

The impact of self-efficacy beliefs of employees on contextual issues of online learning: with reference to the banking sector in Sri Lanka

The impact of
self-efficacy
beliefs

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Abstract

Purpose – The paper aims to clarify the relationship between perceived contextual issues and the self-efficacy beliefs of the employees with e-learning engagement for their competency development. It proposes a model for the banks to utilize their e-learning interventions more effectively by managing the identified contextual issues. Simultaneously, this study aims to expand the domain of self-efficacy beliefs and apply its principles to dilute the impact of the negative contextual issues which were not addressed through similar research.

Design/methodology/approach – The paper focuses on an exploratory study using a deductive approach grounded on self-efficacy – one of the main dimensions of Bandura's social cognitive theory. It adopted a mixed methodology, and primary data were collected through an online survey (792 responses analyzed through Statistical Package Social Science [SPSS]) and semi-structured interviews (20 respondents analyzed through thematic analysis). The population comprises employees of private commercial banks who have recently introduced e-learning.

Findings – The paper provides empirical insights about the contextual issues influencing e-learning and how self-efficacy beliefs can be utilized to enhance the effective engagement of employees. Contextual issues related to technological, organizational, personal and time-intensive factors influence e-learning engagement. The strengthening of self-efficacy beliefs (learners' enthusiasm and gaining) can be utilized to manage personal and time-intensive factors. However, technological and organizational factors cannot be managed through a similar approach as they did not report a significant relationship with self-efficacy.

Originality/value – This paper fulfills an identified need to study how e-learning can be utilized as an effective competency development tool in the banking sector.

Keywords Online learning, Contextual issues, Competency developments, Effectiveness, Self-efficacy beliefs, Engagement

Paper type Research paper

1. Introduction

Online learning has many advantages over traditional forms of training and development methods (Bączek *et al.*, 2021). It is identified that organizations were able to receive higher

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economic savings by replacing their traditional learning delivery approaches with online learning interventions (Alsharhan *et al.*, 2021). Along with economic advantages, other benefits, such as learner convenience, standardized knowledge delivery, self-paced nature and a vast range of available contents and materials, have made online learning a high precedence for most corporates (Giannakos *et al.*, 2022).

In the corporate world, some unique advantages of online learning play a vital role in molding employees into more competent team players. For example, the ability to deliver tailor-made learning solutions to satisfy specific training needs (Rosani, 2022) and the ability to cover mass capacity within a very short period of time (Sewart *et al.*, 2020) are extremely beneficial to the banking industry, especially in adhering to regulatory training requirements.

In addition, banks focus more on online learning solutions to reduce various costs associated with traditional training delivery, such as venue and training equipment costs, traveling costs of employees, lunch and refreshment costs and facilitator payments. Further, conducting classroom-type training causes a waste of effective employee man hours by traveling time, especially for employees located in outstation.

The importance of introducing online learning solutions for developing employees' competencies was endorsed by the latest COVID-19 crisis, whereby other than delivering required knowledge online, there was no other option left during that era to satisfy this requirement (Li and Lalani, 2020). Accordingly, most banks have introduced e-learning solutions to their employees to bridge their competency gaps more effectively and with a focus on massive cost savings in the long run.

However, even though the banks have introduced e-learning solutions focusing on many value additions, there is a claim from such banks that the expected effectiveness could not be achieved due to the low level of employee engagement in the e-learning activities (See Table 1).

As stated, it is observed that even though these banks have introduced online learning solutions to bridge the competency gaps of their employees by investing a large amount of money, its contribution to the overall training hours is not even reached 2%. Further, even though these solutions are freely available to the employees and the bank management encourages them to utilize these opportunities, the employees who engage in online learning activities are below 10% compared to the total employee base. In other words, over 90% of employees have not experienced these online initiatives.

When investigating this problem, through the literature survey and the pre-survey analysis of the researcher, it is identified that the contextual issues related to personal, technological, organizational and time-intensive factors have a significant impact on the introduction and use of online learning for developing competencies among employees in the banking sector in Sri Lanka (Panackal *et al.*, 2022). Suppose banks can create a progressive learning environment by increasing the strength of positive contextual issues and decreasing the impact of negative contextual issues, it may result in more effective employee engagement in online learning.

Rank (In terms of profits)	Name of the bank	% of online learning contribution to the overall training hours	Rate of employee engagement in online learning
1	Bank A	1.40	3.89%
2	Bank B	1.68	7.84%
3	Bank C	1.98	8.07%

Source(s): Annual Reports of Bank A, B and C (2016)

Table 1.
Online learning utilization statistics of three major licensed commercial banks

However, considering the practical difficulties in implementing a complete progressive learning environment only through managing the contextual issues, this study focused on addressing this problem with another approach. Especially in the banking sector, even the underlined contextual issues are identified, there are practical limitations in effectively managing these factors solely by focusing on the nature of the impact. For example, even though Internet connection speed is a critical contextual issue under the technological aspect of online learning (Yeh and Tsai, 2022), in general, Sri Lankan banks allocate maximum bandwidth and speed for the core banking activities, not for learning. Therefore, it is essential to address the identified issues through the behavioral aspect of the employees by stimulating their motivation to engage in online learning activities even with minimum availability of resources.

In supporting this approach, the self-efficacy beliefs of the employees are recognized as a highly reliable source, where accurate identification and favorable intensification of the same will positively contribute to the effective usage of e-learning and, thereby, competency development of employees (Malureanu *et al.*, 2021). This deals with psychological aspects concerning the behavioral dimension of the employees in engaging with online learning.

As online learning has the individual-centric attribute with the triadic reciprocity among the person, environment and their behavior, the domain of self-efficacy beliefs of employees are identified as the most practical psychological aspect to consider (Kessler and Wall, 2016). If there is a relationship between self-efficacy beliefs and the contextual issues experienced by employees, the nature of self-efficacy and its affecting processes can be used to increase online learning engagement. As high self-efficacy drives positive performance, which translates into behavioral patterns such as actively engaging in online learning and avoiding or neutralizing obstacles, this identification can lead to diluting the impact of negative contextual issues (Malureanu *et al.*, 2021). As an outcome, the online learning engagement of employees can be increased in a more practical manner.

Therefore, it was hypothesized that there might be a relationship between self-efficacy beliefs and contextual issues of employees. In line with that, two identified self-efficacy beliefs, learner enthusiasm and learners' gaining, are critically analyzed with the extracted factors of contextual issues: personal, technological, organizational and time-intensive factors with the intention of revealing any significant relationship between them. This identification could be highly beneficial for implementing an effective online learning framework for the competency development of employees of banks in Sri Lanka.

Accordingly, as the main objective, this study aims to determine the relationship between self-efficacy beliefs and the contextual issues faced by employees in the banking sector of Sri Lanka for engaging in online learning activities, covering personal factors, organizational factors, technological factors and time-intensive factors.

2. Key issues to consider

As past studies on the contextual issues of online learning covering the corporate domain were found to be minimal, the literature addresses all available learning domains, such as K-12 education, higher education, vocational training and corporate training. Further, principles of self-efficacy beliefs were also thoroughly examined during this reviewing process. Accordingly, related contextual issues and respective self-efficacy beliefs are identified by evaluating well-established peer-reviewed journals and other reputed sources such as books and websites.

2.1 Contextual issues

By critically evaluating the literature of past research and studies, the most significant contextual issues and influencing factors that directly impact corporate learners/employees

are identified. These factors are further examined through exploratory factor analysis to streamline the identification of dependent variables and to facilitate accurate categorization. In line with that, the perceived contextual issues of the corporate employees are identified and categorized into four-factor groups, namely

- (1) **Personal factors (13 contextual issues)** – indicate the perception of contextual issues emerging from employees' personal characteristics, attitudes towards online learning and personalized service experience.
- (2) **Technological factors (three contextual issues)** – technological convenience and the advancement of online learning solution-related issues.
- (3) **Organizational factors (four contextual issues)** – issues related to organizational culture, online learning approaches and the output quality of the solution introduced by the organization
- (4) **Time-intensive factors (three contextual issues)** – time management and time interference-related issues

The supporting literature covering all the identified contextual issues is listed below in [Table 2](#).

With the identification of the contextual issues which have an impact on the competency development of employees in the banking sector of Sri Lanka, it is now essential to establish the theoretical foundations that could help to explain or predict their relationship with an employee's self-efficacy beliefs on engaging online learning activities for their competency development.

2.2 Application of social cognitive theory

In 1970, Albert Bandura introduced the social cognitive theory – an empirically validated and widely accepted model of individual behavior ([Compeau and Higgins, 1995b](#)). It is based on the principle that there is triadic reciprocity exists among the person (individual), the environment and respective behavior, which ideally matches the social and individual dimensions of the employees ([Bandura, 1994](#)).

This approach provides better ground for the scope of the study than the widely accepted technology-focused theories, such as the technological acceptance model, which many past researchers applied. Rather than focusing on individual behavior merely on the technological aspect, it is essential to critically examine such behavior as subjective to the influence of society and personal attributes ([Malatji et al., 2020](#)). Further, self-efficacy is one of the major dimensions of this research study, which is the central facet of the social cognitive theory. Therefore, selecting the social cognitive theory and focusing on self-efficacy is empirically validated as the study's theoretical framework.

2.3 Self-efficacy beliefs, sources and affected processes

Social cognitive theory has various magnitudes, and self-efficacy claims as the major dimension of this theory ([Eachus and Cassidy, 2006](#)). Self-efficacy, in other words, self-esteem or self-confidence, is one of the most empowering psychology models which creates optimistic self-belief in individuals. This creates the required competence or chances of successfully accomplishing a task and producing a favorable outcome ([Akhter et al., 2012](#)). Accordingly, the underlined principle of the nature of self-efficacy is one of the main interests of this study as it influences activity (behavior), environment selection, level of effort and persistence utilized in the aspect of contextual issues in resulting performance of the focused behaviors ([Bandura, 1994](#); [Compeau and Higgins, 1995a](#)).

Factor category	Contextual issues	Authors
Personal factors	1. Confidence level of completing online learning materials	Regmi and Jones (2020)
	2. Matching level of learning expectation and availability	Oluyinka and Endozo (2019), Sarker <i>et al.</i> (2019) Akhter <i>et al.</i> (2022)
	3. Degree of reachability to subject experts	Roslan and Halim (2021) Sophonhiranrak (2021), Ali <i>et al.</i> (2021)
	4. Individual technical know-how	Rawashdeh <i>et al.</i> (2021) O'Doherty <i>et al.</i> (2018)
	5. Supporting level of technical team	Kamble <i>et al.</i> (2021)
	6. Strength of interpersonal interactiveness	Kurowski <i>et al.</i> (2022) Banks and Dohy (2019)
	7. Degree of privacy concerns	Chatti and Hadoussa (2021)
	8. Influence level of adult pride	
	9. Compatibility with individual learning style	
	10. Rate of responding of supporting staff	
	11. Awareness of e-content availability	
	12. Awareness of utilizing LMS	
	13. Physical/mental health concerns	
Technological factors	1. Speed of connectivity	Almaiah and Al Mulhem (2019), Al-Araibi <i>et al.</i> (2019), Martin and Kumar (2021)
	2. Convenience of accessibility	
	3. Quality of the LMS	
Organizational factors	1. Level of superior encouragement	Almaiah and Alyoussef (2019)
	2. Level of support from coworkers	Regmi and Jones (2020)
	3. Level of interactivity of e-content	Oluyinka and Endozo (2019), Akhter <i>et al.</i> (2022)
	4. Rate of grasping the knowledge	
Time-intensive factor	1. Degree of personal/official commitments	O'Doherty <i>et al.</i> (2018), ValverdeBerrococo <i>et al.</i> (2020)
	2. Frequency of external interruptions	
	3. Efficiency of time management	

Table 2. Contextual issues derived from the literature survey

2.3.1 Sources of self-efficacy beliefs. Self-efficacy beliefs of people emerge from four sources of influence: prior experiences/mastery experiences, vicarious experiences, social persuasion/verbal persuasion and emotional and physiological states (Bandura, 1994).

Prior experiences/mastery experiences are the major source of self-efficacy and the utmost effective way of influencing individual behavior substantially (Bandura, 1994; Compeau and Higgins, 1995a; Eachus and Cassidy, 2006).

Vicarious experiences, the next source of self-efficacy beliefs, are derived from observing people around us and whom we consider as role models. When we realize that such people of our caliber achieved their goals through continuous efforts, we believe that we also hold the competencies to reach our goals successfully and keep on working on them (Bandura, 1994; Compeau and Higgins, 1995a; Eachus and Cassidy, 2006).

Social persuasion/verbal persuasion is generated through respective influential people, such as parents, teachers, supervisors, leaders and mentors, who have the ability to strengthen individual beliefs and influence to drive to the relevant goals (Compeau and Higgins, 1995a; Eachus and Cassidy, 2006).

The emotional and psychological state of the employees also influences how they feel their self-efficacy; this somatic and emotional arousal influences act as the fourth source of self-efficacy (Bandura, 1994; Compeau and Higgins, 1995a; Eachus and Cassidy, 2006).

All the self-efficacy sources related to employees' online learning engagement in the Sri Lankan banking domain are covered through two main segments, as employees' enthusiasm and employees' gaining, which are identified through the factor analysis of the **Effective Employee Engagement Self-Efficacy scale (EEESE scale)** during the preliminary study,

2.3.2 Self-efficacy activated processes. The self-efficacy beliefs generated through the sources explained in [section 2.3.1](#) affect four major psychological processes: cognitive, motivational, affective and selection processes ([Bandura, 1994](#)).

Self-efficacy beliefs on cognitive (thinking) processes have a significant impact on people with a high sense of efficacy envision success scenarios, which positively influences them to achieve high performance ([Bandura, 1994](#)). Under the motivational process, humans motivate themselves and direct their behaviors accordingly by exercising forethought. They make goals for themselves, predict the likelihood of the results of upcoming activities and develop strategies for achieving them ([Bandura, 1994](#)).

Affective processes refer to the individuals' general psychological state, mainly including emotions and mood, within a given situation. People's confidence in their capacity for coping affects the levels of stress and despair they have to face in challenging situations, as well as their motivation levels ([Code, 2020](#)). Selection processes affect people's choice of activities and environments as they influence the environment by being a core part of it ([Ozyilmaz et al., 2017](#)). People usually avoid activities and situations they believe that they are beyond their coping abilities ([Bandura, 1994](#)). However, they gladly accept challenging tasks and face situations that they believe they can handle ([Bandura, 1994](#)).

[Figure 1](#) outlines the four self-efficacy sources and related activated processes that lead to the employee's particular behavior or performance. If an employee is positively affected by the respective self-efficacy sources, the activated processes will also be positively accelerated. This nature of self-efficacy beliefs results in encouraged behavior and performances. It tends to overcome any obstacles by avoiding or neutralizing the impact of negative contextual issues in online learning. This approach can be highly utilized to positively influence the online learning engagement of the employees in a practical manner if the underlined

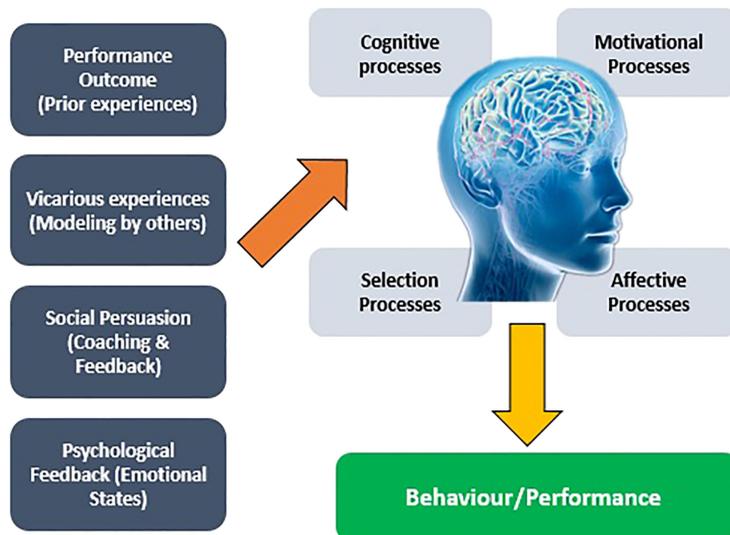


Figure 1. Self-efficacy sources, affecting processes and possible outcomes

relationships of self-efficacy beliefs and contextual issues can be identified, which fulfills the objective of this study.

3. Research questions and hypotheses

3.1 Research question

What is the impact of contextual issues and self-efficacy beliefs of employees?

3.2 Hypothesis

H1. A significant impact exists between an employee's self-efficacy and perceived contextual issues.

3.2.1 Sub-hypothesis.

H1.1. The employees' enthusiasm has a significant impact on personal factors.

H1.2. The employees' gaining has a significant impact on personal factors.

H1.3. The employees' enthusiasm has a significant impact on technological factors.

H1.4. The employees' gaining has a significant impact on technological factors.

H1.5. The employees' enthusiasm has a significant impact on time-intensive factors.

H1.6. The employees' gaining has a significant impact on time-intensive factors.

H1.7. The employees' enthusiasm has a significant impact on organizational factors.

H1.8. The employees' gaining has a significant impact on organizational factors.

3.3 Variables and the conceptual framework

The independent and dependent variables of the study in determining the relationship between self-efficacy beliefs and contextual issues are stated below in [Table 3](#).

The conceptual framework of the study is stated below in [Figure 2](#)

4. Methodology

4.1 Survey design

The quantitative data were collected using an online questionnaire that contained three main segments. The first segment was designed to collect data concerning the employees' demographic profiles according to the identified demographic characteristics through the literature review.

The next segment was designed to collect data to identify perceived contextual issues of the banking sector employees of Sri Lanka. It consisted of a five-point Likert scale with 23

Independent variables

Dependent variables

Self-efficacy beliefs

1. Employee enthusiasm
2. Employees' gaining

Contextual issues

1. Personal factors
2. Technological factors
3. Organizational factors
4. Time-intensive factors

Table 3.
Overview of independent and dependent variables

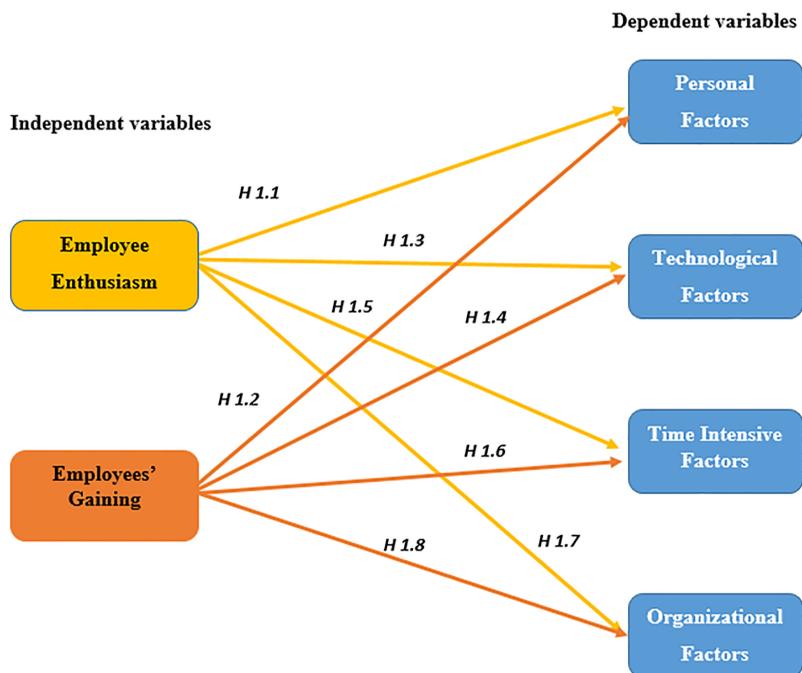


Figure 2.
Conceptual framework
of the study

questions (**Contextual Issues of Employees in Engaging in E learning – CIEEE scale**) with the scale ranging from not an issue or not applicable (1), weak issue (2), moderate issue (3), strong issue (4) and to very strong issue (5). These questions are based on the contextual issues faced by learners revealed through the literature review.

The third segment was designed to identify the self-efficacy beliefs of the employees, and 18 questions were constructed on a five-point Likert scale (**EEESE scale**) ranging from strongly disagree (1) to strongly agree (5). These questions were developed based on Albert Bandura's "Guide for Constructing Self-Efficacy Scales" by focusing on the sources and affecting processes of self-efficacy (Bandura, 2005). Development of the scale was further strengthened by the examination of the main self-efficacy approaches related to the online learning segment as computer self-efficacy (Compeau and Higgins, 1995a), Internet self-efficacy (Eastin and LaRose, 2006) and efficacy-activated processes (Bandura, 1994). Further, expert comments were also obtained from several key stakeholders relevant to the banking employee dimension.

The responses obtained through the EEESE scale were segregated through the factor analysis, and two segments were identified and labeled as learner enthusiasm and learners' gaining based on the attributes of the extracted factors. Learner enthusiasm is represented by 12 factors and learners' gaining by eight factors, and they serve as independent variables of the study. This approach was successfully validated through the preliminary survey and reconfirmed by the final survey as well.

The items extracted under the employees' enthusiasm are focused on learners' interest and motivation in engaging in online learning, and employees' expectations concerning the tangible return they would gain, especially covering the career progression, are focused under the employees' gaining segment.

4.2 Population, sample size and method of data collection

The target population of this study consists of randomly selected employees of licensed commercial banks who have introduced online learning to develop the competencies of their employees. Accordingly, nine commercial banks were identified with a total employee base of 43,000, representing this study's population.

The minimum sample required for this total population is calculated as 384 at a 95% confidence level and at 0.05 confidence interval (Bujang, 2016). However, this study was able to get 792 respondents, which was more than 200% of the minimum sample requirement. Data were collected through an online questionnaire (Microsoft Form-based) randomly distributed among the respective commercial banks.

4.3 Data analysis

Quantitative data were analyzed using Statistical Package Social Science (SPSS) version 26.0 and AMOS covering descriptive, variance analysis and structured equation modeling. Starting from a preliminary instrument assessment, descriptive analysis, exploratory factor analysis and confirmatory factor analysis were conducted, and structural equation model (SEM) was designed accordingly. Structural relationships and hypotheses were tested with the model fit conformation, and results were interpreted.

5. Findings of the study

5.1 Background information of the employees

This study's sample size (N) is 792, and the respondents' background information is as follows (Table 4).

Background information indicates that most of the respondents were in 38 years and below age groups, predominantly male, married and represented junior management level and below employee grades. Most employees were attached to branches and accessed online learning through office computers. Further, the majority of them have average knowledge and experience with computers.

5.2 The relationship between self-efficacy beliefs and the contextual issues

During the next phase of the study, the relationship between self-efficacy beliefs and the contextual issues faced by the banking sector employees of Sri Lanka will be revealed in answering the following research question.

RQ. What is the relationship between contextual issues and the self-efficacy beliefs of employees?

5.2.1 Hypothesis 1. A significant relationship exists between an employee's self-efficacy and perceived contextual issues.

To answer this question, a two-tailed Pearson correlation was used to determine the nature of relationships between contextual issues and the self-efficacy beliefs of employees in effectively engaging in online learning activities. All variables of each scale were combined, and computed two single variables as CIEEE scale and EEESE scale and carried out the two-tailed Pearson correlation (Table 5).

A significant negative relationship ($p = 0.000$) is observed between contextual issues and the self-efficacy beliefs of employees ($r = -0.358$; $p < 0.01$ level) by confirming the hypothesis of the study. However, due to the complexity of understanding human behavior influenced by self-efficacy beliefs, the sub-hypotheses were also developed and tested during the study.

Demographic variable	Frequency
<i>Age in years</i>	
18–24	12%
25–31	34.5%
32–38	37%
39–45	13%
46–52	3.5%
<i>Gender</i>	
Male	67.1%
Female	32.9%
<i>Marital status</i>	
Single	34.6%
Married	65.4%
<i>Employee grade</i>	
Operational management	55.1%
Junior management	22.4%
Middle management	15.7%
Executive MGT & above	6.8%
<i>Work location</i>	
Branch	81.5%
Department	17.7%
Others – zonal/REG offices	0.8%
<i>Accessing device</i>	
Office computer	74.2%
Home computer	9.4%
Mobile device	16.4%
<i>Knowledge and experience</i>	
Very limited	1.9%
Average	75%
Expert	23.1%

Table 4.
The demographic profiles of the respondents

Description		CIEEE scale	EEESE scale
CIEEE scale	Pearson correlation	1	–0.358**
	Sig. (two-tailed)		0.000
	N	792	792
EEESE scale	Pearson correlation	–0.358**	1
	Sig. (two-tailed)	0.000	
	N	792	792

Note(s): **. Correlation is significant at the 0.01 level (two-tailed)

Table 5.
Two-tailed Pearson correlation computation between the CIEEE scale and EEESE scale

5.2.2 *Sub-hypothesis testing through structural equation model (SEM).* The SEM was developed to identify the structural relationships among the contextual issues (dependent variables) and self-efficacy beliefs (independent variables) among employees in testing the sub-hypothesis (Figure 3).

The goodness of fit results of the final measurement model is presented below in Table 6.

All goodness-of-fit indices achieved the threshold, which confirmed the model fit of the final structural model. RMSEA indicates the perfect fit, and higher CFI also shows a better

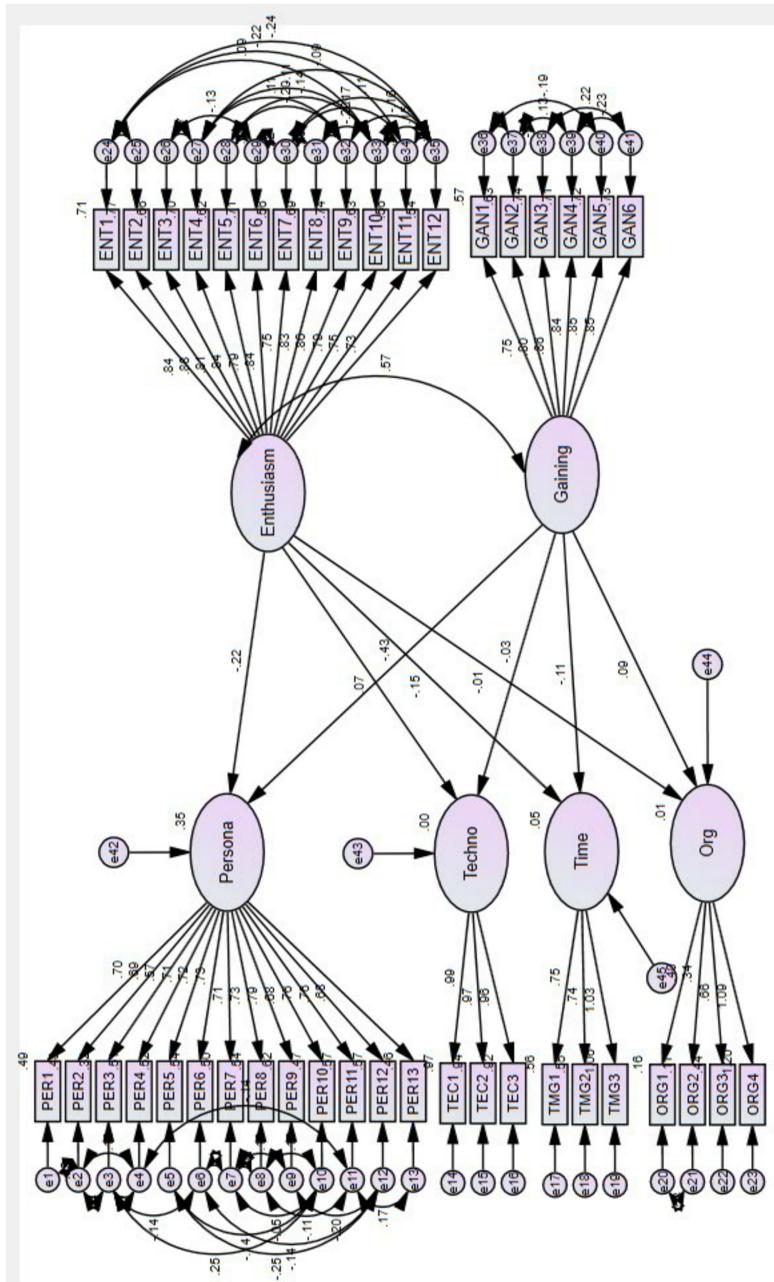


Figure 3. Structural equation model of the study – adopted through AMOS

model fit. In this context, the values derived from the final structured model confirm the good model fit. Since model-fit indices of the measurement model were healthy, the next step was to consider the structural relationships, which will pave the way for the hypothesis testing.

Table 7 reports the relationships between independent and dependent variables concerning the structural relationships. By referring to the *p*-value, the acceptability (significant or not significant) of the hypotheses was identified. A *p*-value below 0.05 is considered significant, and any value greater is not significant.

The output Table 7 is summarized herewith

H1.1 and H1.2 confirm the hypothesis that personal factors have a significant impact on the self-efficacy belief of the employees. Both segments of self-efficacy, learner enthusiasm and learners' gaining are negatively related to personal factors with standardized regression weights of 0.224 and 0.434, respectively. This implies that when learner enthusiasm goes up by 1 standard deviation, the contextual issues related to personal factors go down by 0.224. Further, when learners' gaining goes up by 1 standard deviation, the contextual issues related to personal factors go down by 0.434 points. This finding is in line with the theoretical framework and the practical scenarios, as when the self-efficacy belief is increased, the impact of contextual issues related to personal factors is decreased.

Table 6.
Model fit results and indices

Measures	Values	Threshold
CMIN/DF	3.685	<3 Good fit <5 Acceptable fit
GFI (Comparative Fix Index)	0.863	>0.9 Good fit >0.8 Acceptable fit
AGFI (Adjusted Goodness of Fit Index)	0.836	>0.8
NFI (Normed Fit Index)	0.905	>0.9
CFI (Comparative Fit Index)	0.929	>0.9
RMSEA (root mean square error of approximation)	0.058	<0.05 – Good fit <0.08 – Acceptable fit

Table 7.
Structural relationships of the study

No	Sub-hypothesis	Standardized regression weights	<i>p</i> -value	Significant or not
H1.1	Learner enthusiasm has a significant impact on personal factors	-0.224	***	Significant
H1.2	Learners' gaining has a significant impact on personal factors	-0.434	***	Significant
H1.3	Learner enthusiasm has a significant impact on technological factors	0.074	0.107	Not significant
H1.4	Learners' gaining has a significant impact on technological factors	-0.025	0.588	Not significant
H1.5	Learner enthusiasm has a significant impact on time-intensive factors	-0.151	***	Significant
H1.6	Learners' gaining has a significant impact on time-intensive factors	-0.108	0.013	Significant
H1.7	Learner enthusiasm has a significant impact on organizational factors	-0.11	0.782	Not significant
H1.8	Learners' gaining has a significant impact on organizational factors	0.085	0.040	Significant (Comparatively negligible)

H1.3 and H1.4 reject the hypothesis that technological factors have a significant impact on the self-efficacy belief of the employees.

H1.5 and H1.6 confirm the hypothesis of time-intensive factors have a significant impact on the self-efficacy belief of the employees. Both segments of self-efficacy, learner enthusiasm and learners' gaining are negatively related to time-intensive factors. This confirms the theoretical framework and the practical scenarios; as the self-efficacy beliefs are increased, the impact of contextual issues related to time-intensive factors is decreased.

H1.7 and H1.8 partly confirm the hypothesis that organizational factors have a significant impact on the self-efficacy belief of the employees. Learner enthusiasm for self-efficacy has not any significant relationship with organizational factors. Hence, it rejects hypothesis H1.7. Learners' gaining has a positive but slightly significant relationship with the organizational factors. Though it confirms hypothesis H1.8, the return of standardized regression weight (0.085) and the significance value ($p = 0.04$) are at a significantly low level where the impact of both variables is concluded as negligible.

6. Discussion

The researcher has identified that the contextual issues extracted under technological, personal, organizational and time-intensive factors directly influence employee engagement in online learning in Sri Lankan banks. Even though technological and organizational contextual issues (extrinsic segment) create maximum impact in terms of factor strength, the highest overall impact is created by personal and time-intensive factors related to contextual issues (Intrinsic segment) when considering the frequency and the impact. In other terms, the employees of Sri Lankan banks are highly influenced by intrinsic contextual issues compared to extrinsic contextual issues when engaging in online learning activities for their competency developments.

Under the scope of this study, the relationship between the self-efficacy beliefs and the contextual issues faced by the employees in the banking sector of Sri Lanka was critically examined with the intention of understanding their impact on managing the influence level of the contextual issues.

On the face of it, the results indicated a significant negative relationship between contextual issues and the self-efficacy beliefs of employees ($r = -0.358$; $p < 0.01$ level), which supported the hypothesis (H1). That means when the self-efficacy beliefs of employees are increased, the impact level of the contextual issues is decreased. This indication is highly imperative to manage the impact of contextual issues, especially the negative effect of contextual issues on the online learning engagement of the employees.

However, due to the complexity of understanding the human behavior influenced by self-efficacy beliefs, the impact of identified segments of self-efficacy beliefs, that is, learner enthusiasm and learners' Gaining were thoroughly examined with all four categories (technological, organizational, time-intensive and personal factors) of contextual issues.

Both segments of the self-efficacy beliefs, learner enthusiasm and learners' gaining, have a significant negative impact on personal factors with standardized regression weights of 0.224 and 0.434, respectively, which confirms the hypothesis (H1.1 and H1.2). This implies that when learner enthusiasm increases by 1, the negative impact of contextual issues related to personal factors decreases by 0.224. Further, when learner's gaining goes up by 1, the impact of contextual issues related to personal factors decreases by 0.434. Learner's gaining has a higher impact on personal factors, which is 100% more than learner enthusiasm. Accordingly, the development of learner enthusiasm and learners' gaining self-efficacy beliefs will neutralize or minimize the negative impact of personal contextual issues.

Further, both segments have a significant negative impact on time-intensive factors, which confirmed the hypothesis (H1.5 and H1.6). The impact relates to standardized regression weight of 0.151 and 0.108, respectively, which implies that when learner enthusiasm goes up by 1, the negative contextual issues pertaining to time-intensive factors go down by 0.151, and when learners' gaining goes up by 1, the contextual issues related to time-intensive factors go down by 0.108. This confirms that strengthening the learner enthusiasm and learners' gaining self-efficacy beliefs will neutralize or minimize the negative impact of time-intensive factors on employees in the banking sector of Sri Lanka.

Both segments of the self-efficacy beliefs – learner enthusiasm and learners' gaining – have no significant impact on technological factors, which rejected the hypothesis (H1.3 and H1.4). The learner enthusiasm segment of self-efficacy has not any significant impact on organizational factors, which rejects the hypothesis. However, learners' gaining has a positive but slightly significant impact on organizational factors. Considering the low return of standardized regression weight (0.085) and the significance value ($p = 0.04$), the impact of this segment is concluded as negligible, hence rejected both hypotheses (H1.7 and H1.8).

Based on the above analysis and the discussion, the following structural model is proposed as the most effective and reliable framework for online learning engagement of the employees for their competency development in the banking sector of Sri Lanka (Figure 4).

6.1 Study limitations

The target population of this study is the employees of licensed commercial banks. Therefore, the present study's findings may not generalize to employees of other organizational sectors and service industries. Further, the self-efficacy approach is grounded on the psychological and behavioral aspects of the human, which is almost impossible to generalize or identify precisely. Therefore, the researcher accepts the limitation of the accuracy of identifying and understanding the underline principles of self-efficacy beliefs on a full scale.

6.2 Scope for future research

The present research study is confined to the banking sector in Sri Lanka and can be extended to investigate the impact of contextual issues and the self-efficacy beliefs of the employees of other financial institutions and various service industries in local and international domains. This can be further extended to other segments, especially K-12 and other school education, as it is observed that even though the pandemic accelerated the demand for online education, students lack engagement in such activities. Therefore, this is another significant area for future researchers to investigate the factors and underline principles in delivering effective online education among students and other learners in addition to the focus on the competency development of employees.

7. Conclusion

The above analysis indicates that employees' contextual issues and self-efficacy beliefs have a significant negative relationship. This means the strength of the negative contextual issue is lower in the employees with stronger self-efficacy beliefs, which confirms the study's past literature and theoretical foundation. In further analysis, it is observed that personal and time-intensive factors (intrinsic segment) show a highly significant negative relationship between learner enthusiasm and gaining categories of self-efficacy beliefs. Technological and organizational factors (extrinsic segment) have either no or negligible relationship for both categories of self-efficacy beliefs.

As stated in Table 8, a typical banking employee is exposed to all four categories of contextual issues-technological, organizational, time-intensive and personal factors.

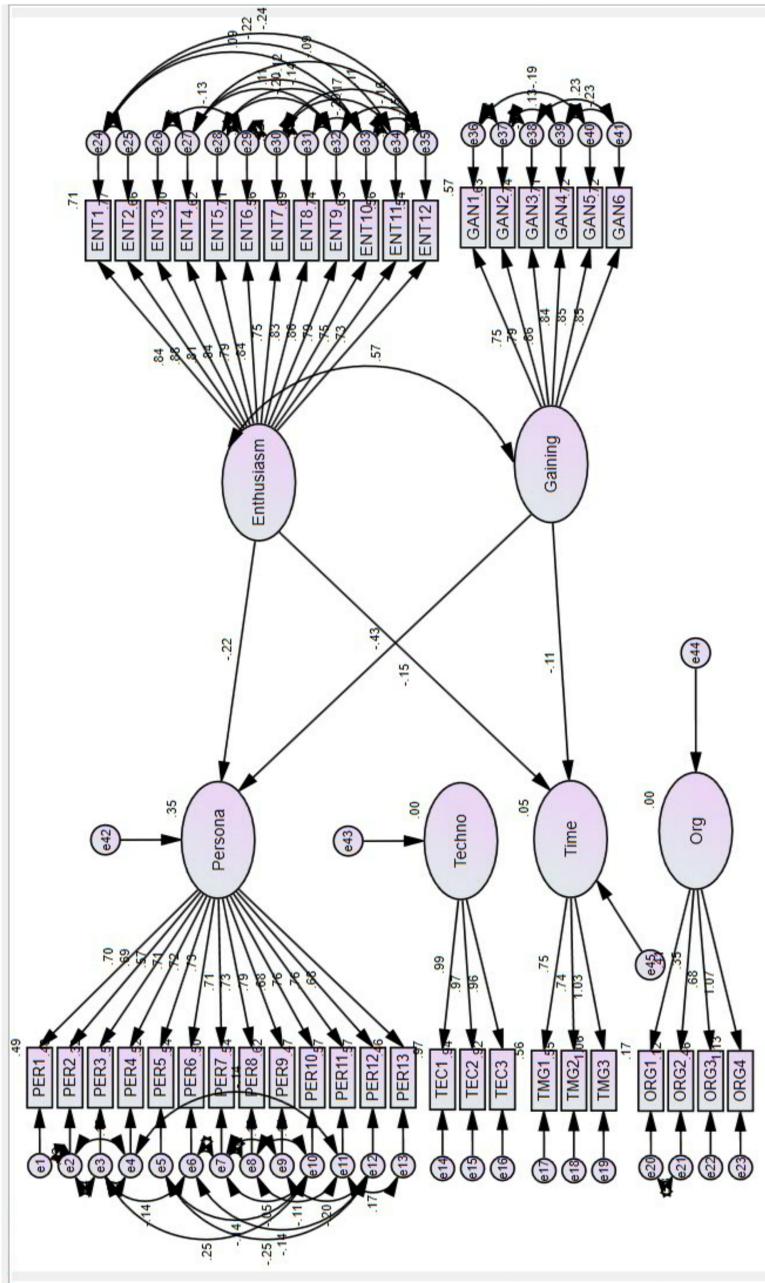


Figure 4. Final adjusted structural equation model for a blueprint – adopted through AMOS

	Extrinsic Segment (45 % Overall Impact)		Intrinsic Segment (55 % Overall Impact)	
	Technological	Organizational	Personal	Time Intensive
Approach 1 – Contextual Issues (CIs) (Direct Focus)	↑ Positive CIs ↓ Negative CIs	↑ Positive CIs ↓ Negative CIs	↑ Positive CIs ↓ Negative CIs	↑ Positive CIs ↓ Negative CIs
Approach 2 – Self-Efficacy Beliefs (In-direct Focus)	No any Significant Impact		↑ Self-Efficacy Beliefs	↑ Self-Efficacy Beliefs

Table 8.
Recommended
approaches to
managing the
contextual issues

Technological and organizational factors come under the extrinsic segment, while personal and time-intensive factors come under the intrinsic segment.

Based on the analysis of the strength and the frequency of the perceived contextual issues under the primary survey, it is identified that the intrinsic segment creates the majority of total impact experience, which is 55%, compared to the extrinsic segment, which is responsible only for 45%.

The proposed approach 1 of Table 8 is based on the direct focus on handling contextual issues by strengthening the positive impact and minimizing (or eliminating) the negative impact, which is applicable for both extrinsic and intrinsic segments. However, this straightforward approach will be more effectively applied for the extrinsic segment than the intrinsic segment, as the underlined factors of the intrinsic segment are more related to personal attributes and physiological conditions where the generalized solutions might not be applicable in full scale.

When managing the extrinsic segment, it should be handled through this direct approach as there is no any additional force that can be generated through the approach of self-efficacy beliefs. That is because there is no significant relationship between self-efficacy beliefs and extrinsic factors.

However, in addition to this direct approach, the intrinsic segment is opened for the indirect approach, as directly managing the intrinsic segment is quite challenging due to the complexity and uniqueness of the employees' physiological conditions and behavioral patterns. Therefore, the underline principles and behavior of self-efficacy beliefs, which is strengthening the self-efficacy beliefs to neutralize or minimize the strength of the negative effect of contextual issues, is used to address this segment.

In this context, it is recommended that the banks focus on strengthening the positive contextual issues and minimizing the negative contextual issues covering technological, organizational, personal and time-intensive segments. More attention should be given to increasing the speed and accessibility of the e-learning system, availability of quality and attractive e-learning content, creating and promoting a learning culture in the organization and providing relevant support and awareness to the team in a timely and effective manner as these issues created the majority of influence to the banking employees.

Though this approach is straightforward for the extrinsic contextual issues (technological and organizational factors) to deal with intrinsic issues (personal and time-intensive factors), it is recommended to focus on the domain of self-efficacy beliefs. As the personal and time-intensive factors are responsible for the majority of the overall impact of experience and it is

hard to apply all-in-one solutions for such intrinsic physiological conditions, the best approach would be the application of the underline principles of self-efficacy beliefs, that is to neutralize any possible negative contextual issues by strengthening the self-efficacy beliefs of employees. Accordingly, this simultaneous approach would facilitate the Sri Lankan banking sector in providing an ideal solution for effectively developing their employees' competencies through productive online learning engagement.

References

- Akhter, S., Ghayas, S. and Adil, A. (2012), "Self-efficacy and optimism as predictors of organizational commitment among bank employees", *International Journal of Research Studies in Psychology* Vol. 2 No. 2, [online], doi: [10.5861/ijrsp.2012.131](https://doi.org/10.5861/ijrsp.2012.131).
- Akhter, H., Rahman, A., Jafrin, N., Saif, M., EshaBushra, H. and Mostafa, R. (2022), "Investigating the barriers that intensify undergraduates' unwillingness to online learning during COVID19: a study on public universities in a developing country", *Cogent Education*, Vol. 9 No. 1, p. 2028342, [online], doi: [10.1080/2331186X.2022.2028342](https://doi.org/10.1080/2331186X.2022.2028342).
- Al-Araibi, A.A.M., Mahrin, M.N.R.B. and Yusoff, R.C.M. (2019), "Technological aspect factors of E-learning readiness in higher education institutions: delphi technique", *Education and Information Technologies*.
- Ali, S., Gulliver, S.R., Amaad, U.M. and Basir, M. (2021), "Research investigating individual device preference and e-learning quality perception: can a one-solution-fits-all e-learning solution work?", *Heliyon*, Vol. 7 No. 6, p. e07343, [online], doi: [10.1016/j.heliyon.2021.e07343](https://doi.org/10.1016/j.heliyon.2021.e07343).
- Almaiah, M.A. and Al Mulhem, A. (2019), "Analysis of the essential factors affecting of intention to use of mobile learning applications: a comparison between universities adopters and non-adopters", *Education and Information Technologies*.
- Almaiah, M.A. and Alyoussef, I.Y. (2019), "Analysis of the effect of course design, course content support, course assessment and instructor characteristics on the actual use of e-learning system", *IEEE Access*, Vol. 7.
- Alsharhan, A., Salloum, S. and Shaalan, K. (2021), "The impact of eLearning as a knowledge management tool in organizational performance", *Advances in Science, Technology and Engineering Systems Journal*, Vol. 6 No. 1, pp. 928-936.
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A. and Woźakowska-Kapłon, B. (2021), "Students' perception of online learning during the COVID19 Pandemic: a survey study of Polish medical students", *Medicine*, Vol. 100 No. 7, pp. 1-6.
- Bandura, A. (1994), "Self-efficacy: toward a unifying theory of behavioral change", *Advances in Behaviour Research and Therapy*, Vol. 1 No. 4, pp. 139-161, [online], doi: [10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).
- Bandura, A. (2005), "Great minds in management", *Evolution of Social Cognitive Theory*, Oxford University Press.
- Banks, T. and Dohy, J. (2019), "Mitigating barriers to persistence: a review of efforts to improve retention and graduation rates for students of color in higher education", *Higher Education Studies*, Vol. 9 No. 1, p. 118, doi: [10.5539/hes.v9n1p118](https://doi.org/10.5539/hes.v9n1p118).
- Bujang, M.A. (2016), "Requirements for minimum sample size for sensitivity and specificity analysis", *Journal of Clinical and Diagnostic Research*, Vol. 10 No. 10, doi: [10.7860/jcdr/2016/18129.8744](https://doi.org/10.7860/jcdr/2016/18129.8744).
- Chatti, H. and Hadoussa, S. (2021), "Factors affecting the adoption of e-learning technology by students during the COVID-19 quarantine period: The application of the UTAUT model", *Engineering, Technology and Applied Science Research*, Vol. 11 No. 2, pp. 6993-7000, [online], doi: [10.48084/etasr.3985](https://doi.org/10.48084/etasr.3985).
- Code, J. (2020), "Agency for learning: intention, motivation, self-efficacy and self-regulation", *Frontiers in Education*, Vol. 5 No. 3, doi: [10.3389/feduc.2020.00019](https://doi.org/10.3389/feduc.2020.00019).

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- Compeau, D.R. and Higgins, C.A. (1995a), "Computer self-efficacy: development of a measure and initial test", *MIS Quarterly*, Vol. 19 No. 2, pp. 189-211, [online], doi: [10.2307/249688](https://doi.org/10.2307/249688).
- Compeau, D.R. and Higgins, C.A. (1995b), "Application of social cognitive theory to training for computer skills", *Information Systems Research*, Vol. 24 No. 118.
- Eachus, P. and Cassidy, S. (2006), "Development of the web users self-efficacy scale (WUSE)", *Issues in Informing Science and Information Technology*, Vol. 3 No. 5, pp. 199-209, doi: [10.28945/883](https://doi.org/10.28945/883).
- Eastin, M.S. and LaRose, R. (2006), "Internet self-efficacy and the psychology of the digital divide", *Journal of Computer-Mediated Communication*, Vol. 6 No. 1, doi: [10.1111/j.1083-6101.2000.tb00110.x](https://doi.org/10.1111/j.1083-6101.2000.tb00110.x).
- Giannakos, M.N., Mikalef, P. and Pappas, I.O. (2022), "Systematic literature review of e-learning capabilities to enhance organizational learning", *Information Systems Frontiers*, Vol. 24 No. 2, pp. 619-635.
- Kamble, A., Gauba, R., Desai, S. and Golhar, D. (2021), "Learners' perception of the transition to instructor-led online learning environments: facilitators and barriers during the COVID19 pandemic", *IRRODL*, Vol. 22 No. 1, 199215, [online], doi: [10.19173/irrodl.v22i1.4971](https://doi.org/10.19173/irrodl.v22i1.4971).
- Kessler, S. and Wall, A.F. (2016), "Do the best parts equal the best whole? A critique of online teaching and learning", *Journal of eLearning and Higher Education*, Vol. 5 No. 3, pp. 1-8.
- Kurowski, M., Černý, M. and Trapl, F. (2022), "A review study of research articles on the barriers to inclusive education in primary schools", *Journal on Efficiency and Responsibility in Education and Science* Vol. 15 No. 2, pp. 116-130, [online], doi: [10.7160/eriesj.2022.150206](https://doi.org/10.7160/eriesj.2022.150206).
- Li, C. and Lalani, F. (2020), "The COVID-19 Pandemic has changed education forever", [online] World Economic Forum, available at: <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>.
- Malatji, W., Eck and Zuva, T. (2020), "Understanding the usage, modifications, limitations and criticisms of technology acceptance model (TAM)", *Advances in Science, Technology and Engineering Systems Journal*, Vol. 5 No. 3, pp. 113-117, doi: [10.25046/aj050612](https://doi.org/10.25046/aj050612).
- Malureanu, A., Panisoara, G. and Lazar, I. (2021), "The relationship between self-confidence, self-efficacy, grit, usefulness, and ease of use of eLearning platforms in corporate training during the COVID19 pandemic", *Sustainability*, Vol. 13 No. 12, doi: [10.3390/su13126633](https://doi.org/10.3390/su13126633).
- Martin, F. and Kumar, S. (2021), "Barriers in online education and strategies for overcoming them", *A Guide to Administering Distance Learning*, Brill, pp. 43-60.
- O'Doherty, D., Dromey, M., Loughheed, J., Hannigan, A., Last, J. and McGrath, D. (2018), "Barriers and solutions to online learning in medical education – an integrative review", *BMC Medical Education*, Vol. 18 No. 1, p. 130, [online], doi: [10.1186/s1290901812400](https://doi.org/10.1186/s1290901812400).
- Oluyinka, S. and Endozo, A.N. (2019), "Barriers to elearning in developing countries: a comparative study", *Journal of Theoretical and Applied Information Technology*, Vol. 97 No. 5, pp. 2606-2618.
- Ozyilmaz, A., Erdogan, B. and Karaeminogullari, A. (2017), "Trust in organization as a moderator of the relationship between self-efficacy and workplace outcomes: a social cognitive theory-based examination", *Journal of Occupational and Organizational Psychology*, Vol. 91 No. 1, pp. 181-204, doi: [10.1111/joop.12189](https://doi.org/10.1111/joop.12189).
- Panackal, N., Rautela, S. and Sharma, A. (2022), "Modeling the enablers and barriers to effective e-learning: a TISM approach", *International Journal of Interactive Mobile Technologies (IJIM)*, Vol. 16 No. 3, pp. 138-164, [online], doi:[10.3991/ijim.v16i08.29455](https://doi.org/10.3991/ijim.v16i08.29455).
- Rawashdeh, A.Z.A., Mohammed, E.Y., Arab, A.R.A., Alara, M. and Al-Rawashdeh, B. (2021), "Advantages and disadvantages of using e-learning in university education: analyzing students' perspectives", *Electronic Journal of E-Learning*, Vol. 19 No. 3, pp. 107-117, [online], doi: [10.34190/ejel.19.3.2168](https://doi.org/10.34190/ejel.19.3.2168).
- Regmi, K. and Jones, L. (2020), "A systematic review of the factors–enablers and barriers–affecting e-learning in health sciences education", *BMC Medical Education*, Vol. 20 No. 1, pp. 1-18.

- Rosani, I. (2022), "The eLearning journey of a MOOC: the case of the tourism management at UNESCO world heritage sites course", *Handbook on Heritage, Sustainable Tourism and Digital Media*, Edward Elgar Publishing.
- Roslan, N.S. and Halim, A.S. (2021), "Enablers and barriers to online learning among medical students during COVID19 pandemic: an explanatory mixed method study", *Sustainability*, Vol. 13 No. 11, doi: [10.3390/su13116086](https://doi.org/10.3390/su13116086).
- Sarker, M.N.I., Wu, M., Cao, Q., Alam, G.M. and Li, D. (2019), "Leveraging digital technology for better learning and education: a systematic literature review", *International Journal of Information and Education Technology*, Vol. 9 No. 7, pp. 453-461, doi: [10.18178/ijiet.2019.9.7.1246](https://doi.org/10.18178/ijiet.2019.9.7.1246).
- Sewart, D., Keegan, D. and Holmberg, B. (2020), *Distance Education: International Perspectives*, Routledge.
- Sophonhiranrak, S. (2021), "Features, barriers, and influencing factors of mobile learning in higher education: a systematic review", *Heliyon*, Vol. 7 No. 4, p. e06696, [online], doi: [10.1016/j.heliyon.2021.e06696](https://doi.org/10.1016/j.heliyon.2021.e06696).
- ValverdeBerrococo, J., CarmenBurgosVidela, C. and MoralesCevallos, M.B. (2020), "Trends in educational research about e-learning: a systematic literature review (2009-2018)", *Sustainability*, Vol. 12 No. 12, p. 5153.
- Yeh, C.-Y. and Tsai, C.-C. (2022), "Massive distance education: barriers and challenges in shifting to a complete online learning environment", *Frontiers in Psychology* Vol. 13 No. 3, [online], doi: [10.3389/fpsyg.2022.928717](https://doi.org/10.3389/fpsyg.2022.928717).

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