12-10-2016

The Impact of Perceived Government Support on e-training Adoption by Municipality Employees

Sharon Makgato
Tshwane University of Technology

Felix Olu Bankole
University of South Africa

Follow this and additional works at: http://aisel.aisnet.org/globdev2016

The Impact of Perceived Government Support on e-training Adoption by Municipality Employees

Sharon Makgato
Business Information Systems (Informatics)
Faculty of Information Communication
Technology, Tshwane University of
Technology, South Africa

Felix Olu Bankole
School of Computing
College of Science, Engineering &
Technology, University of South Africa
South Africa

Paper Category: Research Paper

ABSTRACT

Information Communication Technology (ICTs) has brought communication and access to information to the lives of many people. People are forming new social networks, sharing and learning together across geographical boundaries. Employee e- training is one of the innovative areas affected by the advent of ICT. The skills development of employees can now be perform online instead of attending a traditional classroom environment. Electronic training (e-training) has been employed in both developed and developing countries, while there is a paucity of literature on e-training adoption with several conclusions such as geographical, cultural and gender factors as motivation for adoption. The current study seeks to investigate the role of government support in e-training adoption by municipality employees. The study follows a regression based analytics approach to analyses data. The result shows that perceived government support is closely associated with e-training adoption by municipality employees.

Keywords: e-training adoption, Perceived Government Support, Perceived Ease of Use, Perceived Usefulness, Intention to Adopt, Pre-adoption Model, Analytics.

1   INTRODUCTION

In the knowledge and information society, e-learning has built on the extensive use of advanced Information and Communication Technologies (ICT) to deliver learning and instruction. Governments worldwide choose e-learning platforms because they provide a cost-effective and timely learning vehicle to meet the various requirements of continuous education, and to train civil agents working at different locations so as to facilitate lifelong learning (Chen, 2014).

Most developed countries have established online learning portals specifically to train civil agents. For example, the *"Virtual School"* of the National School of Government in the United Kingdom, the Federal Government *'Go Learn'* programme in the United States, the School of Public Service *"Campus-direct"* in Canada, and the Civil Service College *"Open Academy"* of Singapore.

In other developing countries such as South Africa, there are a number of initiatives that offer online training to government employees. These includes, the National School of Government that responsible for addressing government employees training requests at local, provincial and national level have launched e-learning platform as one of their initiatives. The National Treasury has also launched an e-learning for Public Sector Risk Management Framework as an intervention for capacity building.

The advantage of e-training lies in its capacity to consolidate and distribute work relevant knowledge when compared with the traditional training. Electronic training is able to cater for different learning styles by providing multiple paths of learning. It has been observed that organisations that align their employees' preferences with their learning strategies are more likely to increase employee satisfaction and as well as enhance their learning. Therefore, e-training use is associated with improved job performance' and employee satisfaction (Mohammadyari and Singh, 2015).

The economic benefits that industries have realised as a result of converting their traditional training delivery methods to e-learning are enormous. For instance, IBM saved US $200 million

in 1999, providing five times the learning at one-third the cost of their previous methods by employing a blend of web-based (80 percent) and classroom instruction (20 percent), Ernst & Young reduced training costs by 35 percent while improving consistency and scalability. Rockwell Collins reduced training expenditures by 40 percent with only a 25 percent conversion rate to web-based training (Strother, 2002).

Cheng (2010) indicate that e-learning systems are perceived as useful and satisfying by employees, and employees' e-learning systems use is significantly associated with overall job outcomes, which provides a basis for establishing a link between an organisation's investment in e-learning and human capital management and development.

Successful adoption and effective implementation of e-training programmes depends on the factors that could encourage the adoption (Zainab, Awais, Faizuniah, Mohammed and Battour, 2015). Much of the effort invested on e-training within the workplace marketing and information campaigns do not achieve the intended objectives among workers. Therefore, it is imperative that workers accept and adopt this mode of instruction before the benefits can be realised within the organisation.

While Lee et al. (2011) recommends that factors that influence perceived ease of use, perceived usefulness and intention to adopt must be taken into consideration when implementing e-training. The current research seeks to investigate whether or not government support factor has any impact on perceived usefulness, ease of use and intention to adopt e-training by municipality employees.

The rest of the paper is organised as follows: In section 2 provides the theoretical background and related theories. Section 3 discusses the research methodology, followed by data analysis and findings in section 4. Section 5, presents the discussion and conclusion

1.1   Related Studies on e-training Adoption

A number of e-training related studies that have been done in different countries among employees include:

- The effects of organisational learning environment factors on e-learning acceptance. Cheng et al. (2012).

- Acceptance of competency-based workplace e-Learning systems: Effects of individual and peer learning support. Cheng et al. (2011)

- A model of organisational employees' e-learning systems acceptance. Lee et al.(2011).

- Adding innovation diffusion theory to the technology acceptance model: supporting employees' intentions to use e-learning systems. Lee et al. (2011).

- Factors affecting the intention to use a web-based learning system among blue-collar workers in the automotive industry. Karaali et al. (2010).

- The roles of social factor and internet self- efficacy in nurses' web-based continuing learning. Chiu and Tsai (2013).

- e-learning continuance intention: moderating effects of user e-learning experience. Lin (2011).

- An investigation of employees' use of e-learning systems: applying the technology acceptance model. Hsien et al.(2011)

- Investigating Greek employees' intention to use web-based training. Chatzoglou et al. (2009).

- Understanding e-learning continuance intention in the workplace: a self-determination theory perspective. Roca and Gagne (2008).

- Gender differences in perceptions and relationships among dominants of e-learning acceptance. Ong and Lai (2006).

- Factors affecting engineers' acceptance of asynchronous e-learning systems in high-tech companies. Ong et al (2004).

- Applying the technology acceptance model to explore public health nurses' intentions towards web-based learning: A cross-sectional questionnaire Survey. Chen et al (2008).

1.2   External Factors Influencing e-training Adoption

The four main categories of factors investigated impacting perceived usefulness; perceived ease of use, attitude and behavioural intention to use e-training by employees are: organisational, social, system and individual factors.

Organisational support has been validated to have a positive influence on perceived usefulness (Lee, et al., 2011) and perceived ease of use (Hsien, et al., 2011). Management support has a positive influence on perceived ease of use, perceived usefulness (Chatzoglou, et al., 2009) and behavioural intention to use e-training (Al-alak and Alnawas, 2011). Facilitating conditions has been shown to have a positive influence on perceived ease of use (Karaali, et al., 2011).Technical assistance has a positive influence on perceived ease of use of e-training (Lee, et al., 2011). Task inter-dependence also has shown a positive influence on perceived ease of use (Lee, et al., 2011). Task equivocality has a significance positive influence on perceived usefulness (Hsien, et al., 2011).

Social influence has a positive influence on perceived usefulness, perceived ease of use (Chiu and Tsai, 2014) and behavioural intention to use e-training (Karaali, et al., 2011). Subjective norm has a positive influence on perceived usefulness and perceived ease of use (Lee, et al., 2011). Perceived relatedness has a positive influence on perceived usefulness (Ong, et al., 2004). External influence has proven to have a positive influence on perceived usefulness and behavioural intention to use e-training (Al-alak and Alnawas, 2011). Perceived autonomy support has a positive influence on perceived usefulness (Ong, et al., 2004).

System factors entail information quality and have been proven to have a positive impact on perceived ease of use and perceived usefulness of e-training (Chen, 2010). System quality has been proven to have positive impact on behavioural intention to use e-training (Motaghian et al., 2013; Chen, 2010). Service quality has been proven to have a positive impact on perceived ease of use of e-training (Motaghian et al., 2013). Content quality has a positive influence on perceived usefulness (Rym et al., 2013). Perceived credibility has a positive influence on behavioural intention to use e-training (Ong, et al., 2004). Conformation has a positive impact on perceived usefulness of e-training (Roca, et al., 2006).

However, the main question of this current study is to determine the role of perceived government support on e-training adoption by municipality employees? Consequently, the investigation focuses on the role of perceived government support, perceived ease of use and usefulness of e-training adoption by municipality employees.

2 THEORETICAL BACKGROUND AND RELATED THEORIES

Technology Adoption Model (TAM) is a widely used model for e-training acceptance (Sumak, et al., 2011; Hsia, et al., 2014). TAM asserts two salient beliefs - perceived usefulness and perceived ease of use determine technology acceptance and are the key antecedents of behavioural intentions to use information technology.

In the original TAM model, perceived ease of use and perceived usefulness were predictors of attitudes toward use and both perceived usefulness and attitude towards use were predictors of behavioural intention to use (Davis, 1989). Among these constructs, perceived usefulness is a major determinant of behavioural intention to use. However, perceived usefulness has been proven to have a positive effect on attitude (Karaali, et al., 2011), behavioural intention (Karaali, et al., 2011; Hsien, et al., 2011; Lee, et al., 2011; Chatzoglou, et al., 2009; Chen, et al., 2008; Ong, et al., 2004); and continuance of intention (Roca and Gagne, 2008).

Since TAM asserts that perceived ease of use is a predictor of perceived usefulness and attitude towards use, the relationship between perceived ease of use and perceived usefulness can be explained as follows: if other things are equal, the easier the system is to use, the more useful it can be (Venkatesh and Davis, 2000). If using the system is easy, potential users do not have to spend too much time to learn how to use the system; this may influence the performance of the user (Karaali, et al., 2011). Within the developing country context, perceived ease of use is the main predictor of both usage and perceived usefulness in web learning technologies adoption (Brown, 2002).

In the same vein, the Theory of Reasoned Action (TRA) is employed as a theoretical basis for specifying the causal linkages between perceived usefulness, perceived ease of use, attitude towards use, behavioural intention, and actual computer use (Davis, et al., 1989). According to TAM, behavioural intention to use is determined by the attitude towards use and perceived usefulness. The relationship between attitude towards use and behavioural intention to use implies that other factors being equal, people tend to perform behaviours towards which they have positive attitudes. (Karaali et al., 2011). Therefore, attitude towards use has been proven to have a positive effect on behavioural intention (Hsien, et al., 2011) and continuance intention (Lin, 2011; Roca and Gagne, 2008) to use e-training.

Behavioural intention involves motivational factors that influence behaviour. These factors are '*indications of how hard people are planning to try and how much effort they are planning to exert in order to perform the behaviour'* (Ajzen, 1991). User's first intend to use the technology and then actually use it. Therefore, behavioural intention to use becomes the immediate determinant of actual use (Mathieson, 1991).

Consequently, behaviour can be predicted by behavioural intention only if the person decides to either perform or not perform that behaviour (Ajzen, 1991). If an employee strongly intends to use a system, he or she is expected to try more, and thus the likelihood of using the system will be greater (Ajzen and Madden, 1986).

It is worthwhile to note that the use of technology adoption model as the conceptual basis of this research lies in the fact that e-training adoption among civil agents such as municipality employees has not been readily diffused within the developing countries such as South or India, the TAM variables such as perceived usefulness and perceived ease of use could not be replaced as they are useful for pre-adoption analysis as the current study investigates the perceived government support on e-training adoption. However, if the technology has been adopted and widely diffused overtime, the technology adoption researchers should perhaps shift focus to looking at factors such as utility expectancy and user satisfaction.

2.1 Perceived Government Support

Government support refers to the regulations, financial backing and encouragement that are received from government in relation to technology adoption and implementation. This support can be in the form of investment in infrastructure' (Chong and Ooi, 2008; Chong, et al., 2010). Government support is one of the strong influencing factors to be considered in technology adoption (Jaruwachirathanakul and Fink, 2005). The reason the technology adoption rate is high in countries like Japan, Malaysia and Singapore is due to government investment in their technology industries (Chong, et al., 2010).When government is the driving force in technology adoption, employees may view compliance as mandatory and they are therefore very likely to adopt the trend (Tan and Teo, 2000). Another case in point is the government support for military training (e.g., Trident University in the United States).

2.1.1 Conceptual Background and Model

In this article, Perceived Government Support was added as an external variable, based on Zainab et al (2015) validated model for e-training adoption. The conceptual model was developed to test the following hypotheses:

2.1.2   Hypotheses Development and Explanation

Perceived government support

Government support is an important factor in technology adoption especially in developing countries (Daniel and Jonathan, 2013). The studies conducted by Chong, et al., (2010) and Tan and Teo (2000) have shown the significance of having government backing when considering technology adoption. Thus government support has strong influence on technology acceptance and usage. The following hypotheses are proposed in relation to government support impact:

Hypothesis 1: Perceived government support will have a positive influence on e-training perceived ease of use by municipality employees.

Hypothesis 2: Perceived government support will have a positive influence on e-training perceived usefulness by municipality employees.

Hypothesis 3: Perceived government support will have a positive influence one-training attitude by municipality employees.

Perceived usefulness

Perceived usefulness has been proven to have a positive effect on: attitude towards and intention to adopt e-training (Karaali, et al., 2011; Lin, 2011); (Karaali, et al., 2011; Lee, Hsien and Ma, 2011; Lee et al, 2011; Chatzoglou, et al., 2009; Chen et al, 2008, Ong, Lai and Wang 2004). Therefore, the following hypotheses are proposed based on previous research findings:

Hypothesis 4: Perceived usefulness will have a positive influence on e-training attitude by municipality employees.

Hypothesis 5: Perceived usefulness will have a positive influence on intention to adopt e-training by municipality employees.

Perceived ease of use

Perceived ease of use has been proven to have a significant positive effect on perceived usefulness of e-training (Lin, 2011; Karaali, et al., 2011; Chatzoglou, et al., 2009; Chen, et al., 2008; Hsien and Ma, 2011); and on attitude (Karaali, et al., 2011). Therefore, the following hypotheses are proposed based on previous research findings:

Hypothesis 6: Perceived ease of use will have a positive influence on perceived usefulness of e-training by municipality employees.

Hypothesis 7: Perceived ease of use will have a positive influence one-training attitude by municipality employees.

Attitude towards e-training

Attitude towards use has been proven to have a positive effect on behavioural intention (Karaali, et al., 2011; Lee, Hsien and Ma, 2011) and continuance intention (Lin, 2011; Roca and Gagne, 2008) to use e-training. Therefore, the following hypothesis is proposed based on previous research findings:

Hypothesis 8: Attitude towards e-training will have a positive influence on intention to adopt e-training by municipality employees.

The conceptual model in Figure 1 below presents the hypotheses. The derived hypotheses are returned as significant at $p < 0.05$ and highly significant at $p < 0.01$ if there is an influence of one construct on the other; otherwise, the null hypothesis (H0) is returned.
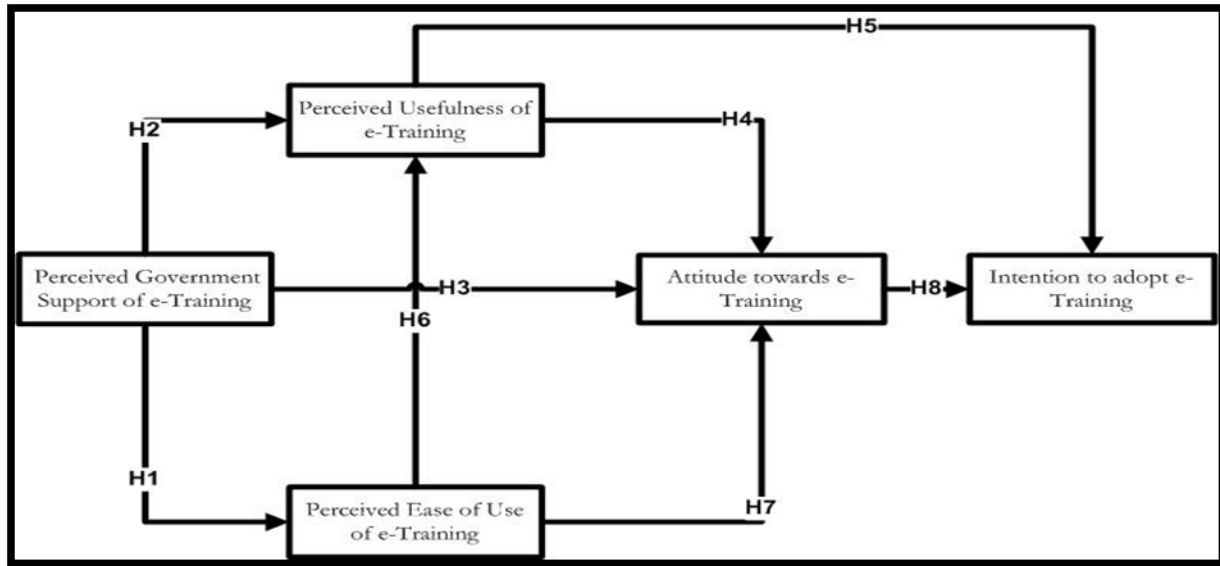
Figure 1: Conceptual Model

3   RESEARCH METHODOLOGY

This research is based on positivism, which states that the world exists externally and can be objectively measured (Knox, 2004). A deductive approach was used to understand the role of perceived government support in e-training adoption by municipality employees.

With regard to the pre-adoption of e-training by municipality employees, the research employed two-phased analytics approach: chi-square test and regression.

Chi-square (X^2) test was applied to test the measure association and difference in responses between participants.

Consequently, the research develops a socio-demographic profile of participants (see Table 1) and examines their perception towards government support with descriptive statistical techniques (see Table 2). In the second phase, the study examines the dependency/independency of the factors; Chi-square test of independence of attributes was used to draw meaningful inferences from the hypotheses. These analyses were carried out as the purpose of the research is to determine the perceived government support on training adoption of the municipality employees.

4   DATA ANALYSIS

Data Collection

The target population consists of South African municipalities' employees who are registered for the Municipal Financial Management Programme (MFMP) that are representative of employees from different municipality categories, i.e. metropolitan, district and local municipalities from various provinces in South Africa, and in different levels of job responsibilities in terms of positions.

The target population from nine municipal areas was 261 161. The sample size method applied was a probability sampling method called Simple Random Sampling. The sample size of participants was determined by using the hypergeometric method with 10 percent error margin and 95% confidence limit from the 261161 population size. The sample size results gave ± 96 employees. Thus about 118 participants completed the questionnaires.

Demography: The study was participated by 64 (54.24%) male and 54(45.76%) females participants between the age of 31-40 years 47(39.83%), 20-30 years 36(30.51%), 41-50 years 27(22.88%) and above 51 years and more 8(6.78%). Majority of participants were admin/technical who constituted 40 (33.90%), middle management 28.81% (34), supervisory level 19.49% (23) and senior leader management 13.56% (16) of total participants. Participants with a Web-based training / online training were 32 (27.12%), compared to 85 (72.03%) who did not have. Participants from Local Municipality category were (77 or 65.25%), district municipality areas 37(31.36%) and metropolitan municipality areas (4 or 3.39%). Participants from were Free State - 33.90% (40); Western Cape 20 (16.95%) and Eastern Cape 20 (16.95%). KwaZulu-Natal had 13 (11.02%) participants while Mpumalanga had 11 (9.32%) and Limpopo 9 (7.63%). Gauteng had 3 (2.54%) and Northern Cape 1 (0.85%) and North West had none. Table 1 illustrates the results of demographic profile of the participants of this study.

Table 1. Demographic profile of the participants

	Item	Frequency	Percent
Gendar	Male	64	54.24
	Female	54	45.76
Age	Less than 20 Years old	0	0.00
	20 − 30 years	36	30.51
	31 − 40 years	47	39.83
	41 − 50 years	27	22.88
	51 years or more	8	6.78
Job level	Admin/Technical	40	33.90
	Supervisory Level	23	19.49
	Middle Management	34	28.81
	Senior Management	16	13.56
Web based / Online training	Yes	32	27.12
	No	85	72.03
Municipality Catergory	Metropolitan	4	3.39
	District	37	31.36
	Local	77	65.25
Province of the Municipality	Eastern Cape	20	16.95
	Free State	40	33.90
	Gauteng	3	2.54
	Kwazulu Natal	13	11.02
	Limpopo	9	7.63
	Mpumalanga	11	9.32
	North West	0	0.00
	Northern Cape	1	0.85
	Western Cape	20	16.95

(Sample size as represented by n = 118)

4.1 Perceptions towards government support on web-based training descriptive statistics results

The results found that out of 118 participants 58% agree that the South African government endorses web-based training compared to 18% who do not agree, while 23% had no opinion about the statement. Also, a majority 57% of participants agree the government is active in setting up facilities to enable web-based training compared to 25% who do not agree; 18% had no opinion. The results show that 63% agree that the government promotes the use of the web for employee training and skills development compared to 17% who do not agree; 20% had no opinion. Overall, results show that participants 59% agree with Perceived Government Support compared to 18% who disagree and 23% who had no opinion regarding Perceived Government Support.

The results indicate that out of 118 participants 77% agree that web-based training enables learning more efficiently for employees compared to 9% who do not agree; 14% had no opinion about the statement. A majority 76% of participants agree that web-based training enhances the effectiveness of employee training, compared to 9% who do not agree; 18% had no opinion. The results also show that 70% agree that web-based training makes it easier for employees to learn, compared to 12% who do not agree and 18% had no opinion; 71% agree that web-based training gives employees greater control of training compared to 12% who do not agree; 16% had no opinion. Overall, results show that participants 74% agree with Perceived Usefulness compared to 11% who disagree and 15% who had no opinion regarding Perceived Usefulness.

The results indicate that out of 118 participants, 73% agree that learning to do training through the web is easy - compared to 5% who do not agree; 21% had no opinion about the statement. The majority - 76% - of participants agree that it is easy to get the training they want through the web compared to 8% who do not agree and 15% who had no opinion. The results also show that 69% agree that it is easy for them to be skilful doing training through the web compared to 9% who do not agree and 19% had no opinion; 73% agree that overall, they believe that the web-based training is easy to do - compared to 10% who do not agree and 15% had no opinion. Overall, results show that participants 73% agree with Perceived Ease of Use compared to 8% who disagree and 18% who had no opinion regarding Perceived Ease of Use.

The results indicate that out of 118 participants, 64% agree that doing web-based training is fun compared to 11% who do not agree; 24% had no opinion about the statement. The majority - 76% - of participants agree that web-based training is a good idea compared to 11% who do not agree; 13% had no opinion. The results also show that 75% agree that the web is an attractive environment for training compared to 9% who do not agree; 14% had no opinion while 69% agreed that overall, they like using web-based training - compared to 11% who do not agree and 19% who had no opinion. Overall, results show that participants 71% agree with the statements regarding attitude towards e-training compared to 11% who disagree and 17% who had no opinion regarding statements on attitude towards e-training.

The results indicate that out of 118 participants 78% agree that to the extent possible, they would use the web for training compared to 7% who do not agree; 15% had no opinion about the statement. The majority - 79% - of participants agree that they intend to increase the use of the web for training in the future compared to 8% who do not agree and 13% who had no opinion. Overall, results show that participants 78% agree with statements regarding behavioural intention to adopt e-training, compared to 7% who disagree and 14% who had no opinion. (See Table 2).

	Strongly Agree (%)	Agree (%)	No Opinion (%)	Disagree (%)	Strongly Disagree (%)	Total	Missing (%)
PGS							
The South African government endorses web- based training	8.47	50.00	22.88	12.71	5.08	99.15	*0.85*
The government is active in setting up facilities to enable web based training	10.17	46.61	25.42	14.41	3.39	100.00	
The government promotes the use of web for employee training and skills development	14.41	48.31	20.34	14.41	2.54	100.00	
Ave. Percent PGS	**11.02**	**48.31**	**22.88**	**13.84**	**3.67**		
PU							
Web-based training enables learning more efficiently for employees	18.64	58.47	13.56	8.47	0.85	100.00	
Web-based training enhances the effectiveness of employee training	19.49	56.78	13.56	8.47	0.85	99.15	*0.85*
Web-based training makes it easier for employees to learn	21.19	49.15	17.80	11.86	0.00	100.00	
Web-based training gives employees greater control of training	19.49	51.69	15.25	9.32	2.54	98.31	*1.69*
Overall, I find Web-based trainining to be advantageous for employee training	25.42	45.76	16.10	11.02	1.69	100.00	
Ave. Percent PU	**19.70**	**54.03**	**15.04**	**9.53**	**1.06**		
PEU							
Learning to do training through Web is easy for me	19.49	53.39	21.19	5.08	0.00	99.15	*0.85*
I believe that it is easy to get the training I want through the web	19.49	56.78	15.25	7.63	0.00	99.15	*0.85*
It is easy for me to be skilful doing training through the Web	19.49	50.00	19.49	9.32	0.00	98.31	*1.69*
Overall, I believe that the web-based training is easy to do	21.19	51.69	15.25	9.32	0.85	98.31	*1.69*
Ave. Percent PEU	**21.40**	**51.91**	**16.53**	**8.47**	**0.85**		
ATT							
Doing web based training is fun	16.10	47.46	23.73	7.63	3.39	98.31	*1.69*
Web based training is a good idea	24.58	51.69	12.71	11.02	0.00	100.00	
Web is an attractive environment for training	18.64	56.78	14.41	9.32	0.00	99.15	*0.85*
Overall, I like using Web-based training	14.41	54.24	18.64	9.32	1.69	98.31	*1.69*
Ave. Percent ATT	**18.43**	**52.54**	**17.37**	**9.32**	**1.27**		
INT							
To the extent possible, I would use web for training	20.34	57.63	15.25	5.93	0.85	100.00	
I intend to increase my use of the web for training in the future	23.73	55.08	12.71	7.63	0.00	99.15	*0.85*
Ave. Percent INT	**22.03**	**56.36**	**13.98**	**6.78**	**0.42**		

Chi- Square test results

Demography profile and perception: The Chi-square results show that there is a strong association between Perceived Ease of Use and age since Chi-square is higher than expected and p value is less than 0.05 level of significance as indicated by Table 3. This implies that the null hypothesis that there is no association between age and perceived ease of use was rejected. The results show that a majority of participants aged between 31 and 40 years – 36.49% - agree that learning to do training through web is easy for them and believe that it is easy to get the training they want through the web and that it is easy to be skilful doing training through the web and believe that web-based training is easy to do, overall. The results shows that the older the employees, the less interested they become in using web-based training. It is thus mostly used by employees aged between 20 and 40 years.

The results show that online training received is strongly associated to behavioural intention to adopt e-training. This is due to p value less than 0.05 and Chi-square higher than expected. Rejected, thus, is the null hypothesis that there is no association between online training and behavioural intention to adopt e-training. The results are confirmed by the fact that a majority of participants - 54.7% - who do not have online training agree that to the extent possible, they would use the web for training and that they intend to increase the use of the web for training in the future. Thus, whether employees had received online training before or not they feel that they would use web-training in future. The results show that perceived government support is strongly associated to perceived usefulness. This is due to p value less than 0.05 and Chi-square higher than expected. Rejected, thus, is the null hypothesis that there is no association between perceived government support and perceived usefulness. The results are confirmed by the fact that a majority of participants who agree that the South African government endorses web-based training, is active in setting up facilities to enable web-based training and promotes the use of the web for employee training including skills development also agree that web-based training is advantageous for employee training. The results show that perceived government support is strongly associated to perceived ease of use. This is due to p value less than 0.05 and Chi-square higher than expected.

Rejected, thus, is the null hypothesis that there is no association between perceived government support and perceived ease of use.

The results are confirmed by the fact that a majority of participants who agree that the South African government endorses web-based training, is active in setting up facilities to enable web-based training and promotes the use of the web for employee training including skills development also agree that web-based training is easy to use. The results further show that perceived government support is strongly associated to attitude towards e-training. This is due to p value less than 0.05 and Chi-square higher than expected. Rejected, thus, is the null hypothesis that there is no association between perceived government support and attitude towards e-training. The results are confirmed by the fact that a majority of participants who agree that the South African government endorses web-based training, is active in setting up facilities to enable web-based training and promotes the use of the web for employee training including skills development also agree they like using web-based training. The results show that perceived government support is strongly associated to behavioural intention to adopt e-training. This is due to p value less than 0.05 and Chi-square higher than expected. Rejected, thus, is the null hypothesis that there is no association between perceived government support and behavioural intention to adopt e-training.

The results are confirmed by the fact that a majority of participants who agree that the South African government endorses web-based training, is active in setting up facilities to enable web based training and promotes the use of web for employee training including skills development also agree that to the extent possible, they would use the web for training and intend to increase their use of the web for training in the future. See Table 2 and 3 illustrate these results.

Perceived usefulness: The results indicate that perceived ease of use is strongly associated to attitude towards e-training behavioural intention to adopt e-training behavioural intention to adopt e-training. This is due to p value less than 0.05 and Chi-square higher than expected. The null hypothesis that there is no association between perceived ease of use and attitude towards e-training is thus rejected. The results are confirmed by the fact that a majority of participants who agree that they believe that the web-based training is easy to use also agree that they like using

web-based training. Similarly, null hypothesis that there is no association between perceived ease of use and behavioural intention to adopt e-training is rejected. Majority of participants who agree that they believe that the web-based training is easy to use also agree that to the extent possible, they would use the web for training and intend to increase their use of the web for training in the future. The results also show that attitude towards e-training is strongly associated to behavioural intention to adopt e-training. The null hypothesis that there is no association between attitude towards e-training and behavioural intention to adopt e-training was also rejected. The results were confirmed by the fact that a majority of participants who agree that they like using web-based training also agree that to the extent possible, they would use the web for training and intend to increase their use of the web for training in the future.

Perceived ease of use and attitude: The results show that perceived support is strongly associated to perceived ease of use, attitude towards e-training and behavioural intention to adopt e-training. This is due to p value less than 0.05 and Chi-square higher than expected. Rejected, thus, is the null hypothesis that there is no association between perceived support and perceived ease of use null hypothesis that there is no association between perceived support and attitude towards e-training and null hypothesis that there is no association between perceived support and behavioural intention to adopt e-training. The results are confirmed by the fact that a majority of participants who agree that they find web-based training to be advantageous for employee training also agree that they believe that the web-based training is easy to do and also majority of participants who agree that they find web-based training to be advantageous for employee training also agree that they like using web-based training.

Majority of participants who agree that they find web-based training to be advantageous for employee training also agree that to the extent possible, they would use the web for training and intend to increase their use of the web for training in the future. The results show that attitude towards e-training is strongly associated to behavioural intention to adopt e-training due to p value less than 0.05 and Chi-square higher than expected. The null hypothesis that there is no association between attitude towards e-training and behavioural intention to adopt e-training is thus rejected. The results are confirmed by the fact that a majority of participants who agree that

they like using web-based training also agree that to the extent possible, they would use the web for training and intend to increase their use of the web for training in the future. Table 3 illustrate these results.

Table 3 Chi – Square results test

		Chi- Square	df	p-value
PGS	**PU**	43.83	16.00	0.00021
	PEU	42.16	12.00	0.00003
	ATT	44.98	16.00	0.00014
	INT	34.79	12.00	0.00051
PU				
	PEU	72.89	12.00	0.00000
	ATT	113.60	16.00	0.00000
	INT	69.64	12.00	0.00000
PEU	ATT	111.22	12.00	0.00000
	INT	50.11	9.00	0.00000
ATT	INT	151.63	12.00	0.00000
	Age (year)	26.75	9.00	0.00154
	Online training	10.01	3.00	0.01847

t- Test analysis results

Perceived government support, the results according to Table 4 show that the null hypothesis (the mean score = 2.5) was rejected because the p value (0.00) for the t value of 28.24 was less than 0.05; the level of significance, and the alternative hypothesis that the mean score was less than 2.5, was accepted. This shows that participants agree with the statements that the South African government endorses web-based training, is active in setting up facilities to enable web-based training and that government promotes the use of the web for employee training and skills development.

Perceived Usefulness has null hypothesis that the mean score = 2.5 rejected because the p value (0.00) for the t value of 26.79 was less than 0.05, the level of significance, and the alternative hypothesis that the mean score was less than 2.5 was accepted. This shows that participants agree with the statements that web-based training enables learning more efficiently for employees, and

that web-based training enhances the effectiveness of employee training, that web-based training makes it easier for employees to learn, that web-based training gives employees greater control of training and that participants find web-based training to be advantageous for employee training.

The same results go for perceived ease of use, attitude towards e-training and behavioural intention to adopt e-training where the results show that the null hypothesis that the mean score = 2.5 was rejected because the p value (0.00) for the t values of 28.95, 27.10, and 2973 respectively was less than 0.05, the level of significance, and the alternative hypothesis that the mean score was less than 2.5 was accepted. This implies that participants agree with the statement that learning to do training through the web is easy, participants believe that it is easy to get the training they want through the web, that it is easy to be skilful doing training through the web, that the web-based training is easy to do, that doing web-based training is fun, that web-based training is a good idea, that the web is an attractive environment for training, participants like using web-based training and that to the extent possible, they would use the web for training and intend to increase the use of the web for training in the future. Table 4 depicts the results.

Table 4 of t-test results

Var	Mean	CI -95%	CI 95%	Mode	Frequency of Mode	Std.Dev.	Standard Error	Skewness	Kurtosis	t-value	df	p
PGS	2.49	2.32	2.67	2	63	0.96	0.09	0.71	-0.13	28.24	117	0.00
PU	2.18	2.02	2.34	2	67	0.88	0.08	0.85	0.55	26.79	117	0.00
PEU	2.10	1.96	2.25	2	68	0.79	0.07	0.67	0.41	28.95	117	0.00
ATT	2.19	2.03	2.35	2	62	0.88	0.08	0.71	0.37	27.10	117	0.00
INT	2.11	1.97	2.25	2	74	0.77	0.07	0.83	0.86	29.73	117	0.00

Valid n = 118,

df means "degrees of freedom" = n-1)

Var = Variable

CI = Confidence limit

Std.Dev. = Standard deviation

Regression analysis results

To examine the relationship between perceived government support and municipality employees, the research employed the regression analysis where, the dependent variable is perceived government support, and independent variables were demographic information on gender, age, job level, online training, municipality category, province of municipality and perceptions towards government support on web-based training, namely perceived ease of use, perceived usefulness, and attitude and intention to adopt e-training.

The results indicate that 22% of the data was explained, which is too small to make a reliable conclusion concerning the question at hand. The aim is to analyse the relationship between perceived government supports on e-training adoption by South African municipality employees. Demographical information and perceptions towards government support on web-based training were used to determine this influence. The results from the regression analysis show the goodness of the fit model, due to F calculated value of 2.90 greater than the reference F and p value of 0.003 less than reference p value of 0.005. Thus the results show that there exits at least a difference between the independent variables.

This brings one to the conclusion that there is a significant difference between perceived government supports on web-based training and demographical information of the municipality and perception towards government support for web-based training. From the model all other independent variables do not fit the data well, except for perceived usefulness and perceived ease of use which fitted the model well where the p values were 0.02 and 0.03 respectively. The study can conclude that there is a positive relationship between perceived government support and municipal employees. These dependencies show that implementation of web-based training has a positive influence on municipal employees.

Table 5 Regression analysis

Regression analysis						
Multiple R	0.4746					
Multiple R²	0.2253					
Adjusted R²	0.1478					
F(4,113)	2.9074					
p	0.0031					
Std.Err. of Estimate	0.8702					
Variables	**Beta**	**Std.Err. of Beta**	**B**	**Std.Err. of B**	**t(113)**	**p-level**
Intercept			2.19	0.66	3.33	0.00
Gender	-0.04	0.09	-0.08	0.17	-0.46	0.65
Age	-0.18	0.11	-0.19	0.11	-1.68	0.10
Job level	0.02	0.11	0.02	0.10	0.18	0.86
Online training	0.11	0.10	0.23	0.20	1.13	0.26
Municipality catergory	-0.15	0.10	-0.26	0.17	-1.50	0.14
Province of municipality	0.18	0.10	0.06	0.03	1.85	0.07
PU	0.28	0.12	0.30	0.13	2.29	0.02
PEU	0.29	0.13	0.35	0.15	2.25	0.03
ATT	-0.30	0.18	-0.35	0.21	-1.66	0.10
INT	0.14	0.15	0.17	0.19	0.94	0.35
	Sums of Squares	**df**	**Mean Squares**	**F**	**p-level**	
Regress.	22.01	10	2.20136	2.90739	0.00311	
Residual	75.72	100	0.75716			
Total	97.73					

Findings

Supported hypothesis:

- *Hypothesis 1*

From the Chi- Square test presented in Table 3, Perceived government support will have a positive influence on e-training perceived ease of use by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance. (Chi-square: 42.1572, df=12, p=.000031)

- *Hypothesis 2*

From the Chi- Square test presented in Table 3, Perceived government support will have a positive influence on e-training perceived usefulness by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and

p value was less than p-value of 0.05 level of significance. (Chi-square: 43.8271, df=16, p=.000210)

- *Hypothesis 3*

From the Chi- Square test presented in Table 3, Perceived government support will have a positive influence on e-training attitude by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance (Chi-square: 44.9829, df=16, p=.000140)

- *Hypothesis 4*

From the Chi- Square test presented in Table 3, Perceived usefulness will have a positive influence on e-training attitude by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance (Chi-square: 113.596, df=16, p=.000000)

- *Hypothesis 5*

From the Chi- Square test presented in Table 3, Perceived usefulness will have a positive influence on intention to adopt e-training by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance (Chi-square: 50.1121, df=9, p=0.000000)

- *Hypothesis 6*

From the Chi- Square test presented in Table 3, Perceived ease of use will have a positive influence on perceived usefulness of e-training by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance. (Chi-square: 72.8895, df=12, p=.000000)

- *Hypothesis 7*

From the Chi- Square test presented in Table 3, Perceived ease of use will have a positive influence on e-training attitude by municipality employees. Chi- Square value was found higher

than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance. (Chi-square: 113.596, df=16, p=.000000)

- *Hypothesis 8*

From the Chi- Square test presented in Table 3, Attitude towards e-training will have a positive influence on intention to adopt e-training by municipality employees. Chi- Square value was found higher than expected compared to critical value (standard statistical tables) and p value was less than p-value of 0.05 level of significance. (Chi-square: 151.631, df=12, p=0.00000.

6.   DISCUSSION

A number of specific secondary research questions developed and answered were purposely based on Technology Acceptance Model (TAM) due to the pre-adoption stage. Perceived government support was added as an external variable, and hypotheses were tested based on dependency found that Perceived government support will have a positive influence on e-training perceived ease of use, e-training perceived usefulness, e-training attitude, attitude intention to adopt e-training, perceived usefulness of e-training, e-training attitude by municipality employees. In addition, attitude towards e-training will have a positive influence on intention to adopt e-training by municipality employees. Perceived government support also had an association to age. It was found that the older the employees, the less interested they become in using web-based training. It is thus mostly used by employees aged between 20 and 40 years. In addition, online training received is strongly associated to behavioural intention to adopt e-training.

Perceived government support has been found to have a direct effect on perceived usefulness, perceived ease of use, and attitude towards use by municipality employees. These findings support the previous studies on the positive effect of perceived usefulness has on perceived usefulness on attitude towards and intention to adopt e-training (Karaali et al, 2011; Lin, 2011); (Karaali et al, 2011; Lee, Hsien and Ma, 2011; Lee et al, 2011; Chatzoglou et al, 2009; Chen et al, 2008, Ong, Lai and Wang 2004). The positive effect perceived ease of use has on perceived

usefulness of e-training (Lin, 2011; Karaali et al, 2011; Chatzoglouet al, 2009; Chen et al, 2008;Hsien and Ma, 2011); and Attitude (Karaali et al, 2011). And the positive effect attitude towards use has on behavioural intention (Karaali et al, 2011; Lee, Hsien and Ma, 2011) and continuance intention (Lin, 2011; Roca and Gagne, 2008) to use e-training. The current study buttresses the need for government support for ICT skills development as various levels so as to enhance local, national and global capacity building and development.

ACKNOWLEDGEMENTS

REFERENCES

AJZEN, I. (1991). The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes, 50(2), pp. 179–211.*

AJZEN, I., & MADDEN, T. J. (1986). Prediction of goal-directed behaviour: attitudes, intentions, and perceived behavioural control. *Journal of Experimental Social Psychology, 22(5), pp. 453–474.*

AL-ALAK, B.A, & ALNAWAS, B.AM (2011). Measuring the acceptance and adoption of e-learning by academic staff. Knowledge management & e-learning: An *International Journal, Vol.3, No.2. p. 201.*

ARMOUR, K., & MACDONALD, D. (2012). Research methods in physical education and youth sport. Abingdon, Oxon: Routledge.

BABBIE, E. (2005). The basics of social research. Canada: Thompson Learning.

BENBASAT, I., GOLDSTEIN, D. K., & MEAD, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly, (11:3), pp. 369-385.*

BHATTI, M.A (2015). E-Training adoption in the Nigerian civil service. *European Journal of Training and Development, Vol. 39, Issue 6.*

BROWN, I. J.T. (2002). Individual and technological factors affecting perceived ease of use of Web-based learning technologies in a developing country. *Electronic Journal on Information Systems in Developing Countries, Vol.9, No.2, pp. 1–15.*

CHATZOGLOU, P.D., SARIGIANNIDIS, L., VRAIMAKI, E., & DIAMANTIDIS, A. (2009). Investigating Greek employees' intention to use web-based training. *Computers & Education, Vol.53 (2009), pp. 877–889.*

CHEN, H. (2010). Linking employees' e-learning system use to their overall job outcomes: an empirical study based on the IS success model. *Computers & Education, Vol. 55 (2010),pp. 1628–1639.*

CHEN, T. (2014). Exploring e-learning effectiveness perceptions of local government staff based on the diffusion of innovation model. SAGE Publications *Administration & Society 2014, Vol. 46(4), pp. 450-466.*

CHENA, I.J., YANGB, K., TANGA, F., HUANGA, C., YUA C. (2008). Applying the technology acceptance model to explore public health nurses' intentions towards web-based learning: a cross-sectional questionnaire survey. *International Journal of Nursing Studies 45 (2008), pp. 869–878.*

CHENG, B., WANG, M., MOORMANN, J., OLANIRAN, B.A., & CHENG, N. (2012). The effects of organisational learning environment factors on e-learning acceptance. *Computers & Education 58 (2012), pp. 885–899.*

CHENG, B., WANG, M., YANG, S.J.H., & KINSHUK, J.P. (2011). Acceptance of competency-based workplace e-learning systems: effects of individual and peer learning support. *Computers & Education, Vol. 57 (2011),pp. 1317–1333.*

CHIU, Y., CHIN-CHUNG TSAI, C. (2013).The roles of social factor and internet self-efficacy in nurses' web-based continuing learning. *Nurse Education Today, Vol. 34 (2014), pp. 446–450.*

CHONG, A. Y. L., OOI, K. B., LIN, B., & TAN, B.I. (2010). Online banking adoption: an empirical analysis. *International Journal of Bank Marketing, Vol. 28 No.4, pp. 267- 287.*

CHONG, A.Y.,& OOI, K.B. (2008). Adoption of inter organisational system standards in supply chains: an empirical analysis of Rosetta Net standards. *Industrial Management and Data Systems, Vol. 108 No. 4, pp. 529-47.*

CZAPKA, M., KONTNY, U., & SIGUENCIA, L.O. (2011). A usability and user-centred approach to the design of e-learning environments for full-time employees in the Silesia Region Poland. *International Conference on e-Learning in the Workplace 2011, June 8th-10th, New York, NY, US*

DANIEL, P.E.Z., & JONATHAN, A. (2013). Factors affecting the adoption of online banking in Ghana: implications for bank managers. *International Journal of Business and Social Research, Vol.3 No.6, pp. 94-108.*

DAVIS, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13(3), 319–339.*

DAVIS, F.D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioural impacts. *International Journal of Man–Machine Studies, 38(3), pp. 475–487.*

DAVIS, F.D., BAGOZZI, R.P., & WARSHAW, P. R. (1989).User acceptance of computer technology: a comparison of two theoretical models. *Management Science, 35(8), pp. 982–1003.*

DENZIN, K.H., & LINCOLN, Y.S. (2005). The SAGE handbook of qualitative research. 3rd. London: Sage.

DUBÉ, L. & PARÉ, G. (2003). Rigor in IS positivist case research: current practices, trends, and recommendation, *MIS Quarterly, Vol. 27, No. 4.*

EASTERBY-SMITH, M., THORPE, R., & LOWE, A. (1991). Management research: an introduction. London: Sage.

EUROPA, (2015): Tourism Business Portal: How to develop best employee training through e-learning available online http://ec.europa.eu/enterprise/sectors/tourism/tourism-business-portal/business/resources/training/index_en.htm accessed 2015/04/10

HAIR, JR., J.F., BLACK, W.C., BABIN, B.J., & ANDERSON, R.E.(2010). Multivariate data analysis: A Global Perspective. London: Pearson.

HAIR, J.F., BABIN, B., MONEY, A.H. & SAMUEL, P. (2003).Essentials of business research methods. United States of America: Leyh Publishing.

HONG, T.S.(2008). The antecedents and outcomes of user satisfaction in e-Training. Master's thesis, University of Sains, Malaysia.

HSIEH, Y.C.; LEE, Y.H., & CHEN, Y.H. (2013).An investigation of employees' use of e-learning systems: applying the technology acceptance model. *Behaviour & Information Technology, 32:2, pp. 173-189, DOI*

HUNG, M., CHOU, C., CHEN, C., & YUAN, Z. Own learner readiness for online learning: scale development and student perceptions. *Computers & Education, 55 (2010), pp.1080–1090.*

Hussey, J., & Hussey, R. (1997). Business research: a practical guide for undergraduate and post-graduate students. New York: St Martin's Press.

JAN, P., LU, H., & CHOU, T. (2012). The adoption of e-learning: an institutional theory perspective. TOJET: *The Turkish Online Journal of Educational Technology – July 2012, Vol. 11, Issue 3.*

JARUWACHIRATHANAKUL, B., & FINK, D. (2005). Internet banking adoption strategies for development country: *the case of Thailand. Internet Research, Vol. 15, No. 3, pp. 295-311.*

KARAALI, D., GUMUSSOY, C.A., CALISIR, F. (2011). Factors affecting the intention to use a web-based learning system among blue-collar workers in the automotive industry. *Computers in Human Behaviour, 27 (2011), pp. 343–354.*

KNOX, K. (2004). A Researcher's Dilemma: Philosophical and Methodological Pluralism. *Electronic Journal of Business Research Method, 2(2): pp. 119-128.*

LEE, Y., HSIEH. Y., & MA, C. (2011). A model of organisational employees' e-learning systems acceptance, *Knowledge-Based Systems,24 (2011), pp. 355–366.*

LEE, Y.H., HSIEH, Y.C., & HSU, C.N. (2011). Adding innovation diffusion theory to the technology acceptance model: supporting employees' intentions to use e-learning systems. *Educational Technology & Society, 14 (4), pp. 124–137.*

LIN, K. (2011). e-Learning continuance intention: moderating effects of user e-learning experience. *Computers & Education, 56 (2011), pp. 515–526.*

LOH, P.Y.W., LO, M.C., WANG, Y.C.,& MOHD-NOR, R. (2013). Improving the level of competencies for small and medium enterprises in Malaysia through enhancing the effectiveness of e-Training: A conceptual paper. Labuan e-*Journal of Muamalat and Society, Vol.7, pp. 1-16.*

MATHIESON, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behaviour. *Information Systems Research, 2(3), pp. 173–191.*

MATTHEE, M., HENNEKE, M., & JOHNSON, R. (2014).Tensions in the adoption of e-learning in the mining industry of South Africa. *South Africa Computer Journal, No. 52.*

MOHAMMADYARI, S.,& SINGH, H. (2015).Understanding the effect of e-learning on individual performance: the role of digital literacy. *Computers & Education, 82 (2015).*

MOTAGHIAN, H., HASSANZADEH, A., MOGHADAM, D.K. (2013). Factors affecting university instructors' adoption of web-based learning systems: Case study of Iran. *Computers & Education, 61 (2013), pp. 158–167.*

NEUMAN, W.L. (2007). Basic of social research, qualitative and quantitative approaches. 2nd ed. Boston: Person Education, Inc.

OATES, B.J. (2006). Researching information systems and computing. London: Sage.

ONG, C.S., & LAI, J.Y. (2006).Gender differences in perceptions and relationships among dominants of e-learning acceptance. *Computers in Human Behaviour 22 (2006), pp. 816–829.*

ONG, C.S., LAI, J.Y., & WANG, Y.S. (2004).Factors affecting engineers' acceptance of asynchronous e-learning systems in high-tech companies. *Information & Management 41 (2004), pp. 795–804.*

ROCA, J.C., &GAGNE, M. (2008). Understanding e-learning continuance intention in the workplace: A self-determination theory perspective. *Computers in Human Behaviour, 24 (2008), pp. 1585–1604.*

ROCA, J.C., CHIUB, C.M., MARTINEZ, F.J. (2006).Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal Human-Computer Studies, 64 (2006), pp. 683–689.*

RYM, B., OLFA, B., MÉLIKA, B.M. (2013).Determinants of e-learning acceptance: an empirical study in the Tunisian context. *American Journal of Industrial and Business Management, Vol. 3.*

THORNHILL, A. (2007). Research methods for business. Fourth edition. Prentice Hill

SEKARAN, U. (2003). Research methods for business: a skill building approach. *4th ed. Hoboken, New Jersey: John Wiley and Sons.*

STROTHER, J. (2002). An assessment of the effectiveness of e-learning in corporate training programs, *International Review of Research in Open and Distance Learning ISSN: 1492-3831, Vol. 3, No. 1.*

ŠUMAK, B., HERICKO, M., PUŠNIK, M. (2011). A meta-analysis of e-learning technology acceptance: The role of user types and e-learning technology types. *Computers in Human Behaviour, 27 (2011), pp. 2067–2077*

TAN, M., & TEO, T. S. (2000), Factors influencing the adoption of internet banking. *Journal of the AIS, Vol.1 No. 1, pp. 5.*

VENKATESH, V., & DAVIS, F.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46(2), pp. 186–208.*

WANG, Y., WU, M., & WANG, H. (2009).Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology, Vol.40, No 1, pp. 92–118.*

WELMAN, J., & KRUGER, S. (2001). Research methodology. Cape Town: Oxford University Press.