IMPACT OF QUALITY OF E-LEARNING SYSTEMS ON PERFORMANCE OF PUBLIC SECTORS BANKS IN CHENNAI CITY, INDIA

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ABSTRACT
The technological era demands continuous learning of the workforce irrespective of the industries they work. It even applicable to the public sector enterprises which needs to compete with its counterpart in private sector. The e-learning systems are emerging technology in India which facilitates continuous learning through internet and electronic networks. The main aim of the study is to examine the impact of quality of e-learning systems on organizational performance of the selected public sectors banks at Chennai city. The survey method of data collection was adopted through structured questionnaire with the sample size of 150 employees from the selected public sectors banks from Chennai, India. The Quota sampling technique was adopted to choose the samples from the population. The percentage analysis and structural equation modeling was adopted to analyze the primary data of the research. The results of the study explored that the quality of e-learning systems is having significant positive impact on performance of the public sector banks at Chennai city. So, with the evident of this survey results it is recommended that the careful design, develop, and implementation of customized e-learning systems will enhance the learning of employees which may deliver significant positive growth of performance of the public sector banks at Chennai city, India.
Keywords: E-learning, E-Learning Quality, Organizational Performance, public sector banks, Chennai

INTRODUCTION

The rapid technological change around the globe offers lot of products and services. Changes in the technology demands the people who are part of those businesses to unlearn and relearn new concepts, features, schemes, etc. Every individual in the society doing business or working in an organization must learn new technologies in their domain irrespective the industries or sectors work. Earlier the employees work in the public sector rigid towards continuous learning and the updation of technology in public sector was also in slow pace, while compared to private sector, but now in order to compete with their counterpart (i.e. private sector), the employees in public sector industries are forced to update their Knowledge, Skills, and Attitude (KSA) according to the trends in the industry. The Information, Communication and Technological (ICT) tools offered internet-based learning systems with lot of advantages such as learning of the employees in their own pace, dividing the course content in to small modules, and having self-assessment questions/quiz at the each modules, audio and video visual aids to better explain the concepts, which creates interest among the users, etc., The ultimate aim of the e-learning systems to improve the competency of the employees which may enhance their productivity and performance. The improvement of the performance of the employees may result in better performance of the organization. Obviously, the end result of the e-learning systems is based on its quality. The foremost aim of this research study is to explore the impact of quality of e-learning systems on performance of public sectors banks in Chennai city.

LITERATURE REVIEW AND MODEL DEVELOPMENT

Literatures related to E-Learning Systems and its quality

Nikolic et al. (2018), the main aim of the survey was to present current state of quality models of e-learning systems. Development of the quality models of e-learning systems was explored where some future directions were suggested. The quality models of e-learning systems were analyzed based on their different perspectives and dimensions according to the survey. Based on the survey the quality models applications were proposed according the context of the e-learning systems. Based on the investigated studies the quality characteristics of

the e-learning systems were extracted. Different pedagogical characteristic were addressed for some studies. Learner satisfaction was addressed only in several studies. Only one study addresses software usability. As the main results of the survey one can conclude that there is large numbers of quality models of the e-learning systems. Finally, future research direction was suggested based on the results. In the future research the quality models should address different technical aspect of the e-learning systems which could assure sustain development of the systems due to rapid changing in information and communication technologies.

Hadullo et al. (2017) presented in the study a model for assessing LMS assisted e-learning through studying the existing e-learning contexts and models for quality evaluation. Therefore this research was based on the six dimensions of quality and their constructs targeted: the P3 Course Evaluation Model, the PDPP evaluation model, the e-learning Quality Framework, the TMLE framework and the e-learning maturity model. A complete e-learning quality assessment model was attained which is to be validated by conducting a survey among 200 respondents from JKUAT University in Kenya by structured equation modeling.

Alla (2013), in his study focused on the concept of system quality and discusses the main dimensions of system quality (Usability, Accessibility, Reliability, and Stability) and evaluates the impacts of these dimensions on the efficiency of e-learning system. The study found that Usability is the strongest dimension that affects system quality of elearning. The study used survey method for data collection, questionnaires was distributed to students and teachers and analysed by using Statistical Package Social Sciences (SPSS) software. This paper concludes that efficiency of e-learning system could not be fulfilled without achieving high level of system quality that attracts learners to increase their usage of e-learning

Alla and Qais Faryadi (2013), the main purpose of their study is about the concept and the main dimensions of information quality (Accuracy, Relevancy, Accessibility, and Validity).It evaluates the impacts of these dimensions and the efficiency of e-learning system. The study found that Accuracy is the strongest dimension that affects the information quality of e-learning system followed by Accessibility, Validity, and Relevancy respectively.

2.2. Literatures related to Organizational performance and its dimensions

Kim et al. (2017), the purpose of this study is to examine the relationships among a learning organization, knowledge and financial performance using the Dimensions of the Learning Organization Questionnaire and its abbreviated version. This study used a secondary data set and performed second-order factor analysis and structural equation modeling for testing the proposed relationships. The study found that a learning organization has a positive effect on knowledge performance; knowledge performance has a positive effect on financial performance; and knowledge performance fully mediates the relationship between a learning organization and financial performance.

Ziemak (2015), the aim of this article is to analyse the theoretical views and results of empirical research concerning the relation between organisational learning (OL) and organisational performance (OP). Methodology: The study was carried out through extensive literature research, including relevant literature review from databases such as ProQuest, Elsevier, Emerald and EBSCO (the phrases: “organisational learning”, “learning organisation” and “organisational performance” were searched in the keywords, titles or abstracts). Findings: From a theoretical point of view, the relation between OL and OP is neither obvious nor clear, but the analysis of the empirical studies allows one to assume that OL has an essential impact on OP. However, differences in the strength of the relation were shown and some contradictions related to the presence of the relation between OL and selected (mostly financial) performance aspects identified. Furthermore, the article discusses the significant differences and inconsistencies in the methods of measuring OL, measuring OP, selecting contextual factors and adopted methods of data analysis. Implications: Inconsistencies and gaps found in the studies of the relationship between OL and OP made it possible to designate the direction for promising further research. Value: The article presents valuable insight through its in-depth, critical analysis of the organisational learning and organisational outcomes. First and foremost, this indicates that the formula of the previous empirical studies does not allow for the development of precise solutions pertaining to organisational learning management for the benefit of OP improvement.

Khatoon and Farooq (2015), in their study explored the influence on organizational performances. The constructs considered in the study include financial perspective, customer perspective, internal business process perspective and learning and growth perspective on performance in the organization. This is for setting up a complete performance evaluation system and forming a whole set of performance indices to assess strategies so that the vision and strategies of organizations could be achieved. The purpose of the study is to explore the extent to which balanced scorecard has been used in manufacturing and service industry vis –a – vis public and private sector in India and to explore the relationship between balanced scorecard and its constructs with organizational performance. Statistical tools such as t- test and Correlation were applied to achieve the objectives. The results obtained indicated a positive relationship between the balanced scorecard and organizational performance with performance depending on the four perspectives. The researchers have concluded that the adoption of the balanced scorecard by companies can be a means to improve organizational performance. The adoption will assist the business organizations to formulate practical strategies to enhance their performance by focusing on the four perspectives of Balanced Scorecard.

Wageeh A. Nafei (2015), in his study explored OL as one of the most important organizational factors that can direct the behavior and attitudes of the employees to improve OP. There are two constructs relevant to OL, namely, Adaptive Organizational Learning (AOL) and Generative Organizational Learning (GOL). This research is practical, according to its purpose, and descriptive, according to its data collection method. Out of the 312 questionnaires that were distributed, 250 usable questionnaires were returned, a response rate of 80%. The findings reveal that the aspects of OL (AOL and GOL) have a significantly direct effect on OP. Accordingly, the study provides a set of recommendations including the necessity to pay more attention to AOL, in general, and GOL, in particular, at healthcare organizations in Al-Taif Governorate, KSA. This will achieve its success currently and in the future, besides attaining a competitive advantage.

Akthar et al. (2012), the present study is conducted to investigate the impact of organizational learning on organizational performance of higher education institutes of Pakistan. Non-probability purposive sampling strategy was adopted, and a sample of size 150 was chosen amongst the employees. The response rate obtained was 66 percent. The data were collected by using DLOQ. Regression analysis was performed to estimate the impact of explanatory variable ‘organizational learning’ on the response variable ‘organizational performance’ with “Culture” as a moderator. The results revealed a significant positive impact of the organizational learning on organizational performance. Inquiry and dialogue, and systems connection were the two dimensions which were found to be highly significant; however, five of them (continuous learning, team work, embedded systems, empowerment and leadership) were insignificant in relation to the organizational performance.

Velnampy and Nimalathasan (2007), in their research initiated on “Balance score Card and organizational performance as a comparative study of state and private sector banking Organizations in Srilanka” with a samples of 290 respondents in 40 banking organizations in North and eastern provinces. The results from the operational hypotheses indicates that total perspectives (CP, IBP, LGP, and FP) have a significant relationship with organizational performance which means, as the total perspectives increase organizational performance increases in state banks whereas learning growth perspectives significantly contributes to total perspectives in both banks are important contributors to positive organizational performance, particularly learning growth and financial perspectives are meaningfully contributing to the performance of the private banks.

Literatures related to quality of e-learning systems quality and Organizational performance

PeiKoa and ChenKob (2012), in their study aimed to discuss the relationship between organizational innovation on training quality of e-learning and organizational commitment in Taiwan. Questionnaire survey was conducted on service industry in Taiwan based on random sampling. A total of 1,500 questionnaires were distributed to directors, general employees, and human resource personnel in 150 companies; totally 543 valid samples. The valid return rate was 36.2%. The data were analyzed by the structure equation modeling. Based on the results, the findings are as follows: (1) some organizational background variables have significant effect on training

quality of e-learning; (2) different organizational background variables have no significant effects on organizational commitment; (3) some organizational background variables have significant effect on organizational performance; (4) training quality of e-learning has significant correlation with organizational commitment; (5) partial training quality of e-learning has significant correlation with organizational performance; (6) organizational commitment has significant correlation with organizational performance; (7) partial training quality of e-learning has significant correlation with organizational performance through the mediating effects of organizational commitment.

Liu et al. (2012), presented a framework considering how organizational factors affect the quality and service of e-learning systems and how these factors influence organizational benefits in the view of IS success model and resource-based theory. A questionnaire survey of 120 Taiwanese companies was performed to validate the framework. The results show that top management support, information security policy, and institutional policy are positively related to system quality, while top management support, organizational learning culture, and institutional policy are positively related to system service. Additionally, system service is significantly related to organizational benefits. Our model provides two novel aspects of e-learning study. Firstly, we extend IS success model by incorporating four organizational factors as antecedences influencing system quality and system service. Secondly, the model is framed and examined on an organizational level, which provides a top-down view for managers when designing and implementing e-learning systems in the organizational context.

MacDonald and Thompson (2005), in their paper talked the necessity for quality e-Learning experiences and used the Demand-Driven Learning Model to assess an online Masters in Education course. Multiple data collection procedures were used to know the experiences of stakeholders in this case study: the learners, design team, and facilitators. It is originate that all five dimensions of the model (structure, content, delivery, service, and outcomes) must work in concert to instrument a quality e-Learning course. Key themes comprise evolving learner needs, the search for connection, becoming an able e-participant, valued interactions, social construction of content, integration of delivery partners, and mindful weighing of benefits and trade-offs. By sharing insights into what is needed to design and deliver an e-Learning experience, our conclusions add to the growing knowledge of online learning. Using this model to assess perceptions of quality by key stakeholders has led to insights and recommendations on the Demand Driven Learning Model itself which may be beneficial for researchers in this area and strengthen the model. In this current study they used a credible model, the Demand-Driven Learning Model (DDLM), and its companion evaluation instrument to design and assess an online course. Numerous data collection approaches were used to understand the experiences of key stakeholders in this case study: learners, design team, and facilitators. In addition to adding to the growing knowledge of online learning, our findings highlight additional elements that could be combined into the DDLM to further refine the model.

2.3. Conceptual model development

According to Condon (2013), knowledge on the following elements are required to review eLearning Courseware are Learner support, Construction strategies, Learner profile, Instructional design, Ergonomy, Media, Interoperability, Legal aspects, and Maintenance. From the review of earlier researches it is found that the various authors identified different elements of the examining the e-learning systems quality.

According to MacDonald et al. (2001), in their Demand-Driven Learning Model (DDLM) with five factors namely structure, content, delivery, service, and outcome of e-learning systems.

It is described as given below:

- **Structure:** It refers to layout of the e-learning systems into relevant modules or chapters.
- **Content:** It refers to the information mentioned in the e-learning courseware.
- **Delivery:** It refers to presentation of the information through audio-video visual aids.
- **Service:** It refers to features provided by the e-learning systems.
- **Outcome:** It refers to the expected outcome of the e-learning systems.

The organizational performance of the organization can be assessed by the Balanced Score model developed by through Kaplan and Norton (1996), which has the following dimensions

- **Financial perspective**, including traditional financial measures such as revenue growth, return on investment or return on assets, market share, and earnings per share,
- **Customer perspective**, with measures of importance to customers such as timeliness, quality, performance, cost, and service,
- **Internal business process perspective**, with measures of the critical internal activities and processes that the organization uses to meet its customers' expectations, and
- **Learning and growth perspective**, which measures the organization's ability to adapt and innovate for the future; this could include time to market for new product development, workforce training and development, and process improvement.

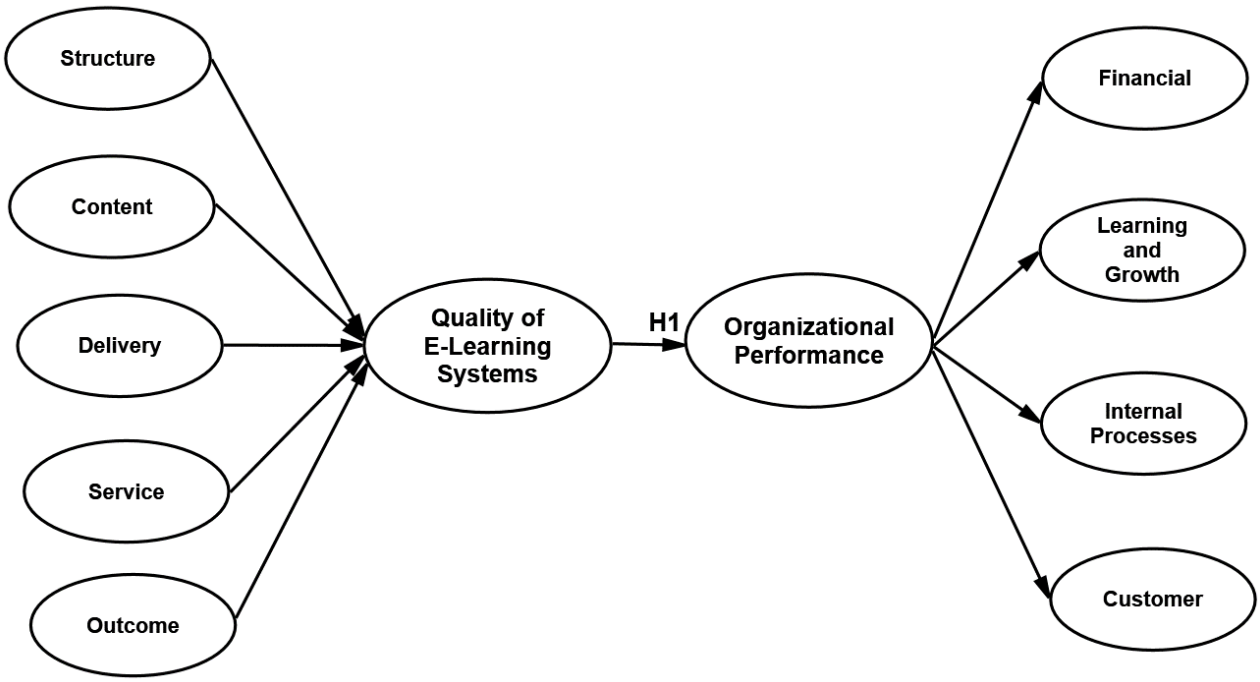

Figure 1. Conceptual Framework

Based on the literature, the above-mentioned conceptual model was developed and the following hypothesis is formulated which has to be tested through the structural equation modeling technique.

H1: The quality of e-leaning systems has positive impact on organizational performance of the public sector banks at Chennai city.

3. RESEARCH DESIGN AND METHOD

The researcher adopted descriptive research design in order to describe the impact of quality of e-learning systems on organizational performance of public sector banks at Chennai city. Both primary and secondary data is used to prepare the research paper. The primary data was collected through survey method of data collection using the structured questionnaire, whereas the secondary data was collected from various journals, magazines, books, previous research reports related to the chosen research context. The conceptual model was developed based on the secondary data, whereas primary data was analyzed through appropriate statistical tools with the help of IBM SPSS 20.0 and IBM AMOS 20.0 to accomplish the research objectives.

The quality of e-learning systems construct was assessed through MacDonald et al. (2001) Demand-Driven Learning Model (DDLM) with five factors namely structure, content, delivery, service, and outcome of e-learning systems. Organizational Performance of public sector banks was assessed through Kaplan and Norton (1996) Balanced Scorecard model with four factors/perspectives such as financial, learning and growth, internal processes, and customer. The sampling units (i.e. public sector banks) was chosen based on India's Best bank 2016 survey done by Business today and KPMG. Under the segment 'Bank of the Year – public Sector banks', the banks such as State Bank of India, Punjab National Bank, and Bank of Baroda were ranked as top three

public sector banks of the year based on growth in % of deposits, growth in operating profit, Cost to Income ratio, etc.

Table 1. Sampling Distribution

S. No	Bank Name	No. of Branches	No. of Samples
1	State Bank of India	10	50
2	Punjab National Bank	10	50
3	Bank of Baroda	10	50
	Total	30	150

(Source: Primary Data)

The target population of the research refers to all the employees working in selected banks of any branches in located in Chennai city. The employees with at least one year experience in the present bank and working in junior, middle, or senior level in the branch offices of selected branches are considered for inclusion of sample. The researcher adopted quota sampling techniques (i.e. Non-probability sampling technique) to select the samples from the target population. The researcher has taken five branches from each banks and from each branch office five employees were chosen. The sampling distribution of the survey was described in table 1.

Table 2. Reliability Analysis

S. No	Factors	Cronbach Alpha
1	Structure	0.749
2	Content	0.860
3	Delivery	0.793
4	Service	0.904
5	Outcome	0.834
6	Financial	0.888
7	Learning and Growth	0.764
8	Internal Process	0.803
9	Customer	0.914

(Source: Primary Data)

The pilot study of the research was conducted with the help of thirty samples (i.e. ten samples from each selected bank), which was used to analyze the reliability of the questionnaire. Table 2 presents the outcome of reliability analysis of the all the factors used in the constructs. The Cronbach alpha coefficient values of all the factors used in the research are found to be more than 0.7, which means that the questionnaire used in the research is reliable.

RESULTS AND DISCUSSION

Sample Profile

The results of any research is better explained or understandable by analyzing the profile of the samples, because bias in sample selection may reduce the accuracy of the results or limit the generalizability of the findings of the research. Therefore, the profile of sampled respondents are described using frequency analysis using IBM SPSS 20.0 software. The profile of the sampled respondents is summarized in table 3.

Table 2. Sample profile

S. No	Demographic factor	Frequency	Percent
1	**Gender**		
	Male	85	56.7
	Female	65	43.3
2	**Age Group**		
	Upto 30 Years	36	24.0
	31- 40 Years	52	34.7
	41-50 years	39	26.0
	Above 50 Years	23	15.3
3	**Educational Qualification**		
	Undergraduate	94	62.7
	Postgraduate	56	37.3
4	**Position in the bank**		
	Junior	84	56.0
	Middle	43	28.7
	Senior	23	15.3
5	**Experience in the Present bank**		
	1 – 5 years	82	54.7
	5- 10 Years	48	32.0
	Above 10 years	20	13.3
6	**Computer literacy**		
	Basic	56	37.3
	Intermediate	76	50.7
	Advanced	18	12.0
7	**Usage of E-learning systems**		
	1 – 3 Years	45	30.0
	3 – 6 years	79	52.7
	Above 6 years	26	17.3
8	**Overall satisfaction towards E-Learning systems**		
	Highly Dissatisfied	2	1.3
	Dissatisfied	4	2.7
	Neutral	6	4.0
	Satisfied	81	54.0
	Highly Satisfied	57	38.0
	Total	**150**	**100.0**

The results show that majority of the respondent were male which accounted for nearly about 56.7% of the total gender category. It is also found form the analysis that 34.7% of the respondent who were surveyed for the study fall under the age group of 31-40 years. With regards to the educational qualification 62.7% of the respondent

were graduate those who are employed in the bank and 56% of them are designated in the junior position in the selected banks.

It is also inferred from the analysis that about 54.7% of the employees those who surveyed for the study have 1-5 years of experience in the present bank where they are employed. The analysis also resulted out that 50.7% of the employee's knowledge or literacy was intermediate.

Moreover 52.7% of the found that the usage of e-learning system could be useful to them for 3-6 years and 54% of the employees opined that they were satisfied with regards to the E-Learning systems

4.2. Data analysis

The relationship between the constructs of the study are examined through the structural equation modeling (SEM) approach.

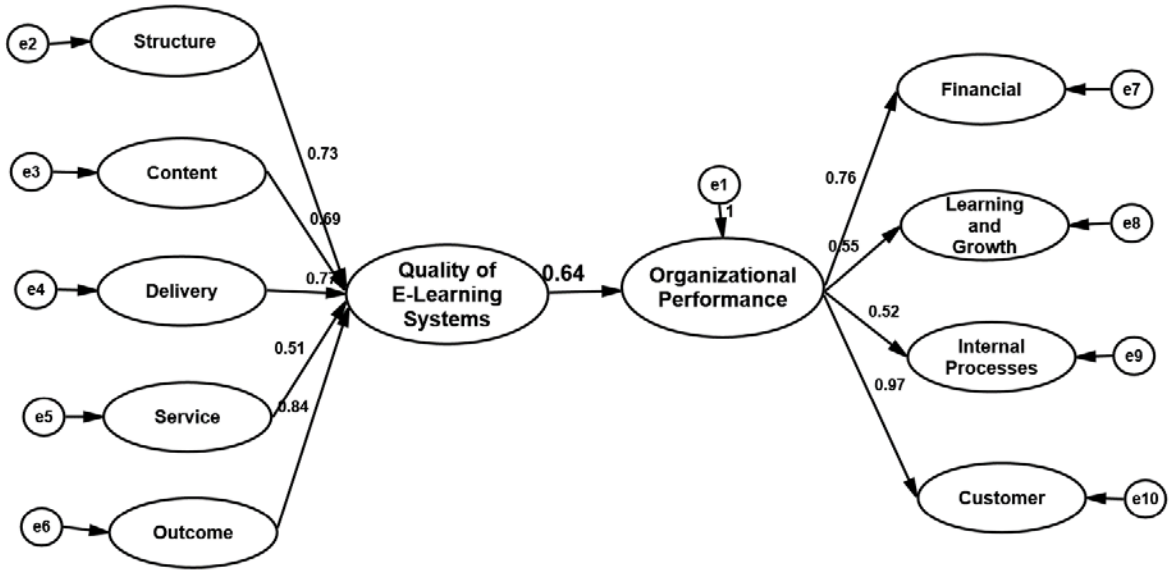

Figure 2. Structural Model with standardized regression coefficients

Table 2. SEM model coefficients of Conceptual model

Observed Construct		Latent Construct	Standardized estimate	P
Organizational Performance	<---	Quality of E-learning Systems	0.636	<0.001**-
Structure	<---	Quality of E-learning Systems	0.731	-
Content	<---	Quality of E-learning Systems	0.689	<0.001**
Delivery	<---	Quality of E-learning Systems	0.773	<0.001**
Service	<---	Quality of E-learning Systems	0.508	<0.001**
Outcome	<---	Quality of E-learning Systems	0.838	<0.001**
Financial	<---	Organizational Performance	0.757	-
Learning and Growth		Organizational Performance	0.554	<0.001**
Internal Process		Organizational Performance	0.518	<0.001**
Customer		Organizational Performance	0.968	<0.001**

Note: ** denotes significant at 1% level.

From the above SEM model, it is found that all the factors of quality of e-learning constructs such as structure, content, delivery, service, and outcome are having significant positive relationship with the main construct with the factor loading more than 0.5. Similarly, the factors of organizational performance are also having significant

positive relationship and all the above-mentioned associations are significant at 1% level. The results of the SEM also evident that the quality of e-learning systems has significant positive impact on organizational performance. The model fitness indices of the above SEM model such as Chi-square value (2.643), p value (0.211), GFI (0.939), AGFI (0.944), RMR (0.043), and RMSEA (0.034) are all with in the suggested values which indicates its goodness of fit of the developed conceptual model with the primary data collected through the present research.

CONCLUSION

There is no doubt, the employees can better perform in learning organizations, so obviously e-learning systems can enhance the performance of employees of the public sector banks, however, the quality of e-learning systems in terms of its structure, content, delivery, service, and outcome can enhance the quality of e-learning systems next level which creates interest among the employees, and boost the efficiency of the learning through the e-learning systems. Always, there is a hope that better learning ensures that acquiring adequate knowledge, skills, and attitude of the employees which can improve their productivity and efficiency. The organization is not a just single entity, so the performance of the organization is the aggregate performance of the individuals in the organization, which means if

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