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Digital Technology Applications In Management Education: A Futuristic Model Of Blended Learning

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Abstract
For choosing education technologies there is a need to have changes in the realism of digitalization. Without using digital technologies, the process of modern education system is not possible. Digital technology in education system have led to arousal of development of blended learning. However, it is not just the technology that determines its effectiveness. It is not just the knowledge-provider but the co-creator of information, an assessor, and a mentor as well. The lives of students and teachers have become easier with the development and improvement of technology. Students and teachers today are using technological tools, software for creating presentation and projects rather than pens, and papers. The system of blended learning has now spread all around the world. Online learning is a part of blended learning and is a developed technique of learning, which include ordinary teaching system as well as advanced and modern learning and teaching. Online system of education is found to stay for longer time and in future as per the consensus by conducted interviews and surveys. Online blended learning optimizes the benefits of traditional teaching methods while enhancing access to online learning resources. It also broadens student access to education and helps professors refine their skills in adapting assessments for digital formats. Study survey was conducted among 213 people from management studies to know the applications and impact of digital technology in management education and the study concludes that there is significant impact of digital technology on management education of blended learning.
Keywords: *Digitalization, education, Digital classroom, Digital technologies, Blended learning*

INTRODUCTION

The beginning of innovation in modern world is featured by substantial speed. Most of technological inventions are associated with the digital technology development. Digital technology in schools and colleges refers to gadgets and software that are made to assist students and teachers with specific needs of accessibility. One of the most effective methods of reducing number of repetitions, duties that consume lot of time that are undertaken by teachers is to use such technology. Application of educational technology would save lot of energy and time by automating everyday operation such as tracking of attendance and monitoring the performance of students. Integrating educational technology into daily school operations can streamline and simplify numerous administrative tasks, freeing up time and conserving energy for both educators and students. Automation, in particular, allows routine activities like attendance tracking and performance monitoring to be handled more efficiently, reducing the need for manual oversight and enabling more precise data collection and analysis. Electronic devises and software are used in digital classrooms for giving instructions to students and for incorporation of technology in education system. Through technological tools, internet and computers a traditional classroom is converted into digital classrooms. With the help of technological tools and equipment students can learn more efficiently and can track their performance more easily (Haleem et. al., 2022). The system of blended learning has gained importance because it is different old and tradition method of teaching and it is very much liked by learners who are technical savvy, and can be customised fir every single learner. Blended learning systems provide students with the unique advantage of flexibility,

allowing them to access educational resources and engage with material at their own pace, style, and comfort level. This hybrid approach, which combines online learning with traditional face-to-face instruction, offers a wide array of benefits tailored to meet the diverse needs of learners, supporting both independent learning and teacher-guided activities. Blended learning system offers flexibility, permitting students to access study material at any time and from anywhere as well as enjoying face-to-face teacher's instruction and their support (Iyer, et al., 2024). The approach of blended learning is providing the atmosphere which is beneficial for students as well as teachers. It has the capacity of enhancing involvement of students, providing them the adaptability, and individualise the learning process, which is encountered by margining online learning with traditional education system. It provides substantial level of customization permitting students and teachers to meet wide range of curriculum, institutional goals, requirements and ambitions. It depends on condition as to whether or not it is been utilized by all different groups. A thorough review and re-evaluation of the course curriculum is essential before proceeding with the implementation of blended learning (Ghosh & Ghosh, 2024). The changes in nature and scope of education are being brought by digital technologies and have led to educational system to adopt strategies and policies for integration of ICT. This has raised concerns about the quality of teaching and learning with ICT, particularly in relation to understanding, adapting, and designing education systems to align with current technological trends. The integration of technological tools, and software in education system is complicated and continues process impacting everyone in ecosystem of school. The interactive nature of online content and the use of multimedia (videos, podcasts, quizzes, etc.) in blended learning enhances student engagement. The variety of learning methods keeps students interested, motivates them to participate actively, and encourages self-directed learning. There is a requirement to show how such impacts are interrelated and recognize the elements that motivate an effective and efficient transformation in the environment of schools (Timotheou et. al., 2023). Using digital technology in educational system is the area of research cutting across multiple educational and technical domain and continues to experience growth dynamically because of the growing progress of technology. Amongst the worldwide digital transformation of education system, digital technology and blended learning system has appeared as a substantial area if interest among researchers. These technological tools and software are playing important role towards the enhancement of performance of learners and improving the efficacy of students as well as teachers. These digital technologies also support the sustainability and stability of education during epidemics. Technology plays a crucial role in enabling education to evolve and improve, while current societal needs serve as a strong catalyst for adopting new technologies and advancing the transformation of the education system (Wang et. al., 2024, Mittal, 2021).

LITERATURE REVIEW

Bakshi & Udayana (2022) highlighted that development of technologies like augmented reality, virtual reality as well as novel gamification approach would help in creating a totally new environment of education that results in blended and adaptive learning. Resources that are student appropriate like gamification and application needs to be development for fun-based learning. The system of blended education includes exchanging of ideas, and group discussion, virtual classrooms, e-libraries, virtual laboratories, learning lectures on you-tube, learning through audios and videos, reading and making educational videos and blogs. Virtual classrooms provide a structured learning environment that can simulate the in-person classroom experience, allowing teachers to share presentations, conduct quizzes, and monitor student engagement in real time. Fun-based learning and blended education have revolutionized how students engage with educational content, integrating technology and interactive experiences to enhance traditional learning methods. Many educational institutes are providing huge opportunities for building of capacity of teachers at almost every stage of education through refreshing courses. In addition, numerous workshops and webinars are being organized and launched to keep teachers updated. Ashrafd et.al. (2021) stated that blended learning is now used in education system very commonly for promotion of active learning and for enhancing learning outcomes of students. Psychological and behavioural outcomes of students can be affected positively by blended learning. In terms of psychological outcomes, blended learning can improve students' self-regulation, satisfaction, and engagement across various learning domains, particularly in health. Blended learning environments

encourage students to take charge of their own learning by providing more control over when, where, and how they learn. This autonomy fosters self-regulation skills, as students are required to set goals, manage their time, and stay motivated without constant supervision. From a behavioural perspective, it has supported students' academic performance across multiple subjects. However, teachers, students, and institutions often face challenges, particularly a lack of ICT skills and infrastructure.

Kintu, Zhu & Kagambe (2017) revealed that to undertake innovative pedagogical approaches it is necessary to have effective blended learning environment by using technological tools in teaching and learning process. Examining features and background of learners, design features, and outcomes of learning are essential factors for effectiveness that can assist to inform the design effective environment of learning involving face-to-face teaching and learning sessions. Learners with clear career-oriented goals, such as those in vocational programs, may be more motivated by practical, applied learning opportunities. Understanding students' motivations allows designers to integrate goal-relevant content, practical assignments, and real-world applications that resonate with learners. The student characteristics and blended learning design features examined in this study are key factors in determining the effectiveness of blended learning. Napate, Maity & Baheti (2020) found that instructional learning can be enhanced by digital transformation of educational system, mainly higher education by developing blended learning experience combining traditional method of learning with modern system of technology. As the system of education is becoming more competitive, digital transformation has become essential for survival in the market that need teachers and educators to get adapted and familiar with technological tools, and methodologies. Blended learning environments, which offer a mix of online and in-person learning, provide students with significant autonomy and flexibility. These settings allow students to engage with content at their own pace, manage their time according to individual preferences, and choose which learning activities to prioritize. However, these benefits also demand strong self-regulation skills—such as planning, time management, self-motivation, and the ability to stay focused—which not all students naturally possess. Without adequate self-regulation, students may struggle to keep up with course requirements, fully engage with content, or meet academic expectations. The digital transformation process involves implementing information technology projects alongside key organizational elements, including top management support, a clear digital transformation strategy, and organizational change initiatives. Park & Doo (2024) explored blended learning and referred it as a combination of traditional classroom method of instructions and digital methods, and found it the optimal way of learning and teaching. In blended system of teaching and learning, educators must stimulate and develop interaction among students and instructors. In order to provide students autonomy and flexibility in learning, blended learning needs them to be able to self-regulate themselves. However, not all learners possess strong self-regulation skills. Blended learning environments, which offer a mix of online and in-person learning, provide students with significant autonomy and flexibility. These settings allow students to engage with content at their own pace, manage their time according to individual preferences, and choose which learning activities to prioritize. However, these benefits also demand strong self-regulation skills—such as planning, time management, self-motivation, and the ability to stay focused—which not all students naturally possess. Without adequate self-regulation, students may struggle to keep up with course requirements, fully engage with content, or meet academic expectations. Therefore, to ensure successful blended learning, it is essential to provide support that helps these students thrive.

Almufarreh & Arshad (2023) studied that developing technologies are transforming more frequently than ever before, and it is necessary to build skills as early as possible in education by utilising right technical tools. The use of e-learning tools and technologies in low-literacy, third-world nations are truly beneficial. Moreover, these tools can meet the educational needs of learners at all levels, regardless of location or time. A substantial number of people are now learning through digital tools and software, which is making classes more engaging, effortless and also saving time. These technologies are crucial for addressing the pressing challenges related to the use of big data in the current educational system, including instructional practices, ethical considerations, and the sociocultural aspects of education.

El-Mowafy, Kuhn & Snow (2013) stated that blended learning would combine old teaching and learning system of education with digital tools and technologies for maximisation of understanding of theory, practical, knowledge and for development of technical and professional skills. Some of the elements of

blended teaching and learning like flip teaching and collaborative learning are effective for enhanced and active involvement of students. Flip teaching and collaborative learning stand out as approaches that actively engage students, promoting deeper involvement in the learning process and enhancing retention. Students can engage with new material at their own pace outside of class. They can pause, rewind, or revisit content as needed, which accommodates different learning styles and speeds, making learning more personalized and accessible. Wang et al., (2023) found blended learning as an inventive pedagogical model that needs the application of developing methods in practices to meet particular requirement of pedagogy. Blended system of teaching and learning have overcome the shortcomings of passive learning system in traditional and physical educational system and have also enhanced learning experience of students. It had built problem-solving skills by optimising the blend of numerous modes of learning. Improving teachers' skills and perceptions is essential. Additionally, researchers are clearly focused on understanding student perceptions of blended learning and its impact on learning outcomes. Many teachers and students have found instructional designs and digital literacy and its competence as a challenge. It suggests that educators need proper training to improve their level the design of course and management of online classes that also include multiple technologies as instructional tool of support and learning designs activities at different level of blended learning. Nurtayeva et al., (2023) found that the way educational system develops is changing and is largely determined by digital technology introduction and the wish to bring improvement in the efficacy of management of education process in institutes. However, digital technologies are used not only to conduct classes but also to organize the learning process and perform functions like supervision, control, and monitoring. It is crucial to focus on helping academic staff and students adapt to these technologies within the educational environment. In blended or technology-enhanced learning environment, effectively integrating digital tools requires careful attention to the needs and readiness of both academic staff and students. Technology adoption can present challenges, such as varying levels of digital proficiency and resistance to change, which can impact the learning experience if not properly addressed.

Objective

1. To know the applications of digital technology in management education.
2. To know the impact of blended learning in management education

METHODOLOGY

Study survey was conducted among 213 people from management education sector to know the applications and impact of digital technology in management education. “Random sampling method” along with “T-test” were used to collect and analyse the data.

Data Analysis

In the total population of study survey males are 57.3% and females are 42.7%. 32.4% of them are below 21 years, 38.5% comes under the age group of 21-28 years and rest 29.1% are above 28 years of age. 14.6% are from management stream, 23.0% from finance, 24.3% from data science, 22.1% from operations and rest 16.0% are from other streams of management education.

“Table 1 General Details”

“Variables”	**“Respondents”**	**“Percentage”**
Male	122	57.3
Female	91	42.7
Total	**213**	**100**
Age (years)		
Below 21	69	32.4
21-28	82	38.5
Above 28	62	29.1
Total	**213**	**100**
Streams		
Management	31	14.6
Finance	49	23.0
Data science	52	24.3

Operations	47	22.1
Others	34	16.0
Total	**213**	**100**

Table 2 Applications of Digital Technology and blended learning in Management Education

"S. No."	**"Statements"**	**"Mean Value"**	**"t value"**	**"Sig."**
1.	Digital technology allows students to access video lectures, webinars, and presentations online	3.17	2.525	0.006
2.	Student interaction and engagement outside of class is facilitated through Interactive Online Tools	3.12	1.793	0.037
3.	Document sharing, and real-time communication among students is supported through Collaborative Workspaces	3.15	2.277	0.012
4.	Group discussions during online segments of blended learning is supported through Video conferencing software	3.13	1.934	0.027
5.	Educators are able to monitor student's performance through digital platforms and tailor their teaching approach	3.18	2.722	0.004
6.	Digital technology provides targeted feedback and support to individual students	3.16	2.379	0.009
7.	Examinations and grading are facilitated through Assessment and Evaluation tools	3.15	2.251	0.013
8.	Provide hands-on experience in strategy and decision-making	3.21	3.165	0.001
9.	Digital technology help build skills in a dynamic, engaging way	3.22	3.276	0.001
10.	Enhances student interaction through various interactive technologies	3.17	2.576	0.005

Table 2 is showing different Applications of Digital Technology and blended learning in Management Education where the respondent says that Digital technology help build skills in a dynamic, engaging way with mean value 3.22, Provide hands-on experience in strategy and decision-making (3.21), Educators are able to monitor student's performance through digital platforms and tailor their teaching approach (3.18) and Digital technology allows students to access video lectures, webinars, and presentations online and Enhances student interaction through various interactive technologies with mean value 3.17. The respondent also says that Digital technology provides targeted feedback and support to individual students with mean value 3.16, Document sharing, and real-time communication among students is supported through Collaborative Workspaces and Examinations and grading are facilitated through Assessment and Evaluation tools with mean value 3.15, Group discussions during online segments of blended learning is supported through Video conferencing software (3.13) and Student interaction and engagement outside of class is facilitated through Interactive Online Tools (3.12). All statements pertaining to Applications of Digital Technology in Management Education exhibit statistical significance, with p-values below 0.05 following the application of a t-test.

CONCLUSION

Blended learning is a combination of online and offline learning system and they both complement each other. It integrates both real-time as well as self-paced learning experience, allowing students to access study material virtually, getting engaged with educators, and completing their assignments online. One of the single most challenge faced in blended learning is this concept is not yet fully understood by both educators and students. Blended learning extends face-to-face instructions to virtual system. Blended learning, combines traditional classroom instructions with online learning provides inventive approaches as well as strategies addressing challenges faced by educational institutes while leveraging new opportunities of teaching and learning. In order to fully understand the advantages of blended learning and to deal with its limitations, educational system must take important steps for integration of this digital technology in their education learning system. It also includes examining the required digital tools,

training of teachers, and designing the curriculum that can blend in effectively in learning system. This futuristic approach support personalized experience of learning, enhances involvement as well as provides wider access to learning resources visions beyond classroom. With the integration of digital technologies, educational institutes can adopt a learning environment that would develop analytical as well as technological skills important for modern education management. However, to reach blended education to its full potential, adaptation, and upgradation of infrastructure are high essential. The study was conducted to know the applications and impact of digital technology in management education and found that Digital technology help build skills in a dynamic, engaging way, Provide hands-on experience in strategy and decision-making, help Educators to monitor student's performance through digital platforms and tailor their teaching approach and Digital technology allows students to access video lectures, webinars, and presentations online and Enhances student interaction through various interactive technologies. The study concludes that there is significant impact of digital technology and blended learning in management education of blended learning.

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