

Management education in technology-mediated ODL platform – implications for educators in context of shifting learning path and digital divide

Smritishikha Choudhury, Chayanika Senapati and
Nripendra Narayan Sarma

*Discipline of Management, Krishna Kanta Handiqui State Open University,
Guwahati, India*

Abstract

Purpose – In the last few decades, the growth in management institutions in India has become significant. The Open and Distance Learning (ODL) institutions also have started offering management programmes at various levels. In the ODL scenario, the learning path has been shifting from the traditional Self-Learning Material (SLM) -based model to technology-mediated platform. The digital divide in India is also a widely discussed area. In this context, a need has been felt to understand the implications for educators, more specifically, for the programmes offered through technology-enabled ODL mode.

Design/methodology/approach – This study uses triangulation method covering literature review, personal interview and survey. Primary data have been collected through structured questionnaire in the Google Form administered on the learners of UG and PG programmes of management in Krishna Kanta Handiqui State Open University (KKHSOU), India. The sample size is 101, and the sampling frame is within Assam, a province of India. Select interviews (15 nos.) were also conducted with a cross section of learners to capture the emerging shift in the learning path and the limiting factors of digital divide.

Findings – Learners possess multiple digital devices for e-learning (41.8% uses laptop and 88.8% uses android phone). Interaction in WhatsApp and Telegram groups are mostly related with evaluation and course administration, rather than content and academic discussion. eSLMs are widely used. Though promoted, video lectures are not widely used. Some of the problems faced by the learners are low bandwidth, high cost of data subscription etc. Learners are not constrained by digital device, and they are engaged in positive communication with stake holders in digital platform.

Originality/value – This study will help in understanding the technology-enabled learning for management education in ODL mode in India. As a wide majority of the learners (88%) are dependent on small screen; print SLM and eSLM on a larger screen can provide augmented learning in case of complex topics like analysis of financial statements, project scheduling etc. Though the COVID-19 pandemic forced a shift in learning path, the transition is not full. The digitally constrained learners still look for solutions to complex learning problems mainly through print SLM and counselling. The talent of the students cannot be facilitated in WhatsApp and Telegram e-mentoring groups, like the way it could be done in learning management system (LMS)-mediated platforms.

Keywords Management education in India, Open and distance learning, Digital divide, Shifting learning path
Paper type Research paper



Introduction

Today's era is technology mediated. This also extends to the field of education. Therefore, learners need to cope up with the new changes in technological tools and techniques, concepts and approaches to the management of quality, people and resources. The institutions of higher education can act as intermediary organisations providing certain specialised services, including the adaptation of education to local conditions. Management education is no exception. India understood the efficacy of management education as a tool of accelerating development in the decade of 1960s with the establishment of first Indian Institutes of Management (IIM).

However, management education at undergraduate (UG) and postgraduate (PG) level has intricate relationship with school level education and the overall educational environment. India is known for its *Gurukul* system where mentor–mentee (*guru–shishya*–teacher–learner) relationship is quite important. The present Indian management education structure can be categorised under IIMs, universities, ODL institutions, affiliated institutions, government funded universities and private institutes. From a few institutions of management education in pre-independence era, we have grown to five thousand higher education institutions offering management education programmes.

In the last few decades, the growth in management institutions has become significant. Open and distance learning institutions play a major role in improving the gross enrolment ratio of the country and also provides many management programmes to distance learners. The two pioneers in ODL institutions in India are Indira Gandhi National Open University (IGNOU, established in 1985) [1] and Dr. B. R. Ambedkar Open University (established in 1982) [2]. For Assam, in its concern and quest to catch up with the strongest states of India, formal management education can be considered as an instrument of change. As ODL can help in transformation and development by wider reach, economic growth and social inclusion, we have endeavoured to see the perspectives in view of ODL programmes in management being offered by Krishna Kanta Handiqui State Open University (established in 2005). The University has initiated the management programmes since its inception. Although there have been concerns about this growth, we can observe a qualitative impact. The rapidly changing educational environment and research on effective learning pedagogies are some factors that have created changes in management education. In the ODL scenario, the learning path has been shifting from the traditional self-learning material (SLM)-based model to technology-mediated platform. The digital divide in India is also a widely discussed area. In this context, the need has been to understand the implications for educators, more specifically, for the programmes offered through technology-enabled ODL mode. The aspects need to be examined in the context of added provisions of technology. In India, there are nearly 46% Internet users and the rate of mobile phone subscribers is 87% (Kanwar, 2017). As per the report of statista.com [3], approximately 932.22 million population of India uses Internet services in 2022, and the number is increasing at very rapid rate which is one of the highest in the world. Moreover, Webster and Hackley (1997) also stated that one of the advantage of using information technology is to gain competitive advantage in teaching learning.

With this kind of backdrop, different dimensions like awareness, use, adoption of digital device and communication with the stakeholders in digital platform have been assessed with a survey instrument, which was administered on the learners of UG and PG Programmes of Management. The focus has been to capture the emerging shift in the learning path and the limiting factors of digital divide. The study wants to find whether management learners are constrained by digital divide in ODL platform and how effectively can imbibe technology in their learning system.

Hypothesis formulation

Management education in technology-enabled ODL platform has not been well studied. However, the following studies have provided some useful insights.

- (1) [Goyal et al. \(2021\)](#) in their study proposed a model for alternative learning which can be used in the time of crisis. They suggested that the faculties of management programme in association with the learner can change the educational system in terms of design, delivery and assessment. They recommended more practise-oriented curriculum. The study also mentions that distance students are more active and self-directed in the learning environment, well planned instruction design. They have proposed an alternative structure of education which include lab-based assignment, classroom lecture, on field project and library based research.
- (2) [Müller and Wulf's \(2020\)](#) study based on review of literature and empirical study identified different attributes for technology-mediated learning and how it enhances learners' abilities to deal with them. They have found many interdependent factors for technology-enabled learning like formats, instructors and learner characteristics. Their findings suggested improvement in several areas such as types of technology used, how to blend and flipped different study techniques, instructor's teaching styles and learners' effectiveness etc.
- (3) According to [Wu et al. \(2017\)](#), students prefer ICT tools and social media learning. The study conducted by them to find the attitude towards ICT for management learners and instructors of Taiwan University considered five domains for the use of ICT tools for which they found that students prefer ICT tools for social media learning and they consider it as helpful in their learning and sees prospects of their future employment through it.

Because of the pandemic COVID 19, all the educational institutions had to stress on digital learning, but the use of technology and the pace varied between different countries. The remote and rural area lacks digital infrastructure compared to urban areas in developing nations ([Tadesse and Muluye, 2020](#)). Similar situation is also observed in many parts of India. [Zuhairi et al. \(2020\)](#) stated that with the enrichment of new technology in higher education institutions, the teaching learning process has been enhanced. The study also reveals that physical mode of learner support services in distance education can be minimised with the help of new technology. But access to technology is a major constraint for many students in developing countries like India.

Based on assertion as highlighted in the above literature, the first hypothesis considered for this study is:

- H1.* The learners of management programmes of Krishna Kanta Handiqui State Open University (KKHSOU) are constrained by digital divide.

The following statements have been considered to measure the digital divide as a dependent variable.

- (1) Unavailability of the required gadgets hampered my learning through online mode.
- (2) Unavailability of the required bandwidth hampered my learning through online mode.
- (3) Unavailability of the required connectivity hampered my learning through online mode.
- (4) The cost of data subscription is high.

-
- (5) The dynamic (frequently changed) price of data pack makes it difficult for me in financial planning.

The independent variable is considered as

- (1) Electronic study materials of KKHSOU are difficult to understand.

The ratings for these statements were based on a five-point rating agreement (Likert scale), (1 = strongly disagree, 5 = strongly agree).

Webster and Hackley (1997) while explaining the instructional characteristics stated that instructional implementation of the technology is more important for determining the effectiveness of learning. Again, Xiao *et al.* (2019) in their studies found that learners and instructors both found technology-mediated learning very beneficial for them and consider it as more accessible and supportive system for open education. They also supported OMO (online–merge–offline) model for its flexible interaction and re-useable lecture materials. However, in a study conducted on engineering students in India, Thakker *et al.* (2021) found many shortcomings of online tools like inconsistent quality of audio and video platforms, and of online Zoom or Google Meet as well. They found adaptability and technical soundness need to be improved to achieve high effectiveness.

So the next hypothesis is set to find whether the learners have found technology-mediated instructional implementation of materials beneficial for them or not.

- H2. The learners of management programmes of KKHSOU have not found technology-mediated platform beneficial.

The following statements have been considered for the dependent variable.

- (1) Issues encountered and benefits received in online interaction through WhatsApp, Telegram and Facebook Live.
- (2) I exchange communication in the online groups regarding quality of discussion in group.
- (3) Videos have clarified my doubts.
- (4) Videos can be recommended for future learners.

The independent variable is considered as

- (1) KKHSOU helps the learners to solve their problems through technology-mediated platforms

The ratings were based on a five-point rating agreement, (1 = strongly disagree, 5 = strongly agree).

As stated by Bransford *et al.* (2000), learners construct knowledge from their learning experiences. This suggests the value in sharing content prior to commencement of a counselling session in distance education and sharing it to the all participant is critical for dispersed classes (cited by DeLacey and Leonard, 2002). Hence, the third hypothesis selected for this study is to find whether there exists any positive communication with stakeholders (here stakeholder is considered as teacher, learner and counsellor).

- H3. The learners of management programmes of KKHSOU are not having positive communication with its stakeholders.

The following statements have been considered.

- (1) I could find meaningful ways to help my peer group to accomplishment of tasks related with course completion.
- (2) I exchange communication in the online groups regarding quality of discussion in group.
- (3) I do not express my views in the online group regarding quality of online interaction.
- (4) I prefer to keep myself indifferent in group interaction regarding matters on course administration.
- (5) I fully participate on the perspectives of a topic.

The independent variable is considered as

- (1) Our management programme group is characterised by cooperative relationships.

The ratings are based on five-point rating of agreement using Likert scale where 1 = strongly disagree to 5 = strongly agree.

Design and methodology

The study uses triangulation method covering literature review, personal interview and survey. The survey data have been collected through structured questionnaire in the Google Form administered on the learners of UG and PG programmes of management in KKHSOU. This study was conducted in the month of February 2022. The sample size is 101, and the sampling frame is within Assam. Select interviews (15 nos.) were also conducted with a cross-section of learners to capture the emerging shift in the learning path and the limiting factors of digital divide.

Determination of sample size

The size of the selection of the sample is considered based on the quantitative and qualitative approach. It is measured at 90% level of confidence for population size of 600 (total management learners of KKHSOU for 2021–2022 session) and it happens to be 83. But to rule out any incomplete response, 200 respondents were selected randomly and out of which 101 responses were received.

KKHSOU has offered two UG programmes (BBA and B. Com), two PG programmes (MBA and M. Com) and three diploma programmes [Diploma in Business Management (DBM), Diploma in Sales and Marketing Management (DSM) and Diploma in Human Resources Management (DHRM)] with a total enrolment of approximately 600 learners in all the programmes in 2021. All the currently enrolled learners are members of e-mentoring WhatsApp and Telegram groups created by the University. Moreover, a wide majority of them are members of the official Facebook group of the University.

In order to make it more inclusive and also to bring the issues of divide, interviews were conducted with the learners (15 numbers) on face-to-face mode. The learners considered for interview belongs to City Study centre of KKHSOU (Guwahati). The interview duration was about half an hour for each learner. Inferences are made based on the comments of majority of the learners. The total number of learners thus covered was 116. To that extent, this study uses mixed methods – qualitative and quantitative approach. The questionnaire pilot tested with 30 learners has 28 items. The validity and

reliability have been checked, and the Cronbach's alpha value is 0.819 for 22 items. The Cronbach's alpha value greater than 0.7 indicates the reliability of the questionnaire (Nunnally, 1978).

SPSS 20 statistical software has been used to analyse the data and frequency distribution, chi-square test and Pearson's correlation test have been used to arrive at the findings, substantiated by analytical inputs obtained from interactions with learners.

Designing the questionnaire

The questionnaire designed for this study consists of mostly closed-ended questions using nominal and ordinal scales and a few open-ended questions. A total of 28 questions were there in the questionnaire for quantitative survey. The questions are modified after pilot testing. For depth interview, only descriptive questions were asked.

Findings and discussion

The learners of the management programme are more adaptive to the technology-mediated learning platform, compared to the other learners. This has implications for learning motives and availability of mediating forces in the rural-urban setting. Interaction in WhatsApp and Telegram groups are mostly related with evaluation and course administration, rather than content and academic discussion. E-SLMs are widely used. Though promoted, AV lectures are not widely used. The most convenient digital device used by the learners belong to android phone (88.8%) followed by laptop (41.8%), desktop (11.2%), handset with SMS facilities only and other gadgets like headphone, earphone etc. (15.3%). The following figure (Figure 1) shows the data related to possession of digital devices.

The following figure (Figure 2) reflects the quantitative findings on digital divide for the learners' of KKHSOU. A total of 101 learners from Assam have been considered for the study. The questionnaire comprised questions related to data packs, cost of subscription and quality of Internet connection. The responses indicate that learners mainly used their mobile packs, 21% find it affordable to buy the data packs; however, 19% of them are of the view that the frequently changed price of data packs makes it difficult for them in financial planning. Though 19% of the learners believe that unavailability of the required connectivity hampered their learning through online mode, 20% of the learners disagree with the statement. Moreover, most of the learners are of the view that the unavailability

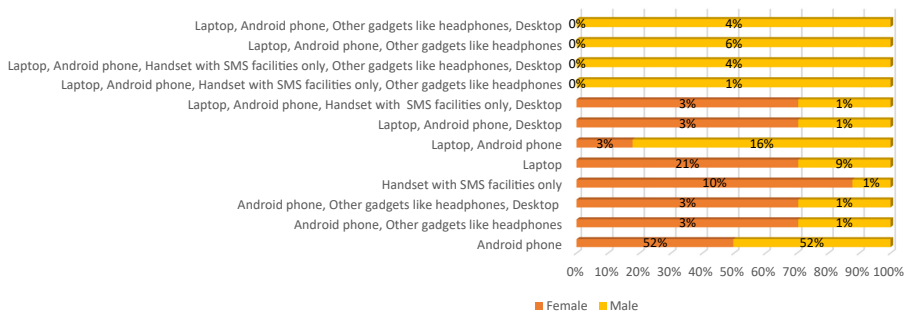
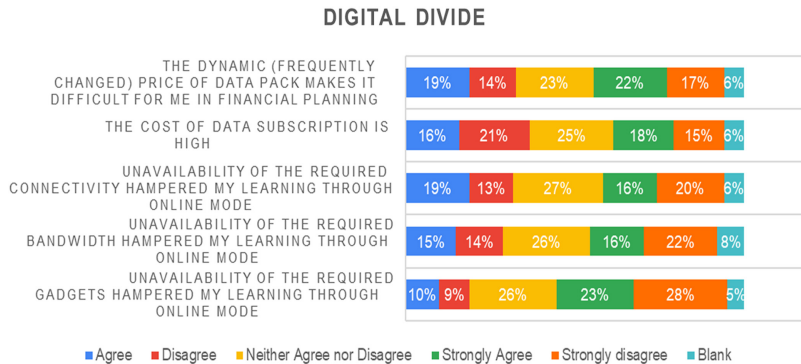


Figure 1.
Possession of digital
devices

Source(s): Figure by authors

Figure 2.
Constrained by digital divide



Source(s): Figure by authors

of the required bandwidth and gadgets does not hamper their learning through online mode.

Next, questions were related to benefits and use of technology-mediated platforms like videos, telegram, WhatsApp interactions, etc. These questions aimed to understand how videos, interactions and learning through other medium can help the learners. Remarkably, it was found that most of the learners found technology-mediated platform beneficial for them. [Figure 3](#) provides an overview of all learners' responses on benefits and use of technology-mediated platforms.

[Figure 4](#) shows the learners' responses on communication with their mentors and peers.

For the below mentioned statements, most of the learner shows positive communication among stakeholders.

- (1) I fully participate on the perspectives of a topic.
- (2) Our management programme group is characterised by cooperative relationships.
- (3) I prefer to keep myself indifferent in group interaction regarding matters on course administration.

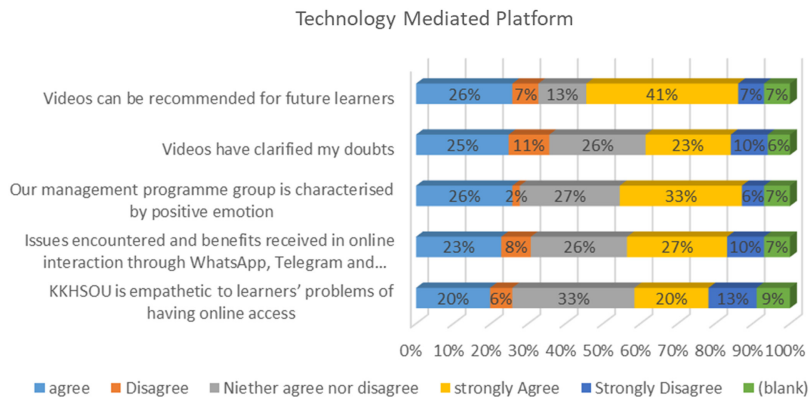
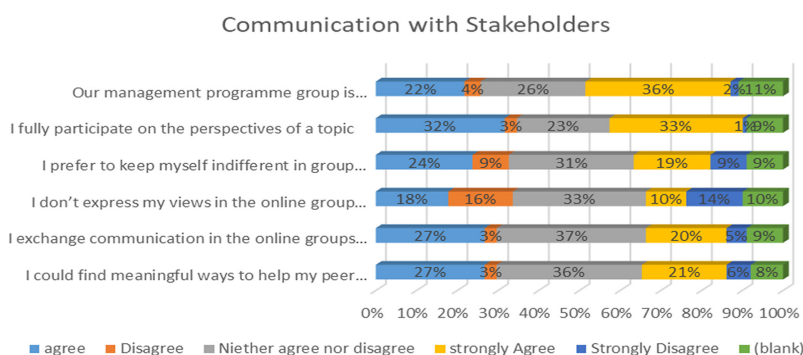


Figure 3.
Technology-mediated platform

Source(s): Figure by authors



Source(s): Figure by authors

Figure 4.
Communication with
stakeholders

- (4) I do not express my views in the online group regarding quality of online interaction.
- (5) I exchange communication in the online groups regarding quality of discussion in group.
- (6) I could find meaningful ways to help my peer group to accomplishment tasks related with course completion.

Furthermore, most of the learners were neutral to positive about helping their peer group to accomplishment of tasks related with course completion and exchanging communication in the online groups. Overall there has been a positive communication with their mentors and peers.

Also Pearson's correlation test has been employed to study:

- (1) the outcomes relating to effectiveness of teaching learning as learners' involvement and positive communication, usefulness of digital device, attitude towards technology-mediated distance learning and related benefits of technology-mediated distance learning for the learners of KKHSOU;
- (2) whether the learners have found technology-mediated instructional implementation of materials beneficial for them or not and;
- (3) whether the learners' of KKHSOU have positive communication with their stake holders.

To test our first hypothesis, Pearson's correlation test is done.

H1: The learners of management programmes of KKHSOU are constrained by digital divide.

It has been observed from [Table 1](#) that the values are significant. Hence, the null hypothesis **H1** can be rejected, and it can be concluded that unavailability of required gadgets, bandwidth problem, poor network connectivity, cost of data pack and frequent change of the price of the data pack are not creating any problems for the online learning of the ODL students. Though some of the learners have mentioned about the bandwidth problem and cost of data pack are high, but overall it is insignificant and learners are not constrained by digital device.

The Pearson correlation between Bandwidth problem and Hampered learning ($r = 0.787$, $p < 0.001$); Connectivity and Hampered learning ($r = 0.758$, $p < 0.001$); Connectivity and

Table 1.

Pearson's correlation test for hypothesis 1

	Unavailability of electronic gadget	Bandwidth problem	Connectivity problem	Data cost	Frequent price change
Unavailability of electronic gadget	1				
Bandwidth problem	0.787**	1			
Connectivity	0.758**	0.731**	1		
Data cost	0.455**	0.425**	0.506**	1	
Frequent Price change	0.498**	0.444**	0.559**	0.783**	1

Note(s): *Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed)

Bandwidth problem ($r = 0.731, p < 0.001$); Price Change and Data Cost ($r = 0.783, p < 0.001$) are found to be strongly correlated and significant.

While, Data Cost and Hampered learning ($r = 0.455, p < 0.001$); and Price Change and Hampered learning ($r = 0.498, p < 0.001$); Data Cost and Bandwidth problem ($r = 0.425, p < 0.001$); Price Change and Bandwidth problem ($r = 0.444, p < 0.001$) are moderately correlated.

For our second hypothesis,

H2: The learners of management programmes of KKHSOU have not found technology-mediated platform beneficial.

Table 2 shows, the Pearson correlation between e-SLM support and technology-mediated support ($r = 0.890, p < 0.001$) which is highly correlated; issues and online benefits ($r = 0.656, p < 0.001$); videos for future reference and online communication are moderately correlated with other factors. The values are significant. Hence, the study rejects the null hypothesis, and we can conclude that learners have found technology-mediated platform beneficial for them.

Most of the learners are in the age group of 25–50 years, and majority of them are working people and they have enrolled to a professional programme. As most of them are using technology at their work, it may be easier for them to use the technology-mediated platform. This result may vary for different sets of learners who reside in remote parts of the country.

	Technology-mediated support	E-SLM	Issues and online benefits	Videos	Videos for future reference	Online communication
Technology-mediated support	1					
E-SLM	0.890**	1				
Issues and online benefits	0.656*	0.444*	1			
videos	0.678*	0.340**	0.422*	1		
Videos for future reference	0.556	0.550*	0.557	0.690**	1	
Online communication	0.421*	0.474	0.631*	0.340**	0.390**	1

Table 2.

Pearson's correlation test for hypothesis 2

Note(s): *Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed)

For our third hypothesis,

H3: The learners of management programmes of KKHSOU are not having positive communication with its stakeholders.

From [Table 3](#), it has been observed that the *p*-values are significant, and most of them are positively correlated. Hence, we can reject our null hypothesis and conclude that learners of management programmes have a positive communication with their mentors and peers. They can easily interact with others and have cooperation among themselves.

The Pearson correlation of learners' online participation and helping of peer group is moderately correlated ($r = 0.547$ $p < 0.001$) while factors like "not active in online interaction in online discussion" with other variables like positive communication is not significant; "indifferent in online discussion" and "participation on the perspective topic" also does not have any significant relation.

Analysis of demographic variables and technology-mediated platform

[Maceviciūtė and Wilson \(2018\)](#) stated that low-income households, particularly those in rural or semi-urban areas, are disproportionately affected by digital inequality. According to research conducted by [Rashid \(2016\)](#), in five developing nations with the sample size of 5000, it was found that gender disparities in digital ownership are caused by infrastructure challenges, patriarchal mind sets and caste-based practises. But our study could not find any influence of demographic factors for ODL learners. The demographic variables considered for this study include age, gender, income and occupation of the learners. The results of chi-square tests are shown in [Table 4](#).

	Helping of peer group	Not active in online discussion	Indifferent	Participate	Positive communication
Helping of peer group	1				
Not active in online discussion	0.190	1			
indifferent	0.451*	0.395**	1		
participate	0.547**	-0.181	0.030	1	
Positive communication	0.597**	0.061	0.099	0.531**	1

Note(s): *Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed)

Table 3.
Pearson's correlation test for hypothesis 3

Variables	Test	Value	Degrees of freedom	Asymptotic. Significance.(2-sided)
Age and technology	Pearson chi-square	68.265 ^a	63	0.303
Gender and technology	Pearson chi-square	27.988 ^a	42	0.952
Income and technology	Pearson chi-square	76.315 ^a	63	0.121
Occupation and technology	Pearson chi-square	41.667 ^a	57	0.936

Table 4.
Chi-square test for technology-mediated platform with age, income, occupation and gender

Table 4 shows the chi-square values for different demographic factors. The study also found that there is no impact of demographic factors on technology-mediated platform which contradicts with the findings of Macevičiūtė and Wilson (2018).

Findings from in-depth interviews

The statistical inferences provided above indicate specific findings in terms of the hypotheses formulated for the study. We have come to know that the learners of KKHSOU have found the technology-mediated platform beneficial. Moreover, the mentor–mentee and peer communication also have been found useful by the learners. The general statements indicate a direction. Issues require probing. Hence, an attempt was made on developing an interview protocol for having a total approach. This section offers further in-depth analysis of issues related to the digital divide, concerns about platforms that are mediated by technology and stakeholder communications that were involved in the learning process. This section discusses the information that were obtained from the in-depth interview's open-ended question responses. The objective is to understand about effectiveness of faculty practices that help improve learning through ODL mode in a technology-mediated platform. Three broad areas were identified for interview protocol and accordingly, the guiding questions in the interview process included the following among others.

1. Learner preparedness and involvement

Briefly describe your preparedness as it relates to learning management based on SLM and supported by technology-mediated platform. What is your extent of involvement? How have you benefitted by the innovative counselling?

2. Institutional strategy and use of technology

What is the strategy at this institution for improving teaching, learning and assessment? Is it working – why or why not? Do you see a widening of the circle of participants here in this technology-mediated platform? Do you think inconsequential issues are only discussed?

3. Resources and motivation for instructional adoption

What resources are available to you for availing online learning? Have you encountered any problem with connectivity, upgradation of device, additional cost, grasping the content? How can barriers be overcome? What motivates you to participate in instructional adoption?

The discussions in the interview process helped in consolidating the findings from the survey instrument. Joo *et al.* (2013) in their study stated that for online university learner satisfaction is significantly dependent on persistence, achievement and perceived competence. Our study also finds similar findings for distance learners. In addition to the findings from hypotheses, the other key observations that emerged from qualitative analysis were as follows.

1. Learner preparedness and involvement

When asked the learners their preparedness on online learning in the technology-mediated platform, their responses are summarised as follows:

- (1) All the interviewed learners have the required gadgets; they downloaded the e-SLM from the KKHSOU website and also from KKHSOU mobile app and occasionally referred to them. However, they felt comfortable with print SLM, more specifically in courses like managerial economics, cost and management accounting and courses in the quantitative areas.

- (2) Case studies are an integral part of management education. The learners of KKHSOU are not administered enough cases for discussion. The learners appear to be satisfied with the mini cases or caselets provided at the end module of SLM. The open and distance learners are not interested in long and descriptive cases. They are also not aware of simulation exercises and application-oriented learning to that extent. The major motivation is to complete the programme without any back paper.
- (3) The learners took the mock tests, MCQs-based tests and online descriptive test during COVID 19. Though they could meet the requirements of evaluation process, none of the interviewed learners felt satisfied with the comprehensiveness. This is indicative of involvement and genuineness of learning.
- (4) While answering the first question, most of the learners agreed that they have benefitted from the technology-mediated learning platform for management programme. Regarding innovative counselling, scattered responses have been received. Some of the learners prefer synchronous learning and some prefers asynchronous learning. Some of the distance learners prefer counselling, while some learners prefer conventional classes. It could be because of transition from F2F to ODL. However, it was difficult to come to a conclusion by interviewing a small group.

2. Institutional strategy and use of technology

The learners are motivated to learn in the technology-mediated platform of KKHSOU as it has the flexibility of learning at their own time and pace. As most of the learners considered for this depth interview are working people, instead of going for face to face counselling, many of them prefer to go through e-resources; recorded videos were not reckoned as a preferred option though it was sensitised.

- (1) As per the learners, the strategy adopted by KKHSOU to reach the unreached learners through digital device is working but needs improvement. The learners suggested that there should be more OER which needs to be shared with them for each courses. Some of the learners also feel that mentor–mentee interaction is not enough and requires more interaction.
- (2) As all the learners are participating in technology-mediated platform, they see a widening of the circle of participants.
- (3) Learners agree that the digital resources they receive are as per their curricula, and no inconsequential issues are discussed during counselling sessions.

3. Resources and motivation for instructional adoption

While answering the question 3, the list of resources available to learners as mentioned by them are:

3.1 List of resources

The learners of KKHSOU can avail many electronic resources from the University repository. The list of resources mentioned by the learners for their online learning is as follows:

- (1) YouTube video lectures on selected subjects at KKHSOU YouTube channel.
- (2) E-SLM which is available in University website.

- (3) Online counselling sessions, where some of the learners are not satisfied with the number of online counselling session.
- (4) Facebook Live classes which faculty members have conducted during the time of lockdown of the country for pandemic COVID 19.
- (5) The university website (www.kkhsou.in) is helping them in getting required information like downloading of assignment, old question paper, project guidelines, examination admit card etc.
- (6) Learners had also mentioned about the mobile application of KKHSOU which helps them in e-learning and other online activities of the university.
- (7) They have also mentioned the digital library facility of the university.
- (8) SMS, email, WhatsApp and telegram group of the university which provides updated news and learner related information.
- (9) Learner can redress their grievances by communicating to concerned authority through the official email addresses given in the university website (www.kkhsou.in).

3.2 Problems faced by learners while using digital device

The problems mentioned by the learners are quite similar to the problems mentioned in the survey response, like problems with bandwidth, cost of data etc. Some of the learners mentioned that technical problems delayed their learning like electricity power cuts. They also mentioned about family disturbance at home, sharing device with siblings, no interaction with friends and teachers are some others negative aspects mentioned by the learners. They had also mentioned that they prefer face to face counselling compared to online counselling as some of the subjects like accountancy and mathematics are easy to understand while explained in board and some of them also mentioned that they miss eye contact of the instructor in online counselling.

3.3 Overcoming the barriers

Some of the learners suggested that university can provide free tablet to the learners loaded with all the required e-resources. As university has its own learning management system (LMS) in a semi-functional state, some learners are benefitted from that service also. Some of the learners suggested more of OER should be added to the LMS.

3.4 Motivation to participate in instructional adoption process

Technology-mediated distance learning is gaining popularity in business curricula ([Webster and Hackley, 1997](#)). As many of the learners are working professionals from both public and private sector, they mentioned that this ODL management programme will help them in their job improvement, increment in pay scale and promotion.

Implications for educators

In the last two years of pandemic, the educators have faced a number of challenges amidst uncertainties and ambiguities on what is ahead. However, their commitment to teaching and learning has to be more alive than ever. They have to develop as educators and people as well. Learning the new age techno-savvy skills is one challenge and applying them to make learning effective is another formidable challenge. The study has provided important clues in terms of assessment of genuineness of learner needs and incorporating technical

interventions for value addition and programme development for the existing managers and future managers as well.

- (1) The management educators need to learn more about effective communication on social media. Technology-mediated social media platforms have been used extensively in terms of more of “clicks”, rather than “going deep”. The learners expect their technology-mediated groups (more specifically the instructors) to continually inform them about the dates of submission of assignments and university notifications though they are prominently displayed in the University website.
- (2) The talent of the students cannot be challenged in WhatsApp and Telegram e-mentoring groups; like the way it could be done in LMS mediated platforms. A wide majority of learners remain shy to challenge the status quo and how to use innovation as a way to solve learning issues. This makes it difficult to make the teaching practices equitable and inclusive.
- (3) When India first faced lockdowns due to COVID-19, the ODL institutions too had to quickly pivot from SLM-based model to adoption of technology-mediated platform. Convocations were delayed, examinations were postponed and administered online later. The shift reshaped internship and placement, impacted adoption and infrastructure investments for long-term effects on management education. It required ability to transition and to combat challenges with connectivity and device malfunctions. The learners face problems with laptops, handsets and bandwidth expansion, and own training.
- (4) Online etiquettes and acquiring required behavioural norms take time for the new adopters. To that extent, while moderating group interaction, the educators need to be extra careful.
- (5) As suggested by [Singh \(2022\)](#) for improving design and delivery of courses, lean methodology can be used. In India, the design and delivery of courses are subject to the regulations and guidelines issued by the Distance Education Bureau of University Grants Commission. With adequate flexibility, if the lean principles could be integrated, it would lead to enhanced learner satisfaction, standardised ways of administering assignments and conducting examination processes with greater consistency of teaching learning and removal of non-value added activities in management curriculum.

Conclusions and future implications

Because of COVID-19 pandemic, most of the institutions are providing e-learning sessions to learners, but the credibility of the classes is at stake. As the students and teachers both are not trained in this system, proper training and strategy is needed in future for successful implementation of e-learning ([Bozkurt and Sharma, 2020](#)). The learners’ concerns of having access to learning resources, responding to their stated needs and fatigue-related issues need to be addressed with empathy while transitioning a shift for the learners from the SLM-based learning to a blended mode using networked learning as suggested by [Xiao et al. \(2019\)](#). In an institution imparting management education, the quality of knowledge developed within it determines the quality of its output. From this point of view, the pedagogical challenges on the faculty are quite high.

Our study on shifting of learning path from the SLM-based only alternative to technology-mediated platform in management education has found that though the learners are heterogeneous, the demographic differences have not been significant in use of technology-

mediated ODL platform. It has been observed that unavailability of required gadgets, bandwidth problem, poor network connectivity, cost of data pack and frequent change of the price of the data pack are creating problems for the online learning of the ODL learners while accessing the E-SLMs and video lectures. The learners rather prefer digital device in ODL platform because of its flexibility. Interaction in WhatsApp and Telegram groups are mostly related with evaluation and course administration, rather than content and academic discussion. E-SLMs are widely used. Though promoted, video lectures are not widely used. This has implications for actualising the full potential of the shift in learning path to technology-enabled ODL platform. As a wide majority of the learners are dependent on small screen; print SLM and E-SLM on a larger screen can provide augmented learning in case of complex topics like analysis of financial statements, project scheduling etc. The digitally constrained learners still look for solutions to complex learning problems mainly through print SLM and counselling. Further research in this regard is worth exploring to improve our understanding in imparting management education by using technology-enabled devices.

Notes

1. <http://www.ignou.ac.in/ignou/aboutignou/profile/>
2. <https://braou.ac.in/#gsc.tab=0>
3. <https://www.statista.com/statistics/255146/number-of-internet-users-in-india/>

References

- Bransford, J.D., Brown, A.L. and Cocking, R.R. (2000), *How People Learn*, National Academy Press, Washington, DC, Vol. 11, p. 80.
- Bozkurt, A. and Sharma, R.C. (2020), "Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic", *Asian Journal of Distance Education*, Vol. 15 No. 1, p. 3.
- DeLacey, B.J. and Leonard, D.A. (2002), "Case study on technology and distance in education at the Harvard Business School", *Journal of Educational Technology and Society*, Vol. 5 No. 2, p. 4.
- Goyal, J.K., Daipuria, P. and Jain, S. (2021), "An alternative structure of delivering management education in India", *Journal of Educational Technology Systems*, Vol. 49 No. 3, pp. 326-327.
- Joo, Y.J., Lim, K.Y. and Kim, J. (2013), "Locus of control, self-efficacy, and task value as predictors of learning outcome in an online university context", *Computers and Education*, Vol. 62, p. 149.
- Kanwar, A. (2017), "Can open learning transform society?", p. 1, available at: <https://oasis.col.org/collection/api/core/bitstreams/630d4f40-3106-4f46-b5b0-31435cff5331/content>
- Maceviciūtė, E. and Wilson, T.D. (2018), "Digital means for reducing digital inequality: literature review", *Informing Science: The International Journal of an Emerging Transdiscipline*, Vol. 21, pp. 281-282.
- Müller, F.A. and Wulf, T. (2020), "Technology-supported management education: a systematic review of antecedents of learning effectiveness", *International Journal of Educational Technology in Higher Education*, Vol. 17, pp. 1-4.
- Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw Hill.
- Rashid, A.T. (2016), "Digital inclusion and social inequality: gender differences in ICT access and use in five developing countries", *Gender, Technology and Development Policy Review*, Vol. 20 No. 3, pp. 310-314, 326.
- Singh, S. (2022), "Process improvement approach to transform online business education in the post-COVID world", *Journal of Learning for Development*, Vol. 9 No. 2, pp. 363-369, available at: <https://jl4d.org/index.php/ej14d/article/view/693/792>

-
- Tadesse, S. and Muluye, W. (2020), "The impact of COVID-19 pandemic on education system in developing countries: a review", *Open Journal of Social Sciences*, Vol. 8 No. 10, pp. 159-161.
- Thakker, S.V., Parab, J. and Kaisare, S. (2021), "Systematic research of e-learning platforms for solving challenges faced by Indian engineering students", *Asian Association of Open Universities Journal*, Vol. 16 No. 1, p. 16.
- Webster, J. and Hackley, P. (1997), "Teaching effectiveness in technology-mediated distance learning", *Academy of Management Journal*, Vol. 40 No. 6, pp. 1282-1283, 1287.
- Wu, Y.C.J., Pan, C.I. and Yuan, C.H. (2017), "Attitudes towards the use of information and communication technology in management education", *Behaviour and Information Technology*, Vol. 36 No. 3, pp. 243-244.
- Xiao, J., Sun-Lin, H.Z. and Cheng, H.C. (2019), "A framework of online-merge-offline (OMO) classroom for open education: a preliminary study", *Asian Association of Open Universities Journal*, Vol. 14 No. 2, pp. 136-139.
- Zuhairi, A., Karthikeyan, N. and Priyadarshana, S.T. (2020), "Supporting students to succeed in open and distance learning in the Open University of Sri Lanka and Universitas Terbuka Indonesia", *Asian Association of Open Universities Journal*, Vol. 15 No. 1, p. 19.

Corresponding author

Smritishikha Choudhury can be contacted at: smritichoudhury@kkhsou.in