Learners' Intentions To Use Moocs For Career Advancement In India: TAM Approach Using PLS-SEM

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ARTICLE INFO	ABSTRACT
	Purpose – Conventional education is rapidly moving into the modern education system, which highly depends on Internet as a medium. Professionals are opting for online courses to equip themselves and to move forward in professional front. Therefore, this study aimed at investigating the Learners' intention to use MOOCs for Career Advancement in Indian Industries. **Design/methodology/approach** – The basic objective was attained by empirical examining a Technology Acceptance Model (TAM) from a sample of 95 respondents including Working Professionals, Students and Faculty members in India. Explicitly, this paper dealt with the relationships among six latent variables, which were Institutional Support (IS), Faculty Support (FS), Perceived Ease of Use (PEU), Perceived Usefulness (PU), Attitudes towards Use (AU) and the Intention to Use (IU). The more Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed to test the research model. **Findings** – The results showed that most of the hypotheses were supported, which suggested that the TAM could explain the rationale behind Learners' Intentions to Use MOOCs for Career Advancement. **Originality/value** – This paper stretched the original TAM by including two additional external variables (Institution's Support and Faculty's Support) for explaining behavioural intentions of the Learners, which would help the course co-ordinators, policy makers and the Government to provide the better service for bring out the expected outcome. **Keywords** – Massive Open Online Courses (MOOCs), Technology Acceptance Model (TAM), PLS-SEM, E-Learning, Career Advancement

1. INTRODUCTION

Massive Open Online Courses (**MOOCs**) are free online courses available for anyone to enroll. **MOOCs** provide an affordable and flexible way to learn new skills, advance your career and deliver quality educational experiences at scale. This research, totally focused on the environmental factors of MOOCs and the learners' acceptance of MOOCs as a technology (Total et al., 2007). Career advancement is prominent feature in every employee's professional life that allows the employees to obtain the knowledge, skills, and supports needed to advance their careers in ways that both demonstrate impact on their field and in ways that truly reflect who they are, what they value, and what they can uniquely contribute to the organisations, their clients and their society.

Weng (2018) suggested that the career development is more focused on objective and subjective measures of career success over an individual's work life, across organizations. He has argued based on (Weng, McElroy, Morrow, & Liu, 2010) earlier study on organizational career growth was originally measured using four dimensions: (1) career goal progress, (2) professional ability development, (3) promotion speed, and (4) remuneration growth. In today's social networking community, learners, when doing their assignment as individual or group, would experience four major aspects of collaboration and interaction: information sharing, information dissemination, communication and information gathering (Huang *et al.*, 2015).

Technologies are applied to develop students' awareness, attitudes and abilities to efficiently use digital tools. The Technology Acceptance Model (TAM) is specifically tailored for explaining users' acceptance of an information system, which was developed by Davis (1989) based on the Theory of Reasoned Action (TRA) of

Fishbein and Ajzen (1975). Technology Acceptance Model has been widely used for testing technology acceptance behaviours and has been empirically found to be robust in explaining the acceptance of information technologies (e.g. Davis, 1989; Igbaria et al., 1995; Venkatesh and Davis, 2000; Chang and Yang, 2013; Sanchez et al., 2013; Cheng et al., 2019). The learner acceptance of MOOCs for career advancement, is considered the essential factor that determines the success or failure of the courses in India. Hence, it is crucial for any MOOC provider or co-ordinator to know, before the implementation of the course, if the shift to MOOCs is what the learners want and accept. Therefore, the purpose of the research is to identify the determinants of learners' acceptance of MOOCs and to investigate how these determinants can shape the learners' intention to use MOOCs for career advancement.

The present study enhances to the existing literature through testing the external factors such as faculty's support and institution's support influencing the learners' behavioural intention to enrol MOOCs for career advancement, and through introducing a conceptual framework that examines the influence of each factor on learners' behavioural intention to use MOOCs platform for career advancement in India. The researchers examine the relationships between these variables, provides those responsible for the design and development of MOOCs with important information about how learners perceive and accept the MOOCs, so that they can enhance the effectiveness of MOOCs and design the programs accordingly to attract more learners and to adopt it.

2. LITERATURE REVIEW AND HYPOTHESES

Weng and McElroy (2012) has bent the four dimensions to three, since the speed of promotion and growth of remuneration are highly correlated, particularly for employees in managerial positions. Research on organizational career growth, therefore, has greater implications and is more relevant to understanding the employee–employer relationship than is career development over an employee's total working career. Research on organizational career growth, therefore, has greater implications, this is more relevant to understanding the relationship between employer and employee than is career development over total working career of an employee (McElroy & Weng, 2016).

Ally (2004) Rapid changes in the technologies made the learners to depend on information technology for accessing the learning materials, to interact with the content instructor and other learners through internet as a medium. This helps the learners in order to acquire knowledge, construct personal relationship and to grow from the learning experience throughout the learning processes. Developing nation like India, where the Higher Education Institutions, Government and the Universities are constantly engaging to implement online education system called MOOCs however, this is still at its early stage. So there are many service providers providing various courses through online platforms. There is a lot of improvements pulls many learners to engage into online education, it has its own challenge of consistent drop-out which is very high compare to the conventional education system where the courses are been offered with face to face mode of communication. (Dodge et.al 2009; Rovai 2007).

The more drop-out rate has gained the attention of policymakers and practitioners to identify the various determinants of user acceptance towards MOOCs for career advancement in India.

Most of the developing nations are more concerned about their people to adapt of online learning system and its implementation especially in Higher Education and Continuing Education. Even their education system has mandated the use of e-learning systems for both students and the instructors.

The Technology Acceptance Model (TAM)

There is a need to analyse the various external factors that determine the learner to adopt the MOOCs. In this context, as a result of increasing the usage of internet, many organisations, higher education institutions, Universities and even Government engaging the online learning in all possible mediums. This is because of growing importance of Information and Communication Technology, the academic learners and other learners need to accept the new technologies in learning processes (Gong et al., 2004).

Acceptance of any new thing is totally based on the attitude and behaviour of the people, here the attitude and behaviour of the learners will decide to receive and accept the technology in learning. The Technology Acceptance Model (Davis et al., 1989) is one of the models most widely used in empirical research into the online environment and its impact on the learning performance. This model assumes that the perceived ease of use and usefulness of the technology are the two critical factors influences on an individual learner's attitude towards MOOCS and thus are closely associated with the intention to use of it. Based on the previous empirical researches evidences that the perceived usefulness totally depends on the perceived ease of use and it is directly connects to the intention to use the MOOCs. In addition, perceptions of both ease of use and usefulness are influenced by the external variables, in this research Faculty's support and Institution's support (Porter and Donthu, 2006).

H1: Institution's support has a significant influence on perceived ease of use, perceived usefulness and attitudes towards use of MOOCs.

H1a: Institution's support has a significant influence on perceived ease of use.
H1b: Institution's support has a significant influence on perceived usefulness.
H1c: Institution's support has a significant influence on attitudes towards use of MOOCs.

H2: Faculty's support has a significant influence on perceived ease of use, perceived usefulness and attitudes towards use of the MOOCs.

   H2a: Faculty's support has a significant influence on perceived ease of use.
   H2b: Faculty's support has a significant influence on perceived usefulness.
   H2c: Faculty's support has a significant influence on attitudes towards use of the MOOCs.

According to Tarhini et.al. (2014) and Liaw and Haung (2011) most of the researchers insisting that there is a necessity for the instructors and the learners to adopt e-learning system in the form of MOOCs in order to enhance the quality of learning experience in for their career advancement. In addition, many of the researchers has strongly supported based on previous empirical studies, it is vital for the practitioners, policymakers and the instructors/faculty members to highlight the importance of MOOCS in developing nations like India.

H3: Perceived ease of use has a significant influence on perceived usefulness and attitudes towards use of the MOOCs.

   H3a: Perceived ease of use has a significant influence on perceived usefulness.
   H3b: Perceived ease of use has a significant influence on attitudes towards use of the MOOCs.

H4: Perceived usefulness has a significant influence on attitudes towards use of the MOOCs and intention to use.

   H4a: Perceived usefulness has a significant influence on attitudes towards use of the MOOCs.
   H4b: Perceived usefulness has a significant influence on the intention to use.

Many researchers attempted to cover the career advancement and its measurements for the betterment of both employee and employer. They have tended to emphasis on both objective and subjective measures of career success over an employee's work life, across the industry. (Seibert, Kraimer, & Liden, 2001). Weng & Xi (2011), in recent days the researchers shifted their focus towards organizational career development, or to what extend every employee experiences career growth in their present workplace. Since this is more important than assessing the career outcome across the employees' entire career. In addition, it is more unpredictable and independent of every organization's outcome.

There is an increasing focus on facilitating the interaction between the instructor or faculty and learners in the form of collaboration and virtual communities. Online learning environments creates the social interaction among the people and build a very strong relationships with other members in terms of accomplishment of group learning and tasks. Pituch and Lee (2006) indicated that social interaction directly impacts the utility of an online learning system like MOOCs. The interactions among learners as well as between instructors and learners, and learning collaboration are critical for ensuring the effectiveness of the online learning process. When learners believe that a MOOCs provides effective learner-to-learner and learner-to-instructor interactions and an enhanced learning climate they will be more satisfied with the online learning system for their career advancement.

H5: Attitudes towards use of the MOOCs have a significant influence on the intention to use.

H6: Intention to use the MOOCs have a significant influence on the Career Advancement.

The previous studies appeals for more efforts focused to combine the support from institution and faculty level for achieving greater acceptance of technology from any learner. There is a need for strong proof from the Learner, Course/technology provider, facilitator/faculty, which are increasing in using internet based web technologies for teaching and learning. Therefore, the effect of institutional support and faculty support on perceived ease of use, perceived usefulness and attitudes towards use of MOOC course is proposed in the present study. Also this study focused on understanding the issues and challenges in continuation of the registered courses, opinion of the learner on MOOC courses and its connection with career advancement in their professional front.

Proposed hypothesized model
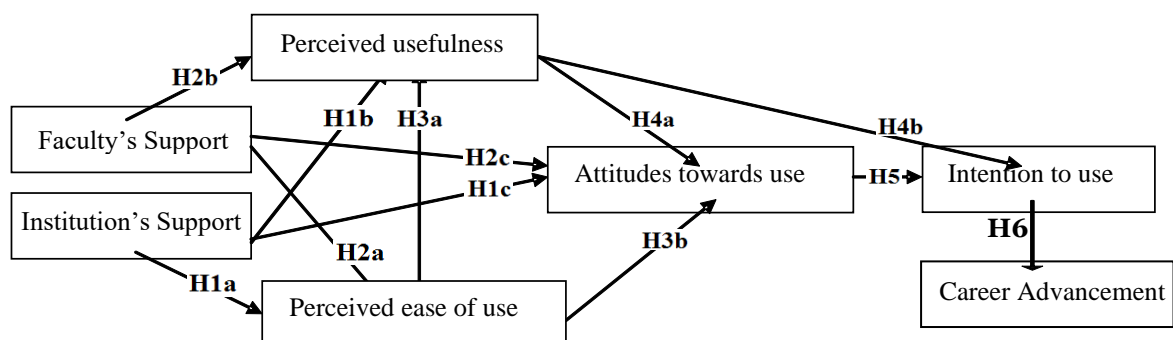
3. METHODS

3.1. Instrument
In this study, the researcher as used a structured questionnaire which was developed based on related instruments as cited in literature (i.e. Cheng, E.W.L., et.al. 2019; Qingxiong (Derek) Weng 2018). The questionnaire included 32 items to measure the seven constructs of the research model; IS (five items), FS (four items), PEU (seven items), PU (four items), ATU towards MOOCs (four items), ITU MOOCs (four items), and CA (four items). All items required five-point Likert-style responses ranging from 1= "strongly disagree" to 5= "strongly agree".

3.2. Validity and Reliability
The questionnaires were adopted based on review of literature which supports various research results. The internal consistency (Cronbach's alpha value) was 0.853. The validity and reliability of the scales were deemed adequate. The scale items for Institutional support, Faculty support, Perceived ease of use, Perceived usefulness, Attitudes towards use, Intention to use were developed from the study of Cheng, E.W.L., et.,al. (2019) and the scale items for Career advancement were developed from the study of Qingxiong (Derek) Weng (2018). The scales were slightly modified to suit the context of online learning and MOOCs.

3.3. Context and sampling
To ensure reliability and validity of the questionnaire, a pilot test was conducted with 12 online learners to test the efficacy and clarity of the questionnaire. Pilot testers were selected among students, working professionals, entrepreneurs, homemakers, retired persons and administrators. They were asked to fill out the questionnaire and minor modifications were made on the questionnaire based on the results of the pilot study. A purposive sampling technique was used to collect data from 95 respondents because learners were approached with no other limitations such as age and gender education.

3.4. Procedures
During Oct 2023 - Dec 2023, the survey was managed to the learners of the MOOCs as sample, and they were asked to respond to the questionnaire. The communication clearly stated the purpose of the study and asked for the learners' participation in the study by click the link and answering all questions to the survey form 95 participants were filled and submitted the questionnaire. No questionnaire was excluded due to incomplete or missing data, since all the questions were made as mandatory.

4. RESULTS AND DISCUSSION

The demographic distribution of the respondents were given (see Table 1) with the mean and median values. Here the standard deviation for the gender is 0.49 and based on the skewness we can understand that the respondents are been scattered well in the field. Hair et al., 2016 suggested that to determine the individual indicators reliability through PLS-SEM approach, it is essential to examine the outer loadings of all constructs. This study investigates that out of total 28 initial items, 22 items have been retained (see Table 5). This indicates that the six items are deleted because of the poor loadings. The remaining 22 items are kept in the study model that carried the loadings between 0.45 and 0.89 correspondingly. The more details are shown in Table 2. Composite reliability for all the latent variables ranges from 0.87 to 0.92 that indicates that all the latent constructs have a satisfactory level of internal consistency as recommended by scholars (Hair et al., 2012; Bagozzi and Yi, 1988).

This study also investigates the validity of the constructs through convergent validity and discriminant validity. Results show (see Table 2) that the average variance extracted (AVE) values for all the latent constructs are in the range between 0.54 and 0.80 which fulfils the rule of thumb as suggested by Chin (1998).

Table 1. Demographic (Gender) distribution

Gender	Frequency	Percentage	Mean	Median	Standard Deviation	Excess Kurtosis	Skewness
Male	57	60	1.40	1.00	0.49	-1.782	-0.217
Female	38	40					

Table 2. Cronbach Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE)

Sl. No	Construct	Cronbach's Alpha	CR	AVE
1	E-Learning effectiveness Net Benefits	0.853	0.902	0.701
2	E-Learning effectiveness User satisfaction	0.877	0.924	0.803
3	Perception towards Pedagogical approach	0.829	0.876	0.549
4	Students' personal views	0.884	0.915	0.685
5	Students' Intention to enrol	0.898	0.929	0.767

Table 3. FL Criteria

	EENB	EEUS	PtPA	SPV	SiTE
EENB	0.837				
EEUS	0.702	0.896			
PtPA	0.830	0.730	0.741		
SPV	0.808	0.750	0.882	0.828	
SiTE	0.744	0.822	0.827	0.883	0.876

Table 4. Heterotrait-Monotrait (HTMT) Ratio criterion values

	EENB	EEUS	PtPA	SPV	SiTE
EENB					
EEUS	0.809				
PtPA	0.953	0.832			
SPV	0.913	0.838	1.007		
SiTE	0.843	0.924	0.944	0.980	

Notes: EENB, E-learning effectiveness Net Benefits; EEUS, E-learning effectiveness User satis
PtPA, Perception towards Pedagogical approach; SPV, Students' personal views; SiTE, Students' Intention to enrol

Table 5. Outer loadings

	EENB	EEUS	PtPA	SPV	SiTE
EENB1	0.893	0.688	0.807	0.754	0.694
EENB2	0.913	0.599	0.755	0.730	0.680
EENB3	0.857	0.567	0.688	0.695	0.635
EENB4	0.661	0.480	0.486	0.495	0.451
EEUS1	0.627	0.904	0.605	0.611	0.702
EEUS2	0.631	0.908	0.663	0.702	0.750
EEUS3	0.628	0.876	0.691	0.697	0.755
PtPA1	0.494	0.397	0.688	0.530	0.545
PtPA2	0.457	0.341	0.590	0.454	0.420
PtPA3	0.381	0.405	0.551	0.435	0.463
PtPA4	0.737	0.630	0.846	0.773	0.693
PtPA5	0.784	0.704	0.874	0.794	0.743
PtPA6	0.722	0.655	0.829	0.813	0.724
SItE1	0.641	0.633	0.687	0.736	0.824
SItE2	0.630	0.783	0.731	0.732	0.878
SItE3	0.668	0.706	0.742	0.819	0.884
SItE4	0.669	0.754	0.736	0.805	0.914
SPV1	0.600	0.628	0.764	0.855	0.790
SPV2	0.453	0.429	0.627	0.694	0.522
SPV3	0.764	0.633	0.735	0.849	0.751
SPV4	0.737	0.657	0.785	0.887	0.735
SPV5	0.748	0.712	0.734	0.842	0.810

Figure 2. PLS Bootstrapping for Learners' intentions to use MOOCs for Career Advancement
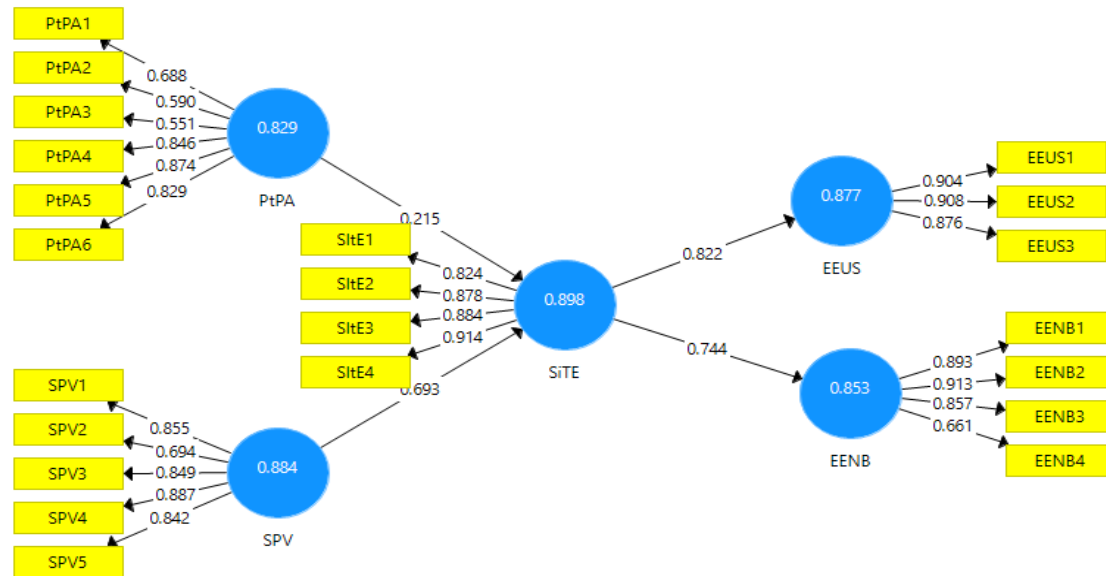
5. IMPLICATIONS FOR PRACTICE

Every country should not consider only the financial growth, also the institutional growth, environmental, and socio-cultural growth of the people. The way to measure the developmental strategy of any country is totally lies on the sustainability. Thus, it is an important issue to investigate the both the inclusive growth factors and sustainable development. Here, this research considers inclusive growth factors are the input and the sustainable development as output; also would like to know the impact in it.

6. SCOPE FOR FURTHER RESEARCH

This study focuses only on two external factors namely faculty support and institutional support and its impact on intension to use MOOCs as behavior modification for Career Advancement as an output of this extension model. Even many other external factors like personal experiences could determine the attitude to use the MOOCs were not studied in this research. The research strongly supports and encourages many empirical research could have been evolved in future for the better understanding of learners' attitude and intention to use MOOCs. Also, the researchers could concentrate on the output other than Career Advancement in future.

7. CONCLUSION

In this study the researchers unfold some interesting facts that the intent of the present study was to extend TAM by adding faculty support, institutional support as external variables and career advancement concept in online learning through MOOCs. The present study attempts to throw light on acceptance of the use of MOOCs for career advancement among the employees in India very few studies have been conducted in a similar context. Also, this research recommends the further research would be conducted in the similar setup of online education in Indian context. More research is required to unfold the issues and to frame effective strategies to minimise the drop-outs and encourage the learners to adapt MOOCs in different domains for both career and personal advancement.

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