FACTORS INFLUENCING THE E-LEARNING EXPERIENCE: EVIDENCE FROM INDIAN EDUCATION SECTOR DURING COVID-19

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The COVID-19 pandemic forced the closure of educational institutions worldwide and put academic schedules in danger. Most educational institutions have turned to online learning platforms to maintain academic activities. But the issues surrounding the readiness, design, and effectiveness of e-learning remain unclear. It is still not precisely understood, especially for a developing nation like India, where technological challenges like device appropriateness and bandwidth availability present significant difficulties. Through an online survey of 152 students, this study aims to investigate how students perceive and enjoy online learning. To create an efficient online learning environment, we also investigated the variables affecting students' motivation levels for online classes. According to the students, while internet connectivity challenges in rural locations make it difficult to take advantage of online learning programs, the flexibility and convenience of online classes make them an appealing option. The insights from this article can help build the curriculum for the new normal in agricultural education systems, where switching totally to online mode may not be practical and a hybrid medium is advised.

KEYWORDS: E-learning, Covid-19, Indian Education, Online Learning

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INTRODUCTION

The impact of COVID-19 in India has been tremendous in terms of job losses, production loss, and decreases in lending companies' cash flow and human capital (Kumar et al., 2020). While the sophistication of the solutions may differ depending on cost-revenue conditions, the integrity of the nation's education system must continue to search for new and innovative solutions (Dhawan, 2020). Information technology has been adopted in educational settings, and e-learning has become an essential component of the learning process. The education and learning process cannot be paused; an alternate means of education delivery using the internet is a new way to deal with challenges and maintain continuity. E-learning improves learning by expanding and enhancing in-person instruction rather than merely substituting it. E-learning is distributed via intranets and websites (Currie-Mueller & Littlefield, 2018). With as little disruption to the teaching as possible, content could be supplied through PowerPoint, audio and video clips, drag-and-drop questions, PDFs, website links, and web-enabled platforms (Setua, 2022).

According to a study by Adam et al. (2012), there is no discernible difference between face-to-face classes and online classes in terms of students' happiness. Schools and public and private institutions have been thrown into crisis mode in remote teaching due to the unanticipated lockdown during the Covid-19 outbreak (Kumar et al., 2020). Prior research (Bignoux & Sund, 2018) has emphasised many models that offer the fundamental framework to comprehend students' perceptions of and motivations for online education, including the e-learning experience. Additionally, papers have outlined significant obstacles to online learning achievement. But very few publications have tried to comprehend students' perceptions and preferences in an Indian context. Teachers no longer provide lectures; instead, by utilizing cutting-edge digital media technologies geared toward the education sector, they are creating an e-learning environment. Electronic platforms have found solutions to problems like eliminating outdated pedagogy and a lack of teachers for specialized courses, opening the way for the finest e-learning experience, and giving their learning style a flavour of independence influenced by factors such as incorporation of foreign language or other iterative and new activities facilitating better online interactions (Shahbaz & Khan (2017).

In order to maintain students' academic progress while also taking steps to lessen the effects of the present health crisis, some of the educational institutions that faced closure gradually reopened and began working under online learning methods (Kumar et al., 2020). This research fills the voids of understanding by identifying the drivers of motivation to E-Learning in crisis affected learning environments. This has been achieved by answering the

research question What drives the motivation of learners in Online education delivery when the education sector under the predicament of COVID 19 shifts from offline to online? It also aims to identify the impact of E-Learning motivators across gender. This research contributes to the existing body of knowledge by identifying and mapping the constructs for impact on learning.

REVIEW OF THE LITERATURE

Information and communications technology (ICT) is becoming more widely available and influential globally. As a result, most nations view ICT as a tool to increase educational standards (Tkachuk, 2021). ICT is utilized more frequently as a teaching tool for students. Over one billion students—more than 98% of the world's student population—have been affected by school closures as a result of the COVID-19 pandemic (UNESCO, 2020). India has the largest population in the world, with 500 million people between the ages of 5 and 24, creating enormous opportunities for the education sector (IBEF, 2019). Over the next five years, the Indian online education market, currently valued at USD 247 million, is anticipated to rise 8-fold (Venkatasen et al., 2020). In addition, India has announced a plan to redesign its current tertiary and vocational education system by incorporating ICT tools (Albugami & Ahmed, 2015). In summary, from a review of relevant literature, we identified a conceptual framework of internal, external, and personal factors that appear to contribute to learner motivation in online learning.

In Indian context, studies have been conducted to explore the aspect of communication efficiency, improving the interpersonal dynamics and student participation and productivity. The study by Allawamleh et al. (2020) focused on identifying reduced levels of motivation and communication in online classes over offline, such as accessibility, familiarity, and internet connectivity play a crucial role in ensuring an effective online learning system, as these may not be uniformly distributed across a country. The pandemic has brought the Indian education sector to a standstill and will likely continue to do so in the near future, at least. In exploring its effects in detail, Dhanalakshmi et al. (2021) has observed that the two key disruptions in this sector are in terms of accessibility and availability. Learning motivation is described as the process of starting goal-directed learning activities and continuing these activities (Cook & Artino 2016; Linnenbrink & Pintrich, 2002).

The factors that the literature recognizes to particularly influence the readiness for online learning as put forth by researchers have been self-directed and intrinsic learning, motivation for learning (Deci & Ryan, 2002); experience and control of the learning process (Reeves, 1993); computer and internet self-

efficacy and knowledge (Deci & Ryan, 2002). Students' motivation to E-Learn is driven by personal drivers (challenge, curiosity, self-determination, satisfaction and religious commitment), social drivers (relationships, inspiration, and well-being of self and others) and environmental drivers (facilities and conditioning) (Rahiem, 2021). Attitude, motivation, self-efficacy, and use of technology play a significant role in students' cognitive engagement and academic performance (Hermida, 2020). Therefore, what drives the motivation to E-Learn needs to be conceptualized for the factors relevant to Indian context and in light of the COVID 19. Learners need to perceive content as compatible with their learning preferences, consistent with personal learning goals, and connected to their prior experiences (Yengin et al., 2010). Instructional strategies should build connections between the instructional environment (e.g., content, teaching strategies, etc.) and past experiences (Carlsson et al., 2008). Past studies suggest that learners can have different preferences when it comes to instructional media.

Harnessing the suitable education technology is crucial in e-learning delivery. Saxena et al. (2020) examined how the perceived benefits of social distancing influence various factors that influence e-learning quality. Increasingly, online courses are replacing traditional classroom settings (Zhang et al., 2012). There are many ways to deliver academic content online beyond the traditional classroom (Sangra et al., 2012). Despite their study showing a positive future for e-learning, many other factors exist, such as experience with online classes and internet connectivity. The internet facilities, device logistics, proficiency of students in computer and internet usage, and availability of dedicated space at home to attend online classes determine the feasibility/practicability of e-learning (Singh & Thurman, 2019).

Digital literacy, digital competence and internet connectivity significantly contribute towards learner and facilitator motivation (Sánchez-Cruzado et al., 2021). The rate of interaction in the online setting (Hay et al., 2004), and the adaptability of online learning (Kim, 2009) is significantly related to the motivation for learning. The richness of the curricula and the course content (Rahman & Uddin, 2021; its relevance (Esra & Sevilen, 2021; its' delivery (Lee et al., 2019) contribute significantly to the drive for E-Learning. Studies have also shown that if an online course is well designed, it can be just as beneficial as a traditional course (Nguyen, 2015). The insight from literature guides us towards proposing two insights that the course content and curricula, and the internet connectivity, the digital literacy significantly contribute towards motivation to learn.

The perceived benefits of online learning include academic self-concept

and technological competency (Choi et al., 2007). Therefore, according to Sun and Chen (2016), well-structured course material, knowledgeable teachers, cutting-edge technology, feedback, and clear directions are all necessary for an effective online course. From Gilbert (2015), we note that delays in responding, doubts about the supposed expertise of peers, absence of a sense of community and/or feelings of isolation, difficulties working with co-learners; technical issues, problems with instructors, higher student attrition rates, the need for greater self-discipline, writing skills, and self-motivation and the requirement that online users commit to learning time are all regarded as obstacles to or online learning experiences. These variables focus on the ability of learning providers to clear doubts of the knowledge seekers.

Overall, study duration, peer interaction, regularity of learning intervals, and number of downloads were found to be significant predictors of students' academic progress (Yu, 2014). Li and Tsai (2017) grouped student behaviours based on the amount of time spent participating in educational activities. It was shown that students who spent more time on learning activities and course slides had higher homework scores and final grades. According to Lee et al. (2020), there are significant differences between students' navigational behaviours in online learning environments impacting their performance. Only the variables total number of discussion threads posted, total number of emails sent, and total number of assignments completed were found to be significant indicators of academic progress (Lee & Recker, 2021) The amount of time spent online overall, however, was found to be a statistically insignificant factor when assessing academic attainment. Recker and Lee (2016) studied the relationship between students' course performance and a few of their learning behaviours (i.e., regular study score, total time of viewing instructional videos, number of logins, late submission score, number of times replying to the course information, and number of messages created). The study's findings revealed that the only significant predictors of course completion were students' regular study score, late submission score, number of logins, and number of replies to the course materials. However, the amount of time students spends watching instructional videos or participating in online discussions is a key element in determining how motivated they are to study online. Dutta (2020) studied the impact of digitalization on the education sector. Online learning has increased multiple times over the last decade.

As part of the study, feedback from students was collected regarding the experience of studying teacher education through technology-supported classrooms. Thus, the research question emerging from the reviewed literature is framed as: What drives the motivation of learners in Online education delivery when the education sector under the predicament of COVID 19 shifts

from offline to online.

We therefore propose the theoretical model and the hypothesized relationships as below (Figure 1).
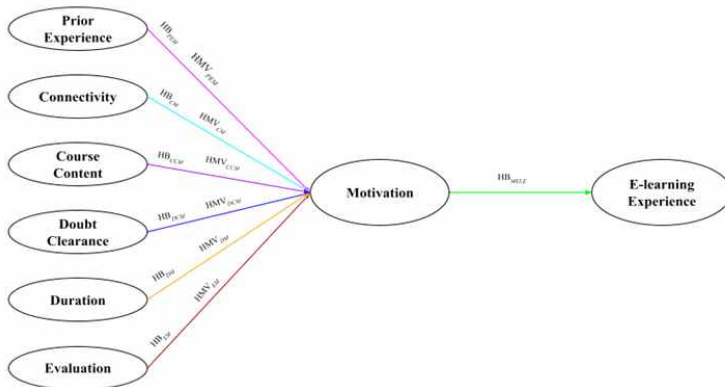
Figure 1. Proposed Theoretical Model.

RESEARCH METHODOLOGY

Research Paradigm

In educational research, the term paradigm is used to describe a researcher's 'worldview' (Mackenzie & Knipe, 2006). Willis (2007) defines research paradigm as "a comprehensive belief system, worldview or framework that guides research and practice in a field (p.8)". Blaxter and Hughes, (2010) says "paradigm is perceived as a way of seeing the world that frames a research topic and influences the way that researchers think about the topic (p. 35)". Ontology is essential to a researcher because it helps to understand the things that constitute the world as it is known (Scott & Usher, 2004). Objectivism is the belief in an external reality whose existence is independent of knowledge of it; the world exists as an independent object waiting to be discovered. This paradigm holds that objective reality exists independent of human perception (Sale et al., 2002). It also postulates that the ultimate truth exists and there is only one truth.

Following Warner (2008), we identified certain independent variables such as prior experience, connectivity, course content, doubt clearance, duration, and evaluations. We aspire to understand how each of these variables influence the motivation towards the e-learning experience and how they independently mediate the motivation for e-learning. The bivariate regression

analysis was carried out to test the strength and significance between the predictor and the dependent variable, and then conducted multivariate analysis amongst the independent variables in order to capture how they collectively influence the mediating variable of motivation to eventually impact the e-learning experience. We have also attempted to capture how gender may moderate the motivation for the e-learning experience by regressing all the independent variables with the gender. We have also captured how gender influences the e-learning experience's motivation.

Research Design

Answering the research question or testing the research hypothesis is the central purpose of all research. Research design is a blueprint or plan created to answer the research question and control variance (Kerlinger, 1966). A descriptive research design describes systematically and accurately the facts and characteristics of a given population or area of interest or is used to discover associations or relationships between or among selected variables (Woods & Catanzaro, 1988). In this study, we have examined the impact of factors which drive motivation to E-Learn. How in turn motivation facilitates the e-learning experience when observed through a set of independent variables. The conceptual range of this study, which examines the variables and its impact on motivation to enhance the e-learning experience, was selected by reviewing the relevant literature. The study also finds the influence of the independent variables in how it impacts the motivation of e-learning experience for males and females.

We have explored the factors responsible for enhancing the e-learning experience by conducting a survey covering the various aspects of an online course has been conducted, followed by a comprehensive analysis of the data. 152 potential participants were contacted using different platforms with information about the study and encouraged to participate. A link provided by the survey was clicked, and respondents were given the option to complete the survey at their own pace. All the valid responses were received, which is within the acceptable range. Statistical analysis was performed using SPSS (IBM SPSS Statistics 21.0). The main informants received the Google form link over WhatsApp. After submitting their responses, the respondents also used snowball sampling to distribute the questionnaire to additional college students. After disseminating the Google forms for over 10 days, the form link was disbanded. In this method, replies from 152 students in total were gathered. To reduce researcher bias, the statements were created based on a thorough examination of the literature and consultation with the experts. Considering motivation to be the mediating variable influencing the e-learning

experience through a set of independent variables, we have the following:

Hypothesis: The proposed theoretical model (Figure 1, 2, 3, 4, 5 and 6) is identified by the following hypothesized relationships. The hypothesis has been examined by exploring bivariate linear regression along with multiple regression. The acronym to express the relationships are mentioned in the footnote. We also have tried to examine the difference in the motivation to learn between males and females by observing the moderation effects (Refer Table 1).

Measures

Where possible, survey questions in this study used a five-point Likert scale (1: strongly disagree, 5: strongly agree). The earlier published studies were reviewed for adoption of pre listing scales. Since, no study with similar theoretical frame has been conducted earlier, no pre-existing scale was found suiting the need of the study. Therefore the existing scales developed measure the students' sense of autonomy (5 Items) and Perceived competence (5 Items) and Participant-perceived relatedness (5 Item) as suggested by Standage et al.(2005), with acceptable internal reliability (Cronbach's a = .80). Behavioural engagement (5 Items), Emotional engagement (5 Items) Skinner et al. (2009). Cognitive engagement (5 Items) Wang et al. (2016); students' agentic engagement (5 Items) Reeve (2013). We also referred to the e-learning readiness scale adapted from Alem et al., (2016) and Hung et al. (2010), academic Motivation Scale (Vallerand et al., 1992, 1993); students' motivation for e-learning and 18 question scale on students' motivation by Williams et al. (2019). Cronbach Alpha's reliability coefficient for the scale was above 0.60, which showed a good internal consistency (Sarstedt et al., 2014).

We performed exploratory factor analyses to find and improve the constructs employed in the data analysis. The survey's questions were especially focused on the six-month period that followed the COVID-19 outbreak, which occurred after the pandemic epidemic. According to the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Basto & Pereira, 2012), a certain percentage of the variance in the variables may be due to underlying factors. To assess the sample adequacy, which must be more than 0.5 for a factor analysis to be successful, KMO is utilized. The study collected demographic information, psychological discomfort, and satisfaction with online classes via a self-administered survey questionnaire. The scale goes from always (five) to never (zero). The unit of analysis for this study was considered to be an Individual (responding student). Each response received was taken as standalone and exclusive.

Data Collection and Sampling

A custom created online survey questionnaire was created for the current study. The statements were created based on a thorough literature review and interaction with subject-matter experts to reduce researcher bias. Statements were graded on a continuum of five points in order to assess and describe the perception (five being most effective and 1 being the least effective). The data collection was done online to improve response rates and timely data collection. Informed consent was obtained from the survey participants following the prescribed. A total of 512 questionnaires were shared among the respondents via the snowball sampling method. 152 people gave their information and participated in the survey. The response rate was 29.6, which can be considered satisfactory as per (Malhotra &Graver, 2011).

DATA ANALYSIS AND INTERPRETATION

The data was obtained from the online survey in Microsoft Excel format, and for analysis it was exported into SPSS IBM Version 21.0. To determine the inferences, descriptive and inferential statistical tests were used. Binary and multivariate logistic regression were employed, and odds ratios and adjusted odds ratios were generated to identify the determinants of psychological discomfort and satisfaction from online classes. However, mean comparison, bivariate correlation, and simple linear regression analysis were used to determine the link between the two variables. Data were gathered on demographic characteristics, then on the variables under investigation. When all factors were considered together, multiple regression revealed that evaluation, doubt clearance, and prior experience were not significantly related to motivation. This suggests that students' expectations have changed. With e-learning, students are motivated to learn for the sake of learning without worrying about results. Because of the online learning mode, students have more time on their hands. In addition, this has made them more self-reliant in certain ways to address their doubts on their own from the internet or any other sources (Tripathy and Devarapalli 2020). However, these factors are individually important and significantly related to motivation.

RESULTS OF THE STUDY

Since, we wish to know the strength of the relationship between the predictor and the dependent variable and establish association and causality, in the stage one of the analysis we have used bivariate regression analysis (Bertani et al., 2018; Michalos et al., 2005). The results based on the basis of standardized coefficients and significance level established direct, strong and positive

relationships between all the predictor and the dependent variable. The results are presented in Table 1.

**Table 1**

Bi-Variate Regression Analysis.

Hypothesis	Statement	Beta	Sig.	Supported/ Not Supported
Motivation (HB$_{MELE}$)	Motivation to learn has a significant, direct and positive impact on e-learning experience	.500	.000	Supported
Prior experience (HB$_{PEM}$)	Prior experience of e-learning has a significant, direct and positive impact on motivation	.441	.000	Supported
Connectivity (HB$_{CM}$)	Internet connectivity for e-learning has a significant, direct and positive impact on motivation	.547	.000	Supported
Course Content (HB$_{CCM}$)	Course content of e-learning has a significant, direct and positive impact on motivation	.538	.000	Supported
Doubt Clearance (HB$_{DCM}$)	Doubt clearance during e-learning has a significant, direct and positive impact on motivation	.442	.000	Supported
Duration (HB$_{DM}$)	Duration of e-learning has a significant, direct and positive impact on motivation	.569	.000	Supported
Evaluation (HB$_{EM}$)	Evaluation during e-learning has a significant, direct and positive impact on motivation	.497	.000	Supported

a. Dependent Variable for Motivation: E-learning experience
b. Dependent Variable for others: Motivation

As illustrated in Table 1, regressing motivation against the dependent variable e-learning experience, we get that the two variables share a positive relation. Their relation is significant, with a significance value of less than 5%. (Maneejuk & Yamaka, 2020; Andrade, 2019). The beta value is .500 (Ali and Younas, 2021; Schneider et al., 2010), which shows almost a 50% change in the e-learn experience can be achieved by influencing motivation. We also observe

that the motivation is significantly related to the dependent variable, e-learning experience (Figure 2).
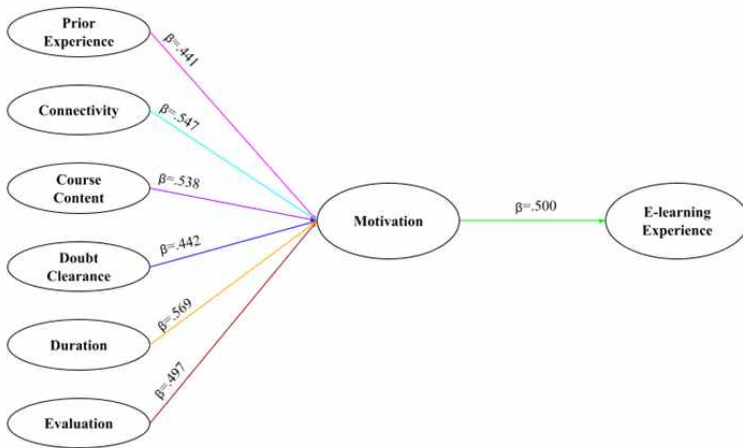
Figure 2. Bi-Variate Regression.

Regressing prior experience with motivation, we see that both variables share a positive relationship and are significant with an alpha value of less than 5%. The beta value is around 0.4, indicating that differences in prior experience can influence up to 44% of a student's motivation. As illustrated, between connectivity and the mediating variable, we see that they share a significant positive relation at alpha 5%. The beta value is around .547, which implies that connectivity can influence up to 54.7% of a student's motivation. The course content has a large positive impact on motivation. The relationship is significant at alpha 5%. The beta value is around .538, which says that this variable can independently influence up to 53.8% of the students' motivation. Doubt clearance has a positive relation with motivation. It is significant at 4%.

The duration of online classes positively affects motivation, and the relationship is significant at alpha 5%. The beta value is .569, showing that almost half of a student's motivation is impacted through the duration. The evaluation shares a positive relationship with the mediating variable, and their relationship is significant at around 5% alpha. The beta value is .497 showing that this variable can independently influence around 49.7% of a student's motivation. We can observe that all the above factors individually are positively and significantly related to a student's motivation, which is directly linked with the e-learning experience of the students. To check their relative

importance, we can regress all the independent variables together with the mediating variable.
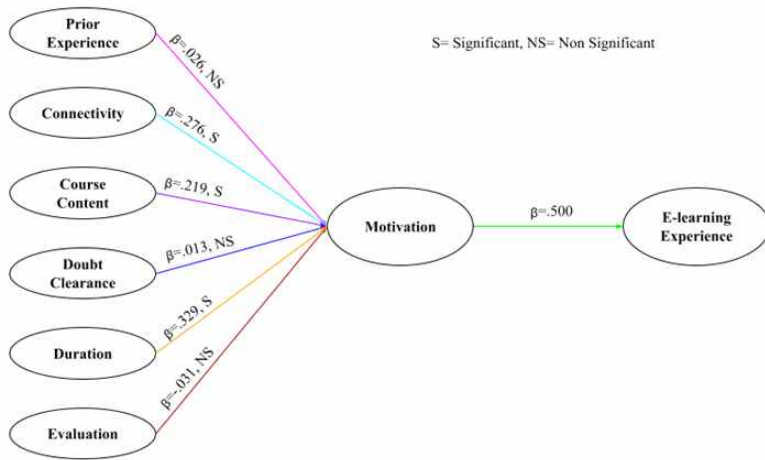
Multiple Regression Analysis

The researcher can incorporate all of the factors potentially significant components into one model by using Multiple Regression Analysis (MRA) (Marill, 2004). The benefits of this strategy are that it might result in a more exact and detailed understanding of how each individual aspect is related to the outcome (Alexopoulos, 2010). The amount of variance in the dependent variable that is accounted for by the variation in each independent variable can be determined using MRA.

Table 2

Results of Multivariate Regression Analysis.

Model	Statement	Beta	Sig.	Supported/ Not Supported
Prior experience (HMV_{PEM})	Prior experience of e-learning has a significant, direct and positive impact on motivation	.026	.771	Not Supported
Connectivity (HMV_{CM})	Internet connectivity for e-learning has a significant, direct and positive impact on motivation	.276	.001	Supported
Course Content (HMV_{CCM})	Course content of e-learning has a significant, direct and positive impact on motivation	.219	.011	Supported
Doubt Clearance (HMV_{DCM})	Doubt clearance during e-learning has a significant, direct and positive impact on motivation	.013	.881	Not Supported
Duration (HMV_{DM}	Duration of e-learning has a significant, direct and positive impact on motivation	.329	.000	Supported
Evaluation (HMV_{EM}	Evaluation during e-learning has a significant, direct and positive impact on motivation	-.031	.749	Not Supported

a: Dependent Variable: Motivation

Figure 3. Multivariate Regression Analysis for Motivation of e-Learning Experience.

As we can observe from Table 2, considering all the variables together, we see changes in how the independent variables relate to motivation. For example, connectivity, course content, and duration remain significant at less than 5%. The same cannot be said about prior experience, doubt clearance, and evaluation. Although these variables were significantly related to motivation individually, they are not so anymore when all the independent variables are considered together impacting the e-learning experience (Figure 3). Therefore, in the hypothesized model three hypotheses are supported and three are not supported.
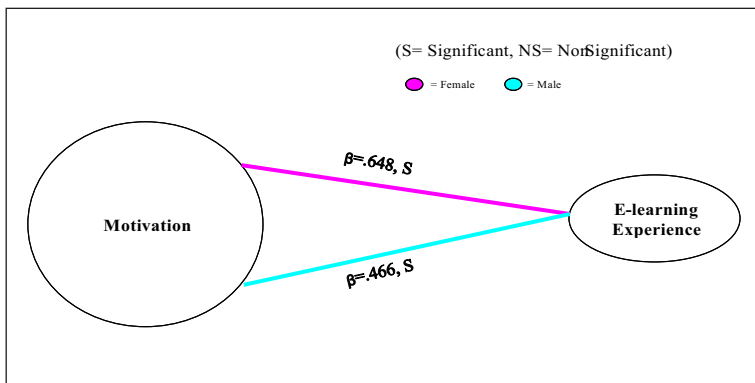
Moderation Analysis

Earlier studies have produced mixed results when the motivation to E-Learn is compared over genders (Chung et al., 2020). We analysed the relationships between drivers of motivation for E Learning and subsequently the E-Learning experience among the gender to observe the moderating effects of it on motivation as it influences the e-learning experience.

Table 3

Bivariate Moderation Analysis for Gender (Motivation and E-Learning Experience).

Model	Statement	Beta	Sig.	Supported/ Not Supported
Female				
Motivation HBM$_{FM}$	There is no difference in the effect of motivation on E Learning experience among female students.	.648	.000	Supported
Male				
Motivation HBM$_{MM}$	There is no difference in the effect of motivation on E Learning experience among male students.	.466	.000	Supported

a. Dependent Variable: E-learning experience

Figure 4. Bivariate Moderation Analysis for Gender.

From Table 3, the results of a simple bivariate relationship between motivation (Predictor) and E-Learning experience (dependent) were examined across the gender. It was done to understand how motivation contributes to the E-Learning experience across genders. The results show a higher value of the standardized coefficients (Beta) for Females than Males, indicating stronger relationships across the independent and dependent variable in females as compared to males (Figure 4).

Multivariate Regression Analysis (For Moderation Across Gender)

Considering the limitations of bivariate regression as discussed in the preceding section we extended our analysis to examine the moderating role of gender on motivation to E-Learn. This is important to analyse because India is a Patriarchal society, gender inequalities in patriarchal societies favour men (Karusala & Bhalla, 2019). The results of bivariate regression analysis show that there is a difference in the strength of relationships among motivation and E-Learning experience. We further examine whether the strength and impact of drivers of motivation are same across gender.

Table 4

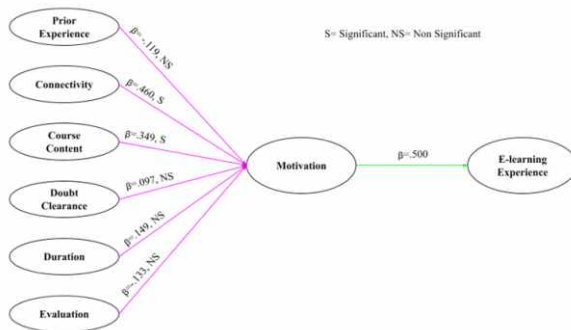**Multivariate Regression Analysis Between Motivation and Independent Variables for the Moderating Variable of Female.**

| Model	Statement	Beta (Female)	Sig. (Female)	Supported / Not Supported
Prior experience HMVMF$_{PEM}$	There is no difference in the effect of prior experience of E-learning on motivation among female students.	-.119	.541	Not Supported
Connectivity HMVMF$_{CM}$	There is no difference in the effect of connectivity of E-learning on motivation among female students.	.460	.018	Supported
Course Content HMVMF$_{CCM}$	There is no difference in the effect of course content of E-learning on motivation among female students.	.349	.041	Supported
Doubt Clearance HMVMF$_{DCM}$	There is no difference in the effect of doubt clearance of E-learning on motivation among female students.	.097	.612	Not Supported
Duration HMVMF$_{DM}$	There is no difference in the effect of duration of E-learning on motivation among female students.	.149	.374	Not Supported
Evaluation HMVMF$_{EM}$	There is no difference in the effect of evaluation of E-learning on motivation among female students.	-.133	.451	Not Supported

Dependent Variable: Motivation

Table 5

Multivariate Regression Analysis Between Motivation and Independent Variables for the Moderating Variable of Male.

Model	Statement	Beta (Male)	Sig. (Male)	Supported / Not Supported
Prior experience $HMVMM_{PEM}$	There is no difference in the effect of prior experience of E-learning on motivation among male students.	.046	.581	Not Supported
Connectivity $HMVM_{CEM}$	There is no difference in the effect of connectivity of e-learning on motivation among male students.	.186	.027	Supported
Course Content $HMVM_{CCM}$	There is no difference in the effect of course content of e-learning on motivation among male students.	.232	.670	Not Supported
Doubt Clearance $HMVM_{DCM}$	There is no difference in the effect of doubt clearance of e-learning on motivation among male students.	.065	.614	Not Supported
Duration $HMVM_{DM}$	There is no difference in the effect of duration of e-Learning on motivation among male students.	.317	.001	Supported
Evaluation $HMVM_{EM}$	There is no difference in the effect of evaluation of E-learning on motivation among male students.	-.072	.545	Not Supported

Figure 5. Multivariate Regression Analysis Between Motivation and Independent Variables for Females.
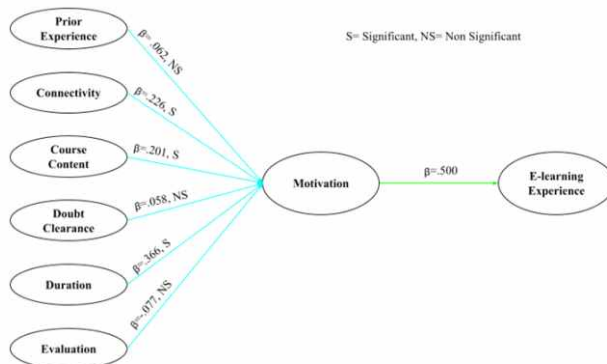
Figure 6. Multivariate Regression Analysis Between Motivation and Independent Variables for Males.

Females are more productive and motivated in the e-learning experience compared to males (Table 4 and Figure 5). From Table 5 and Figure 6, the relationship between motivation and e-learning experience is highly significant, whereas in case of males it is not so strong. The e-learning experience is positively and significantly related to motivation for the data of females. Among the factors influencing motivation, connectivity and course content are significant when all factors are considered together. For males, the e-learning experience is also positively and significantly related to motivation. However, amongst the factors influencing motivation, connectivity and duration are significantly related at 5% alpha when all factors are considered together.

DISCUSSIONS

We determined what the learners believed to be the successful elements and barriers in the online learning environment. The research by Allen (2011) all support this conclusion. Long classes should be avoided in order to increase student productivity, and there should be enough time between two consecutive classes. Johnson and Brown (2017)'s research shows that creating and maintaining a collaborative learning space inside an e-learning environment is crucial for optimising participant satisfaction. Participants in online courses need to feel engaged through frequent, purposeful exercises that help maintain their attention. Huggett (2014) has discussed the value of interaction frequency in the creation of online courses. Additionally, it was discovered that one difficulty with online learning was that students didn't always receive prompt responses to their questions. Beebe et al. (2010), and

others have also reported on it. The lecturer should therefore take care to respond to the students' questions very far away.

Motivation directly impacts the e-learning experience, as evidenced by the results. To create an effective online learning experience, it is important to implement measures that boost students' motivation (Tadesse & Muluye, 2020). This will require the cooperation of all stakeholders. Individual institutions must ensure that students are motivated enough through the classes. In this study, where all the factors were compared to motivation, duration, connectivity, and course content were found to be the most important. In contrast, the other three factors were found to be insignificant. The course content plays an important role as it sets the parameters for the learning activity.

Students across the country can benefit greatly from online physical classes if certain parameters and barriers are addressed properly (Wooten et al., 2020). Even in nations with less digital gap than India and better internet connectivity, people never really embraced the online lifestyle prior to this pandemic (Geerling et al., 2020). The benefits of face-to-face interaction, rapid feedback, and a sense of community are just a few possible explanations. Another factor might be how challenging it is to teach skills, particularly in practical classes. The advent of an information-based economy, massive knowledge gaps, and a paradigm shift in how education is viewed and provided was noted by (Yousuf, 2020). According to the study's findings, most students in the wake of Corona showed a fairly favourable attitude toward online classrooms. The flexibility and convenience offered by online learning were considered to be benefits for the students. However, the majority of students also stated that because of technology limitations, delayed feedback, and the instructor's inability to manage information and communication technologies effectively, online programs may be more difficult than traditional classroom ones.

CONCLUSIONS

From the study, it was evident that motivation for online learning was significantly driving the e-learning experience for the students as influenced by a number of independent variables. The motivation for e-learning has been most significantly driven by internet connectivity, course content, and evaluation criteria. There has been a positive relationship between these variables in the motivation for e-learning. Lack of capacity, a lack of technological infrastructure, and a lack of financial resources are the main obstacles to the adoption of e-learning in India. Moreover, females are

intrinsically more driven and motivated towards the e-learning experience whereas on the contrary males are less motivated towards the e-learning experience. The motivation of females is driven more by connectivity and the course content for e-learning and for males' connectivity and duration are more significant facilitating the e-learning experience. Males have found the biggest challenge to be the evaluation criteria in case of e-learning whereas for females the challenge is to not have prior experience in case of e-learning.

IMPLICATIONS

The characteristics of student engagement in the e-learning environment were investigated and identified in this study. To make the E-Learning experience richer, motivation drivers must be installed. This has its implications for the providers of learning infrastructure like schools and governments, the informal supporters like parents and relatives and the providers of learning. The key drivers which this study reveals are internet connectivity, course content and duration of the classes. To educate students on effective engagement change strategies, online curricula should include courses that provoke engagement. Online education infrastructure in patriarchal societies should be female-friendly. Furthermore, specific action for engagement should be integrated into online class lectures and assignments. For example, engagement strategies could be incorporated into a review of online lectures, instructor feedback, and instructor-student interaction.

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