Motivational Factors of Learners for Enrolling in Organic Farming Certificate Course through Open and Distance Learning (ODL)

ABSTRACT

This study aims at exploring the motivational factors that propelled the learners to join the Open and Distance Learning certificate course. The motivational factors that are influencing the enrolment of learners in the course were: Teaching – Learning process in the ODL study centre, Academic factors of the ODL certificate course, Attractive factors of the ODL study centre and other influencing factors on the motivation of learners to enrol in ODL certificate course. Using a quantitative research approach, a structured survey questionnaire was employed to intercept the motivational factors of the learners using data collected from certified learners of the Organic farming course provided in the TNAU ODL directorate. Results from the application of Structural Equation Modelling (SEM) of 131 valid learners implied Teaching-Learning process, Academic factors, Attractive factors and other influencing factors have significantly motivated the learners to enrol ODL certificate course. Hence, these factors that may affect enrolment of learners and should be taken as the factors that every distance study centre should pay attention to when implementing the certificate programmes.

Keywords: Certificate programme, Distance learning, Enrolment factor and Organic farming

INTRODUCTION

In the study of psychology, Motivation is the driving factor behind the behaviour of an individual. According to Barak et.al. (2016), Motivation in open and distance learning influences what, how, and when students learn. In the process of learning, motivation is crucial. According to Kiymet (2010), Motivation is the best variable that affects students learning. A number of research found a significant causal link between motivation and learners' participation and achievement in the learning environment (Baturay et.al., 2015). In other words, interaction patterns in the learning environment are influenced by varied levels of motivation. Thus, motivation has been perceived as a determinant factor for students' satisfaction and learning outcomes in a Distance Learning environment. Though the motivational factor is considered crucial for the participation and attention of students and enrolment of students, it is not easily promoted. There should be more attractive, Teaching – learning factors, academic and other influencing factors for the learners to join the certificate course. Lack of motivation can also be a cause for attrition in Distance Learning.

In today's rapidly evolving world, where knowledge and skills are key to success, Open and Distance Learning (ODL) certificate courses have emerged as a popular and accessible avenue for students seeking to enhance their education. ODL programs offer a flexible and convenient approach to learning, enabling students to pursue certification courses from the comfort of their own homes. However, beyond the convenience factor, there are several motivational factors that drive students to

join ODL certificate courses. This article explores some of the compelling reasons why students are increasingly opting for ODL programs, including the opportunity for self-improvement, career advancement, and the ability to balance personal commitments with educational pursuits. By understanding these motivational factors, we can gain insights into why ODL certificate courses are becoming an attractive option for students worldwide.

As an applied science, the advancement in cognitive, psychomotor and affective domains is considered vital to enhance the effectiveness of people, profits and products through agriculture. The effectiveness of distance learning with limited access to the field depending on study centres for such facilities needs serious consideration. The factors revolving around the Open and Distance Learning study centres that motivate the learners to join the certificate course must be taken into consideration when implementing the courses in future (Huang, 2021)

MATERIAL AND METHODS

This study is undertaken to assess motivational factors that influence learners in enrolling in organic farming certificate courses in the Directorate of Open and Distance Learning (DODL) of Tamil Nadu Agricultural University (TNAU). DODL of TNAU was purposively selected for the study. It is one of the pioneer distance learning centres among the state agricultural university started in the year 2005. The courses offered are certificate courses, Diploma programmes, PG Degrees, Online certificate courses, Diploma in Agri – Inputs (DAI) programme and crash programs. Under certificate courses, there are 41 courses related to agriculture and allied science namely Vegetable Seed Production, Cotton and flower Cultivation technology, Hybrid Seed Production in Cotton and Maize, Weed Management, Small Millets Cultivation and Value Addition, Handling of Chemicals and Toxic Substance, Fodder and Seed production in rice and maize etc.,

Among the 41 certificate courses, the course on Organic Farming was purposively selected for the research, considering the maximum number of enrolments and its popularity. By employing the whole sampling method, the present study was conducted with all the 131 learners of the organic farming certificate course passed out in the academic year of 2019-2021 from two ODL study centres viz., Directorate of Open and Distance Learning (DODL), Tamil Nadu Agricultural University (TNAU) (57 students) and Sri GVG Visalakshi College for Women, Udmelpet (74 students)

A well–structured interview schedule was developed. Data wereUsing quantitative research approach, the data collected using personal interviews and telephonic conversations. The level of motivation of the learners has been studied by four constructs namely the Teaching-Learning process, Attractive factors, Academic factors and other influencing factors. The developed conceptual model (Fig. 1) analyzed using SEM PLS software for assessing the motivational factors influencing the enrolment of ODL learners by calculating various parameters including validity and reliability tests of the measurement model and path coefficients of the structural model.

2.1 Conceptual Model

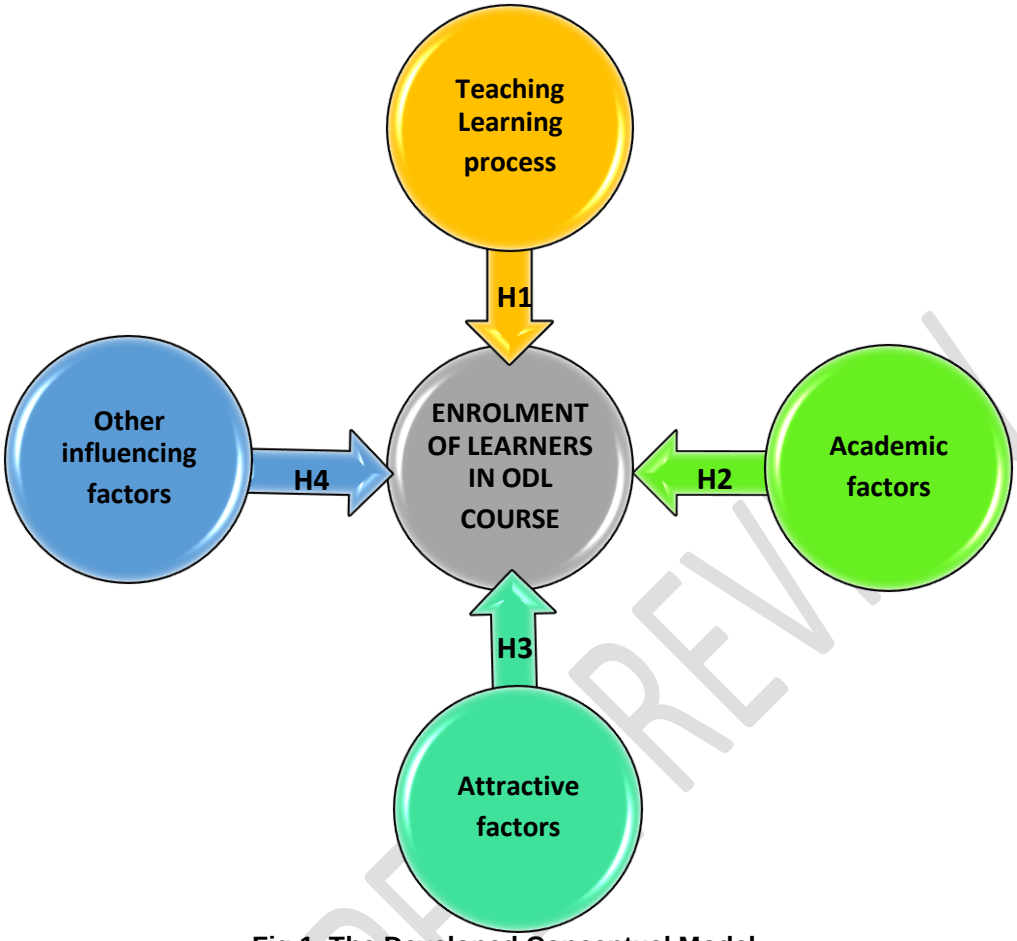


Fig 1. The Developed Conceptual Model

List 1: Research Hypotheses

Hypothesis	Relations	Null Hypothesis
H1	AF ->LE	Teaching – Learning process positively influence the enrolment of learners
H2	AcF -> LE	Academic factors positively influence the enrolment of learners
H3	IF -> LE	Attractive factors positively influence the enrolment of learners
H4	LT -> LE	Other influencing factors positively influence the enrolment of learners

According to the research framework, this study proposes the following research hypotheses:

Hypothesis 1 (H1). Teaching – Learning process positively affect the enrolment of learners

Hypothesis 2 (H2). Academic factors positively affect the enrolment of learners

Hypothesis 3 (H3). Attractive factors positively affect the enrolment of learners

Hypothesis 4 (H4). Other influencing factors positively affect the enrolment of learners.

Table 1. Research Constructs and Measurements

Constructs	Operationalization	Literature Adapted
Teaching–Learning Process	Interactive learning environment (i.e., discussion forums, Augmented and visual learning) Rapid feedback and follow up Providing contemporary, original and practical examples Mutual trust and respect in the learning environment	Kiymet (2010)
Academic factors	Easy access to advanced education Flexible and transparent curriculum Effective time utilization for the classroom Obligatory attendance to the course	Ferri et. al., (2016)
Attractive factors	Opportunity for entrepreneurship To get an additional qualification To explore knowledge on adopting organic farming practices Course fee structure	Ferri et. al., (2016)
Other influencing factors	Success stories /Visiting Organic farm Campaigns, workshops and training programme Contact with KVK, extension agents and ADA Office Influence of media, peer groups	Kiymet (2010)
Enrolment of learners in the ODL course	Personal interest in the agriculture field Desire to become an Entrepreneur / Agripreneur The convenience of the ODL courses over Regular courses for homemakers / senior citizens / differently-abled people	Developed for the study

	Affordable and Quality Education	

3. RESULTS AND DISCUSSION

3.1. Measurement Model

The measurement Model was used to gauge the validity and reliability of the constructs of the study. It was appraised by content, convergent validity and discriminant reliability, where the content validity was examined by using a pilot survey, expert opinion and review of the literature. The convergent validity was tested by working out Cronbach's Alpha, Composite reliability (Rho_A), Composite reliability (Rho_C) and Average Variance Extracted. It was done to ensure each set of items in relation to the construct accurately represented the investigated variables. The result depicted in Table 2 indicates that all the values of constructs exceed the recommended value (Cronbach α > 0.7, Composite reliability > 0.7, Average Variance Extracted > 0.5). As depicted in Table 3, the result indicated that all the values of the constructs exceed the recommended value (Factor loadings > 0.7). According to the results of the measurement model, each of the constructs is proven to be valid and reliable.

Table 2. Construct reliability and validity

S.NO	Constructs	Cronbach's Alpha	Composite Reliability (Rho_A)	Composite Reliability (Rho_C)	Average Variance Extracted (Ave)
1	Teaching – Learning process	0.881	0.885	0.919	0.739
2	Academic factors	0.909	0.912	0.936	0.785
3	Attractive factors	0.926	0.94	0.929	0.767
4	Other influencing factors	0.965	0.969	0.975	0.905
5	Learner Motivation to enrol in the ODL course	0.921	0.921	0.944	0.807

Source: Calculated through SEM – PLS analysis for 131 ODL Learners (2023)

Table 3. Factor loadings

	INDICATORS	CONSTRUCTS				
		1	2	3	4	5
Teaching Learning process	**LT1**	0.886				
	LT2	0.899				
	LT3	0.783				
	LT4	0.865				
Academic factors,	**AcF1**		0.887			
	AcF2		0.873			
	AcF3		0.885			

	AcF4		0.899			
Attractive factors,	**AF1**			0.952		
	AF2			0.857		
	AF3			0.715		
	AF4			0.957		
Other influencing factors	**IF1**				0.953	
	IF2				0.962	
	IF3				0.945	
	IF4				0.946	
Learners Motivation to enrol in ODL course	**LE1**					0.89
	LE2					0.89
	LE3					0.909
	LE4					0.905

1- Teaching Learning process, 2- Academic factors, 3- Attractive factors, 4- Other influencing factors, 5- Learners' Motivation to enrol in ODL course

Discriminant validity was calculated by equating the correlation between the square root of the AVE of variables and different variables. The findings shown in Table 4 (Fornell-Lacker criterion) opined that square roots of AVE were all above the correlation between the constructs and discriminant validity, whereas using HTMT as a criterion involves comparing it to a predefined threshold. If the value of the HTMT is at a maximum value of 0.85 (Henseler et. al., 2015), one can conclude that there is a lack of discriminant validity. As shown in Table 5, in our case, there was no such discriminant present.

Table 4. Test of discriminant validity (Fornell-Lacker criterion)

Constructs	**1**	**2**	**3**	**4**	**5**
	AF	**AcF**	**IF**	**LM**	**LT**
AF	0.876				
AcF	-0.114	0.886			
IF	0.322	0.396	0.952		
LE	0.098	0.298	-0.474	0.899	
LT	0.353	-0.339	-0.388	0.5	0.859

Table 5. Discriminant validity (HTMT criterion)

Constructs	**1**	**2**	**3**	**4**	**5**
	AF	**AcF**	**IF**	**LM**	**LT**
AF					
AcF	0.159				
IF	0.382	0.424			
LE	0.082	0.325	0.5		

LT	0.363	0.381	0.416	0.554	

3.2. Structural Model and Hypothesis Testing

Once the reliability and validity in the measurement model were verified, the relationship among the variables was investigated and hypotheses were tested using standardized paths assessment. The bootstrap resampling technique was used to calculate the path significance of propounded relations (Henseler et. al., 2009), with about 900 iterations of resampling.

Since the objective of the study is to assess the diverse motivational factors influencing the enrolment of learners in ODL certificate courses. As depicted in Fig 3, the Motivational factor is the significant determinant of the enrolment of learners to join the ODL certificate course. Motivational factor was computed using four constructs namely Teaching – Learning process (H1), Academic factors (H2), Attractive factors (H3), and other influencing factors (H4). Results depicted in Table 6 indicated that all four hypotheses, H1, H2, H3 and H4 were supported. It could be inferred from Table 6 that the statistical value for paths Teaching – learning process **->** Enrolment of Learners, Academic factors **->** Enrolment of learners, Attractive factors **->** Enrolment of factors, Other influencing factors **->** Enrolment of factors are 4.532 (0.000), 8.993 (0.000), 2.231 (0.026) and 5.553 (0.000) respectively. The t – statistics for the paths were greater than 1.96 which indicates that the outer model loadings are highly significant.

Table 6. Path Coefficient: Direct Relationship

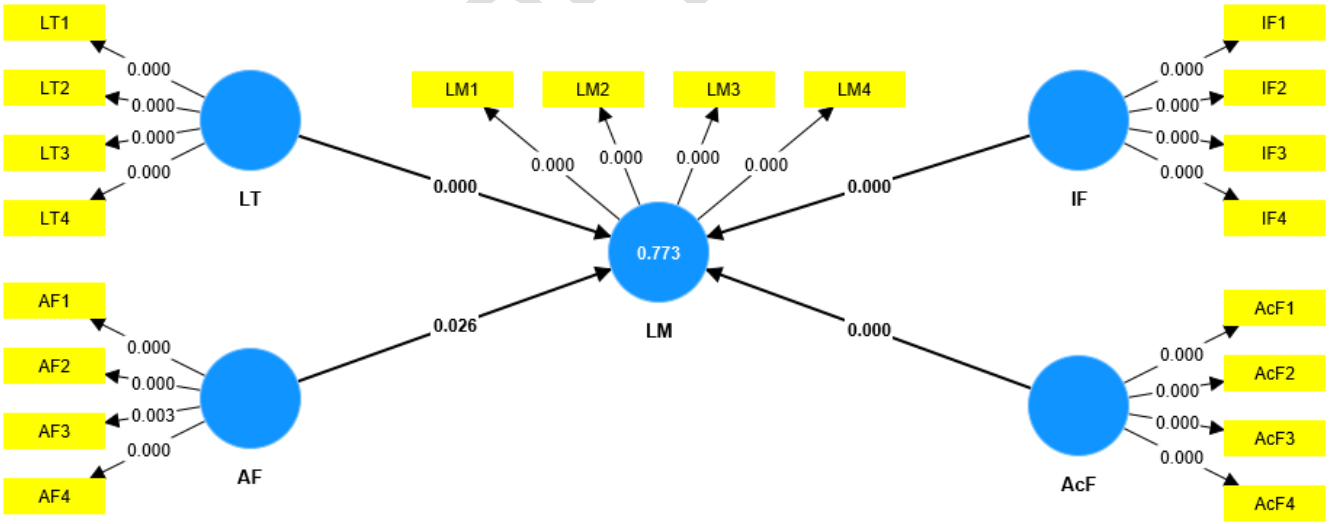
	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**	**Empirical Remarks**
AF ->LE	0.278	0.276	0.125	2.231	0.026	**Supported**
AcF -> LE	0.739	0.741	0.082	8.993	0.000	**Supported**
IF -> LE	-0.710	-0.707	0.128	5.553	0.000	**Supported**
LT -> LE	0.377	0.386	0.087	4.352	0.000	**Supported**

Table 7. Outer Loadings: Mean, ST Dev, T Value and P Value

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
AF1 <- AF	0.952	0.841	0.212	4.500	0.000
AF2 <- AF	0.857	0.810	0.201	4.252	0.000
AF3 <- AF	0.715	0.726	0.240	2.980	0.003
AF4 <- AF	0.957	0.838	0.224	4.281	0.000
AcF1 <- AcF	0.887	0.886	0.047	18.686	0.000
AcF2 <- AcF	0.873	0.869	0.049	17.746	0.000

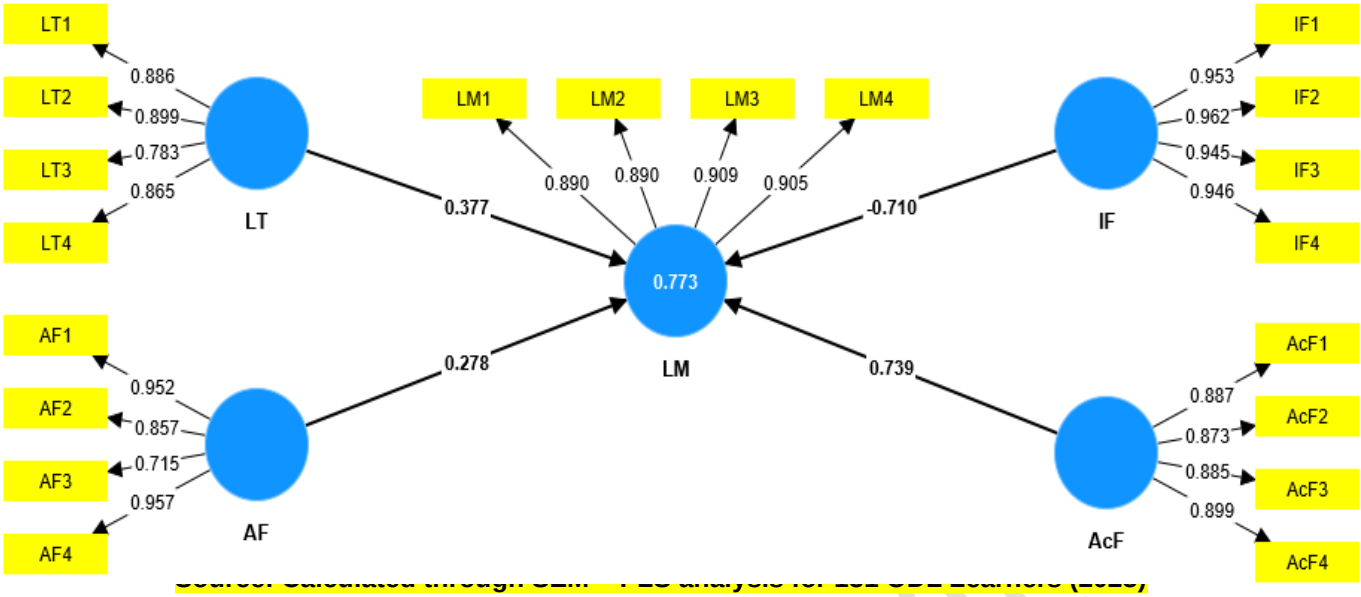
AcF3 <- AcF	0.885	0.878	0.051	17.186	0.000
AcF4 <- AcF	0.899	0.895	0.046	19.625	0.000
IF1 <- IF	0.953	0.952	0.013	76.034	0.000
IF2 <- IF	0.962	0.961	0.011	87.651	0.000
IF3 <- IF	0.945	0.944	0.012	82.066	0.000
IF4 <- IF	0.946	0.944	0.019	49.412	0.000
LE1 <- LE	0.890	0.890	0.024	36.753	0.000
LE2 <- LE	0.890	0.890	0.019	46.414	0.000
LE3 <- LE	0.909	0.909	0.019	46.962	0.000
LE4 <- LE	0.905	0.905	0.020	46.136	0.000
LT1 <- LT	0.886	0.885	0.024	37.634	0.000
LT2 <- LT	0.899	0.899	0.017	52.302	0.000
LT3 <- LT	0.783	0.781	0.050	15.724	0.000
LT4 <- LT	0.865	0.865	0.025	35.169	0.000

Fig 2. SEM PLS Hypothesized Model using Bootstrapping



Source: Calculated through SEM – PLS analysis for 131 ODL Learners (2023)

Fig 3. The Final Structural Equation Modelling (SEM) Model



LT – Teaching learning process, AcF – Academic factors, AF – Attractive factors, IF – Influencing factors, LM – Enrolment of learners to ODL course

CONCLUSION

In the present study, we explored the motivational factors that have influenced the learners to enrol in ODL certificate organic farming. In addition to the good reliability and validity, there is no collinearity within all the research facets, when the structural model was evaluated. The findings revealed that all the four dimensions such as Teaching – Learning process, Academic factors, Attractive factors and other influencing factors had a very significant relationship with the enrolment of learners in the ODL certificate course. Thus, overall, the model of this study is well–fitted. It could be inferred from the path relationship of the model of this particular study that Hypothesis 1 is valid, and the Teaching – Learning process has significantly affected the enrolment of learners in ODL courses ($\beta = 0.377$, $t = 4.352$, $p < 0.001$). Hypothesis 2 is valid, and the Academic factors have significantly affected the enrolment of learners in ODL courses ($\beta = 0.739$, $t = 8.993$, $p < 0.001$). Hypothesis 3 is valid, and the Attractive factors have significantly affected the enrolment of learners in ODL courses ($\beta = 0.278$, $t = 2.231$, $p < 0.05$). Hypothesis 4 is valid, and other influencing factors have significantly affected the enrolment of learners in ODL courses ($\beta = -0.710$, $t = 5.553$, $p < 0.001$). Among all the motivating factors, the Academic factor is revealed to have a more significant influence on the enrolment of learners for ODL courses, as the highest β value symbolizes the strongest effect of the predictor variable towards the dependent variable (Memon, 2014). This might be due to easy access to advanced education, flexible and transparent curriculum, effective time utilization for the classroom and obligatory attendance to the course.

The contributions of this study are: It provides empirical data evidence that teaching–learning processes, Academic factors, Attractive factors and other influencing factors have motivated the learners to enrol in ODL organic farming certificate course in a blended learning system. Since, Organic farming is considered to be the need of the hour for sustenance, awareness about the

benefits of organic farming can be created by enrolling in a certificate course, by which knowledge and adoption of organic farming can be enhanced. This study gives a notion for achieving high enrolment in the course by assessing the motivational factors that have a significant influence on the enrolment of the ODL organic farming certificate course. According to the data analysis, the key to motivating learners to enrol in ODL courses lies in all four constructs namely Teaching–Learning process, Academic factors, Attractive factors and other influencing factors and their operationalization. This could shed light to the policymakers of distance learning study centres that these are the motivational factors of should be consideration for implementing the courses in near future.

REFERENCES

Adzovie, D. E., & Jibril, A. B. (2020). Motivational factors towards fast-food joint selection in an under-developed country setting: A partial least square and structural equation modelling (PLS-SEM) Approach. *Cogent Social Sciences* 6(1), 1748988.

Barak, M., Watted, A., & Haick, H. (2016). Motivation to learn in massive open online courses: Examining aspects of language and social engagement. *Computers & Education* 94, 49-60.

Baturay, M., & Yukselturk, E. (2015). The role of online education preferences on student's achievement. *Turkish Online Journal of Distance Education* 16(3), 3-12.

Ferri, P., Laffi, P., Rovesti, S., Artioli, G., & Di Lorenzo, R. (2016). Motivational factors for choosing the degree course in nursing: a focus group study with nursing students. *Acta Bio-Medica De L'ateneo Parmense* 87, 19-27.

Fırat, M., Kılınç, H., & Yüzer, T. V. (2018). Level of intrinsic motivation of distance education students in e-learning environments. *Journal of Computer Assisted Learning* 34(1), 63-70.

Hakami, N. A. M. (2018). *An investigation of the motivational factors influencing learners' intentions to continue using Arabic MOOCs* (Doctoral dissertation, University of Southampton, University Library).

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modelling in international marketing. *In New challenges to international marketing* (Vol. 20, pp. 277-319). Emerald Group Publishing Limited.

Hobson, T. D., & Puruhito, K. K. (2018). Going the distance: Online course performance and motivation of distance learning students. *Online Learning* 22(4) 129-140.

Horzum, M. B., Kaymak, Z. D., & Gungoren, O. C. (2015). Structural equation modelling towards online learning readiness, academic motivations, and perceived learning. *Educational Sciences: Theory & Practice* 15(3).

Huang, C. H. (2021). Using the PLS-SEM model to explore the influencing factors of learning satisfaction in blended learning. *Education Sciences* 11(5), 249.

Keskin, S. (2019). Factors affecting students' preferences for online and blended learning: Motivational vs. cognitive. *European Journal of Open, Distance and E-Learning (EURODL*) 22(2), 72-86.

Krishnaveni, T. S., Balasubramaniam, D., Vasanthapriya, S., & Nisha, R. (2017). Motivational factors for joining certificate programmes related to agriculture through distance mode at DODL, TNAU. *Trends in Biosciences* 10(34), 7312-7316.

Liu, K. S., Gou, G. R., & Cheung, L. T. (2016). Understanding participants' motivation and willingness to pay for joining ecotourism training courses in Hong Kong. Asian Geographer 33(1), 23-34.

Memon, A. H., & Rahman, I. A. (2014). SEM-PLS analysis of inhibiting factors of cost performance for large construction projects in Malaysia: the perspective of clients and consultants. The Scientific World Journal 2014.

Mia, M.M: Zayed, N.M: Islam, K.M.A: Nitsenko, V.: Matuyevych, T: Mordous, I. The Strategy of Factors Influencing Learning Satisfaction Explored by First and Second-Order Structural Equation Modelling (SEM). *Inventions* 2022, 7, 59.

Muslimin, A. I., & Harintama, F. (2020). Online learning during pandemic: Students' motivation, challenges, and alternatives. *Loquen: English Studies Journal*, 13(2), 60-68.

Ndarugiliye, P. A. (2020). *Motivational Factors for Joining Open and Distance Learning among Secondary School Teachers in Kyela, Tanzania* (Doctoral dissertation, The Open University of Tanzania).

Selvi, K. (2010). Motivating factors in online courses*. Procedia-social and behavioural sciences*, 2(2), 819-824.

Vululleh, P. (2018). Determinants of students-learning acceptance in developing countries: An approach based on Structural Equation Modeling (SEM). *International Journal of Education and Development using ICT*, 14(1).