

Demographics study

Table.1 Demographic details of the respondents

Characteristics		Freq.	%
Gender	Male	78	58.6
	Female	55	41.4
Nationality	Omani	40	30.1
	Non-Omani	93	69.9
Experience	< 1 year	5	3.8
	1 - < 3 years	13	9.8
	3 - < 5 years	9	6.8
	5 - < 10 years	43	32.3
	10 years and above	63	47.4
Medium of Instruction	English only	91	68.4
	Arabic only	0	0.0
Class Size	< 20	8	6.0
	25 – 40	59	44.4
	41 – 80	21	15.8
	81 – 150	29	21.8
	150 & above	16	12.0
Personal use of computer per day	Never	6	4.5
	< 2 hours	36	27.1
	2 – 4 hours	37	27.8
	> 4 hours	54	40.6
Research papers written in last year	None	42	31.6
	One only	39	29.3
	2 papers	29	21.8
	> 2 papers	23	17.3
Research papers written in last to last year	None	42	31.6
	One only	33	24.8
	2 papers	27	20.3
	> 2 papers	31	23.3

Source: Questionnaire

Table.2 Teaching

#	Statement	SD	D	N	A	SA	K-S value	Chi Square	P value
1	Technology helps to increase students' performance	2 1.5%	2 1.5%	4 3.0%	67 50.4%	58 43.6%	3.097		
2	Technology is a valuable instructional tool	1 8%	3 2.3%	4 3.0%	75 56.4%	50 37.6%	3.291	80.263	.000
3	Technology makes feel more competent as an educator using technology	0 0%	6 4.5%	14 10.5%	71 53.4%	42 31.6%	3.315		

4	Technology makes classroom management more difficult	34 25.6%	54 40.6%	21 15.8%	19 14.3%	5 3.8%	3.091		
5	Successful only when adequate training is given beforehand	0 0%	13 40.6%	45 33.8%	61 45.9%	14 10.5%	3.063		
6	Communication with the students became easy through SULMS – an ERP system of Sohar University	1 0.8%	13 9.8%	28 21.1%	66 49.6%	25 18.8%	3.343		
7	Technology motivates students to get more involved in learning activities	1 0.8%	2 1.5%	19 14.3%	87 65.4%	24 18.0%	3.961		
8	Technology will help to reduce the number of teachers employed in the future	16 12.0%	32 24.1%	39 29.3%	36 27.1%	10 7.5%	1.957		
9	Successful only if technical staff regularly maintain computers	1 0.8%	9 6.8%	28 21.1%	66 49.6%	29 21.8%	3.266		
10	Technology is very easier to explain difficult subjects by using some advanced tools	0 0%	9 6.8%	21 15.8%	67 50.4%	36 27.1%	3.289		
11	Needs software skills training which is time-consuming	7 5.3%	20 15.0%	41 30.8%	47 35.3%	18 13.5%	2.459		
12	Students prefer to learn using advance technologies – 3 D modeling, simulation and social media	3 2.3%	20 15.0%	44 33.1%	51 38.3%	15 11.3%	2.615		
13	Improve my way of teaching by adding/modifying new materials on a periodic basis through searching in the web	1 0.8%	2 1.5%	18 13.5%	79 59.4%	32 24.1%	3.520		
14	I use online software such as Exampro, Socrative,etc. for examining my students	11 8.3%	32 24.1%	43 32.3%	31 23.3%	16 12.0%	1.965		
15	I keep abreast of the growing technology to improve my teaching methodology and pedagogy	1 0.8%	2 1.5%	22 16.5%	83 62.4%	25 18.8%	3.797		
16	I encourage my students to do their coursework using technology advancement	3 2.3%	2 1.5%	13 9.8%	89 66.9%	26 19.5%	4.205		

Null Hypothesis: There is no relationship between Teaching and the choices of the respondents.

From above table, p-value < .05 it means that the null hypothesis is proved wrong. Therefore, there is a relationship between Teaching and the choices of the respondents. As per the Kolmogorov-Smirnov ranking, "I encourage my students to do their course work using technology advancement" ranks first; "Technology motivates students to get more involved in learning activities" ranks second; "I keep abreast of the growing technology to improve my teaching methodology and pedagogy" ranks third; "Improve my way of teaching by adding / modifying new materials on a periodic basis though searching in web" ranks fourth; "Communication with the students became easy through SULMS – an ERP system of Sohar University" ranks fifth"; "Technology makes me feel more competent as an educator using technology" ranks sixth.

Table.3Research

#	Statement	SD	D	N	A	SA	K-S value	Chi Square	P value
1	Technology helps me to increase research work in the form of statistical / data analyses etc.	2 1.5%	4 3.0%	10 7.5%	59 44.4%	58 43.6%	3.001		
2	I use software such as Endnotes, Mendeley, etc. for writing my research work.	1 0.8%	22 16.5%	30 22.6%	45 33.8%	35 26.3%	2.519		
3	I improve my research writing through using software such as Grammarly, Turnitin,etc.	3 2.3%	7 5.3%	24 18.0%	58 43.6%	41 30.8%	3.036		
4	I keep abreast of growing knowledge of technology toward using latest software such as SPSS, SEM, PLS, QM, MATLAB, Alpha Widget,etc.	2 1.5%	7 5.3%	39 29.3%	51 38.3%	34 25.6%	2.527		
5	I submit and update my research work through technologically advanced ways such as cross ref etc.	2 1.5%	9 6.8%	33 24.8%	62 46.6%	27 20.3%	3.090		
6	I present my research work through Zoom, Wipro, Skypeshareware.	4 3.0%	28 21.1%	48 36.1%	35 26.3%	18 13.5%	2.326	54.165	.004
7	I share my research work through online conferences and virtual sharing.	1 0.8%	12 9.0%	28 21.1%	61 45.9%	31 23.3%	3.108		
8	I browse most of my research references from online databases – EBSCO, GreenFile, Web of Science, JSTOR, ProQuest,etc.	0 0%	8 6.0%	22 16.5%	68 51.1%	35 26.3%	3.291		
9	I feel creating manuscripts are easier using technological instruments than manual.	8 6.0%	31 23.3%	39 29.3%	28 21.1%	27 20.3%	1.999		
10	I prefer referring to books from the library and other research resources physically.	4 3.0%	28 21.1%	39 29.3%	40 30.1%	22 16.5%	2.176		
11	I use Endnote, Mandeley, SPSS, PLS etc. for my research.	1 0.8%	14 10.5%	30 22.6%	53 39.8%	35 26.3%	2.783		
12	Research supporting programs such as endnote, Mendeley,etc. not available with our University	4 3.0%	19 14.3%	47 35.3%	37 27.8%	26 19.5%	2.271		

Null Hypothesis: There is no relationship between Research and the choices of the respondents

From above table, p-value < .05, it means that the null hypothesis is proved wrong. Therefore, there is a relationship between Research g and the choices of the respondents. As per the Kolmogorov-Smirnov ranking, "I browse most of my research references from online data bases – EBSCO, GreenFile, Web of Science, JSTOR, ProQuest etc" ranks first; "I share my research work through online conferences and virtual sharing" ranks second; "I submit and update my research work through technologically advanced ways such as cross ref etc." ranks third; "I improve my research writing through using software such as Grammarly, Turnitin, etc." ranks fourth; "Technology helps me to increase research work in the form of statistical / data analyses etc." ranks fifth; "I use Endnote, Mandeley, SPSS, PLS, etc. for my research"ranks sixth.

Table.4Introducing Technology in Administrative Works

#	Statement	SD	D	N	A	SA	K-S value	Chi Square	P value
1	Technology helps me to increase administrative work	3 2.3%	8 6.0%	21 15.8%	59 44.4%	42 31.6%	3.136		
2	I use software tools for my administrative works such as Microsoft word, excel, access,etc	0 0%	1 8.0%	5 3.8%	55 41.4%	72 54.1%	3.922		
3	All my official communication are done through MS-outlook and social media	0 0%	2 1.5%	13 9.8%	77 57.9%	41 30.8%	3.452		
4	I create charts, graphs using software and use MS-Visio (for process flow charts,etc.)	0 0%	6 4.5%	22 16.5%	71 53.4%	34 26.6%	3.338		
5	I use blogs to administer the course, the users and through University ERP – SULMS and e-register	0 0%	7 5.3%	31 23.3%	72 54.1%	23 17.3%	3.451		
6	Most of my time is wasted for rectifying the Technical bugs arising in the Technological Implementation	8 6.0%	36 27.1%	47 35.3%	28 21.1%	14 10.5%	2.253	67.316	.000
7	I prefer to calculate the marks of the students manually and submit into the system only at the end of the semester.	19 14.3%	38 28.6%	28 21.1%	32 24.1%	16 12.0%	2.235		
8	Online database and back up for files storage and reuse.	1 0.8%	3 2.3%	41 30.8%	60 45.1%	28 21.1%	2.799		
9	Copyright issues and procedures of advanced technologies are very complicating, and so prefer manual methods rather than technological usage.	10 7.5%	38 28.6%	44 33.1%	30 22.6%	11 8.3%	2.018		
10	Online games, digital videos makes relax when I am tired of my office routine work.	5 3.8%	28 21.1%	37 27.8%	43 32.3%	20 15.0%	2.335		
11	I scan all the official documents and store / carry them easily.	0 0%	12 9.0%	30 22.6%	43 32.3%	48 36.1%	2.523		

Null Hypothesis: There is no relationship between Introduction of Technology in Administrative works and the choices of the respondents.

From above table, p-value < .05, it means that the null hypothesis is wrong. Therefore, there is a relationship between Introduction of Technology in Administrative work and the choices of the respondents. As per the Kolmogorov-Smirnov ranking, "I use software tools for my administrative works such as Microsoft word, excel, access etc." ranks first; "All my official communication are done through MS-outlook, and social media" ranks second; "I use blogs to administer the course, the users and through University ERP – SULMS and e-register" ranks third; "I create charts, graphs using software and use MS-Visio (for process flow charts, etc." ranks fourth; "Technology helps me to increase administrative work" ranks fifth; "Online data base and back up for files storage and reuse" ranks sixth.

REGRESSION ANALYSIS

Table 5.(a), (b), (c)&(d)

Variables Entered/Removed [a]

Model	Variables Entered	Variables Removed	Method
1	Teaching, Research [b]	.	Enter

[a] Dependent Variable: Technology Implementation

[b] Independent Variables are Teaching and Research

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.502[a]	.252	.241	4.53617

[a]Predictors: (Constant), Teaching, Research

From the above table, it can be seen that 25.2% of the respondents are influenced by the equation given below.

ANOVA [a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	902.264	2	451.132	21.924	.000[b]
Residual	2674.984	130	20.577		
Total	3577.248	132			

[a] Dependent Variable:Technology Implementation

[b]Predictors: (Constant),Teaching and Research

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	15.233	3.910		3.896	.000
Teaching	.272	.065	.335	4.169	.000
Research	.207	.059	.281	3.497	.001

[a]Dependent Variable: Technology Implementation

From the above table, F-value is .000 < .05. Therefore, we get the linear regression as follows:

I = 15.233 + .272 T + .207 R where I is Technology Implementation, T is Teaching and R is Research.

It is found that teaching and research having an impact on Technology Implementation, i.e., there exists an association between the variables Teaching, Research and Technology Implementation.

RESULTS AND CONCLUSION

Most of the respondents agree that technology helps to increase students' performance and technology is a valuable instructional tool, and they encourage their students to do their coursework using technology advancement. They also agree that the students prefer to learn using advance technologies – 3 D modeling, simulation and social media. They have also observed that the technology motivates students to get more involved in learning activities. Most of the respondents agree that technology makes them feel that they are more competent as an educator. Most of the respondents agree that the technology is very easier to explain difficult subjects by using some advanced tools. It is also agreed that technology makes the classroom management easier. It is agreed that the technology implementation improves their way of teaching by adding/modifying new materials on a periodic basis through searching in web and they use online software such as Exampro, Socrative, etc. for examining their students. Most of them agree that they keep abreast of the growing technology to improve their teaching

methodology and pedagogy .Most of the respondents agree that the communication with the students became easy through Sohar University Learning Management System (SULMS) – an ERP system of Sohar University.

At the same time, they have insisted that the technology implementation will be successful only when adequate training is given beforehand. They also observe thatTechnology Implementation can be successful only if the technical staff regularly maintains computers. Most of the respondents insist on software skills training and is time-consuming as well. Thus, it is understood that the academic staff feels that the technology implementation has improved their teaching pattern and standards of the university and their teaching style has changed.

Most of the respondents agree that the technology helps them to increase research work in the form of statistical / data analyses etc. They agreed that they use software such as Endnotes, Mendeley, etc. for writing their research work .It is agreed that they improve their research writing through using software such as Grammarly, Turnitin, etc. It is also noted that they keep abreast of growing knowledge on technology toward using latest software such as SPSS, SEM, PLS, QM, MATLAB, and Alpha Widget, etc.

There was an improvement in the drastic improvement in the number of research paper submission after technology implementation. Most of them have submitted their research work through technologically advanced ways such as cross ref, Zoom, Wipro, Skypesharew are etc and they reported to share their research work through online conferencing and virtual sharing. They had also observed that most of them browse for research references from online databases – EBSCO, GreenFile, Web of Science, JSTOR, ProQuest, etc. They also agree that they use Endnote, Mendeley, and SPSS, PLS, etc. for their research. They also reported that creating manuscripts are convenient using technological instruments than manual. However most of them agreed that they prefer referring to books from the library and other research resources physically and the research supporting programs such as endnote, Mendeley, etc. not available with the University.

Most of them agreed that the technology had helped them to perform increased administrative work and most of them agree that they use software tools for their administrative works such as Microsoft word, excel, access, etc. It is also agreed that all their official communication is done through MS-outlook and social media. They have also agreed that they create charts, graphs using software and use MS-Visio (for process flow charts), etc. It is observed that most of them agreed that they use blogs to administer the course, the users and through University ERP – SULMS and e-register.

Most of them reported that their time was wasted for rectifying the technical bugs arising during the technological implementation. Therefore, they preferred to calculate the marks of the students manually and submit into the system only at the end of the semester. They also felt that the copyright issues and procedures of advanced technologies are very complicating, and so prefer manual methods rather than technological usage. At the same time, most of them agreed to have an online database and back up of files storage for reuse, and they agreed that they scan all of their official documents and store or carry them easily. They felt that the online games, digital videos make them relax when they are tired of their office routine work.

CONCLUSION

Most of the respondents prefer to use technological advancements in their work for more than four hours per day. The academic staff felt that the technology implementation has improved the teaching pattern and standards of the university and their teaching style has changed. It was also noted that the technology implementation has helped to improve the research career of the academic research. Further to this, most of them agree that they use software tools for their administrative works such as Microsoft word, excel, access, etc. and claimed that the technology implementation has helped to reduce their administrative work.

SUGGESTIONS

However, it is indicated that the technology implementation would be successful only when adequate training is given beforehand. Else, most of the time is reported to be wasted for rectifying the technical bugs arising due to technological implementation. For these reasons, they have reported that the technology implementation can be successful only if technical staff regularly maintains computers. It was also suggested that there is a need for software skills training though it is time-consuming. They have also requested that the research supporting programs such as endnote, Mendeley that are not available in the university should be made available.

REFERENCES

Agnew, D.W. (2011). Administrative Obstacles to Technology Use in West Virginia Public Schools: A Survey of West Virginia Principals. Retrieved from https://eric.ed.gov/id=ED533627

Amirian, S. (2007). Digital Backpacks Facilitating Faculty Implementation of Technologies for Teaching and Learning. *Computers in the Schools,* 24(1-2), pp. 5-14, Retrieved from https://eric.ed.gov/?id=EJ783490v

Angeli, C. (2005). Transforming a teacher education method course through technology: effects on preservice teachers' technology competency. *Computers & Education,* 45(4), pp. 383-398 Retrieved from https://eric.edu.gov/?id=EJ723850

Anthony, A. B. (2011). Activity Theory as a Framework for Investigating District-Classroom System Interactions and Their Influences on Technology Integration. *Journal of Research on Technology in Education,*44(4), pp. 335-356, Retrieved from https://eric.ed.gov/?id=EJ976472

Bauer, J. & Kenton, J. (2005). Toward Technology Integration in the Schools: Why It Isn't Happening. *Journal of Technology and Teacher Education,* 13(4), pp. 519-546, Retrieved from https://eric.ed.gov/?id=EJ723724

Cole, K., Simkins, M. & Penuel, W. R. (2002). Learning to Teach with Technology: Strategies for Inservice Professional Development. *Journal of Technology and Teacher Education,* 10(3), pp. 431-455, Retrieved from https://eric.ed.gov/?id=EJ823042

Cooper, R. B. & Zmud, R. W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach. *Management Science,* 36(2), pp. 123 - 139, doi: https://doi.org/10.1287/mnsc.36.2.123

Dodds, T. (2007). Information technology: A contributor to innovation in higher education. New Directions for Higher Education, 2007(137), pp.85-95, doi:https://doi.org/10.1002/he.247

Economist Intelligence Unit (2008). How technology sectors grow: Benchmarking IT industry competitiveness, London. Available online:https://a330.g.akamai.net/7/330/25828/20080910172933/graphics.eiu.com/upload/BSA_2008.pdf

Jhurree, V. (2005). Technology integration in education in developing countries: Guidelines to policymakers. *International Education Journal*, 6(4), 467–483. Retrieved fromhttps://ehlt.flinders.edu.au/education/iej/articles/v6n4/jhurree/paper.pdf

Kandiri, J.M. (2014). EffectiveImplementationofTechnologyInnovationsinHigherEducationInstitutions:ASurveyofSelectedProjectsinAfricanUniversities, ThesisSubmittedtotheSchoolofBusiness, DoctorofPhilosophyinManagement InformationSystemsofKenyattaUniversity, January 2014. Available online:http://www.saide.org.za/documents/KANDIRI_PhD_Thesis_Verion_4__27_1_14_SAIDE.pdf

Khan, F.R., Al-Balushi, H.Y., Algaithi, A.D, Al-shihi, A.A. (2017). Impact of Social Media On Customers Satisfaction: Bank Muscat – A Case Study. Ahead International Journal of Recent Research Review, 1(11), May 2017, pp.54-163.

Khatib, M.E. & Khan, F.R., (2017). Implications of Social Media Networks Technology in Interpersonal Skills and Academic Performances. International Journal of Management, Innovation and Entrepreneurial Research, 3(2), Sep.2017, pp.99-110, doi: https://doi.org/10.18510/ijmier.2017.326

Lai, V. S. & Mahapatra, R. K.(1997). Exploring the research in Information Technology Implementation.*Information & Management,* 32(4), pp. 187-201, doi: https://doi.org/10.1016/S0378-7206(97)00022-0

Matriano, M.T. & Khan, F.R. (2017). Technology Platforms for Social Entrepreneurship and Community Engagement. International Journal of Management, Innovation and Entrepreneurial Research, 3(1), Apr. 2017, pp.40-47, doi: https://doi.org/10.18510/ijmier.2017.315

Statnikova, K. (2005). Information Technology Implementation. Thesis submitted to the Graduate School of Vanderbilt University, May 2005, available at http://etd.library.vanderbilt.edu/available/etd-04012005-210048/unrestricted/statnikova.pdf

Wagner, D., Day, B., and Sun, J.S. (2004). Information Technologies and Education for the Poor in Africa (ITEPA): Recommendation for a pro-poor ICT4D non-formal education policy. Technical Report, Philadelphia, P.A. National Center on Adult Literacy and International Literacy Institute, University of Pennsylvania, pp.1-80, Retrieved from http://www.literacy.org/sites/literacy.org/files/publications/itepa_webrep_may26_jcs5.pdf

Weston, T. J. (2005). Why faculty did and did not integrate instructional software in their undergraduate classrooms. Innovative Higher Education, 30(2), 99-115, doi: https://doi.org/10.1007/s10755-005-5013-4