# MOOC-based learning for human resource development in organizations during the post-pandemic and war crisis: a study from a developing country perspective

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## Abstract

**Purpose** – Human resources (HR) management has encountered unforeseen obstacles and issues in recruiting, retaining, training and developing workforces under the "new normal" due to pandemic circumstances followed by the Russo–Ukrainian War and global economic turmoil. As the world is now well-equipped with technological advancements and internet-based connectivity, many pandemic disruptions have been avoided through rapid adaptation of technological systems. Despite the constructive outcomes of this contemporary approach to learning and development (L&D), this study explores the further depths of massive open online courses (MOOC) platform adoption in human resource development initiatives during pandemic times.

**Design/methodology/approach** – A qualitative research approach was adopted to understand the employee and HR perspective on the changes in L&D approaches in organizations. To gather the primary data, respondents were divided into two clusters; different sets of questionnaires were developed for interview sessions.

**Findings** – Results suggest that employee L&D was much more improvised with distance or online learning, including organizational e-learning systems and MOOC platforms. To accomplish their HR development goals, organizations went through significant transformations during the Coronavirus pandemic; organizational attempts to initiate online training and MOOC-based learning fostered positive results in employee capacity development, process improvement, employee engagement and motivation.

**Originality/value** – This research will assist organizations in developing interactive training methods as an effective replacement for traditional training. Additionally, it will assist readers, practitioners and HR specialists in understanding how MOOCs are changing the L&D ecosystem.

**Keywords** MOOCs, Russo–Ukrainian war, COVID-19, Economic turmoil, Self-directed learning, Future of work

**Paper type** Research paper

## 1. Introduction

The future of learning is here. With increased technological fluency and reliance on the Internet, the world has entered the era of digital transformation of education; a shift from traditional to modernized curricula of learning. However, the recent COVID-19 pandemic and mass-scale lockdowns prompted the use of digital learning platforms, along with the ever-increasing number of individuals depending on online education. This transformation of education (Cloete *et al.*, 2021; Shahriar *et al.*, 2021), learning and development (L&D) practices (Mikołajczyk, 2022) at the same time created a new scope for the local and international massive open online course (MOOC) platforms.

During the pandemic, MOOCs based on self-directed learning (SDL) became very popular for skill development, especially among the youth. To sustain the continuity of business activities and operations, organizations had to move toward digital approaches during COVID-19. Consequently, communication, support services, human resource operations, including recruitment, compensation and benefits and employee training and development programs, have gone through a radical transformation. According to ILO (2021a, b), the COVID-19 pandemic, lockdown and physical separation measures eventually catalyzed distance learning innovation.

After overcoming the pandemic crisis, companies were working to increase their business, but the current economic situation of the country and the impending international war situation made the companies really worried about the future. The situation in a developing country like Bangladesh is more complicated due to high inflation, a strain on foreign exchange reserves, an escalating current account deficit, pressure on the US dollar exchange rate, and a decline in remittance growth (Raihan, 2022). Given the current budget constraints for human resource development (HRD), employers have begun to embrace online-based self-directed learning (SDL) initiatives for employee skill development.

In Bangladesh, some of the global MOOC platforms like Coursera, Udemy, edX, etc., along with some local platforms, have become very popular during the coronavirus pandemic, and learners are now considering them as the sustainable alternative to face-to-face skill development programs. Though some researchers argued over the feasibility and effectiveness of online learning in a developing country like Bangladesh (Rouf *et al.*, 2022; Islam *et al.*, 2020), as an open source of universal learning offered by universities and other learning institutions, MOOC-based online learning processes ushered in a new era of skill development.

This particular paper focuses on the adoption of MOOC-based SDL practices for employee skill development in the context of the ongoing COVID-19 pandemic.

## 2. Literature review

### 2.1 Massive open online courses (MOOCs)

MOOCs are a unique model of online-based distance learning where anyone can participate from anywhere; these platforms are also considered as a contemporary mode of digital workplace learning (Egloffstein and Ifenthaler, 2017). Most of the course provided by the MOOC platforms are meticulously designed cutting-edge learning program based on the concept of globalization and the massification of equal learning opportunities for distance learners worldwide. These instructive courses are principally designed by universities, renowned institutions, and subject-matter experts with credentials and offered via MOOC platforms. These courses are mostly open and accessible to anyone who wants to take a course (Johnston, 2014). MOOCs are often based on parts of an existing institutional degree, professional certification, or skill development program with an online assessment process.

Online-based education has for learning new become essential skills to prepare oneself for the changing, competitive labor market. And MOOCs have played an indispensable role in

distance learning (Wong and Zhang, 2018), especially during the pandemic. Some researchers mentioned the emergence of MOOCs as a paradigm shift (Sadhasivam, 2014) in the learning experience as it has made learning more accessible, cost-effective, and spontaneous for all (Shahriar *et al.*, 2022b); Simultaneously, researchers further argue that MOOCs can solve training-related problems for organizations (Hamori, 2018). Thus, the number of MOOC based online learners is increasing day by day (Zhu, 2021).

> Massive open online courses (MOOCs) have generated enthusiasm, excitement, and hype worldwide and recently increasing skepticism – Fischer (2014).

During the Corona crisis, massive open online courses (MOOC)-based learning emerged as a critical component of global SDL. According to a study, some of the global MOOC platforms like Udemy and Coursera saw 400–640% growth in enrollments during the first wave of the pandemic (Impey, 2022). As an open source of global learning, MOOC platforms are getting popular in Bangladesh, particularly among corporate employees.

### 2.2 MOOC and self-directed learning (SDL)
The MOOC-based learning ecosystem is a bit different from the traditional face-to-face learning environment (You, 2019). It is more of a self-directed learning (SDL) environment, where, the instructor and the learner are connected virtually, so the learner's self-management and self-motivation play a key role in the success of the outcomes.

SDL is simply a process of systematic learning where the learner takes responsibility for and manages his or her own learning. As SDL integrates self-management, motivation and self-monitoring (Garrison, 1997), experts used to associate it with adult education. However, educators and researchers worldwide have recently focused more on the importance of SDL in online-based distance education (Zhu and Bonk, 2019a, b; Bannert *et al.*, 2015; Ainoda *et al.*, 2005; Wolters, 2003). In a recent study, Zhu (2021) tried to explore MOOC instructors' strategies to facilitate learners' self-management skills for self-directed learning. Some tried to explore the relationship between the SDL model of Garrison (1997) and MOOCs (Zhu *et al.*, 2020). Self-motivations, self-achievements and a sense of challenge matter in an open educational environment like MOOCs (Bonk and Lee, 2017).

## 3. Research objective
COVID-19 has brought massive and timely changes to organizations' working processes and employee work patterns from 2019 to 2022, and these changes are likely to prevail and can escalate in upcoming years; therefore, the transformed L&D practices are likely to last longer than any anticipations. This paper attempted to understand the adoption of global MOOCs platforms for enhancing professional development and employability skills during the ongoing COVID-19 pandemic from the perspectives of human resources (HR), employees and academia.

## 4. Methodology
This study is exploratory in nature; therefore, the study team decided that qualitative research applications would be most useful in tracing the employee and HR perspective toward the changes. Thus, this primary research applies a qualitative approach, and one of the most important qualitative data collection procedures is the interview (Qu and Dumay, 2011). As in-depth interviews provide insights into respondents' experiences and feelings (Alvesson, 2003), primary data were collected via in-depth interviews. Initially, based on their homogeneity, interviewees were divided into two clusters, Cluster A and Cluster B. Considering two phases of data collection, one for each cluster, two different sets of

questionnaires (both open-ended and closed-ended questions) were developed for the interview sessions.

*Cluster-A:* A total of 19 key informants working in HR-L&D or HR planning and culture departments were recruited via the snowball sampling method. Participants from "Cluster A" were interviewed from March 2022 to May 2022.

*Cluster-B:* A total of 33 employees (who have been engaged with MOOC-based self-directed L&D practices during this COVID-19 pandemic) with a minimum of three years of working experience were selected via a purposive or judgment sampling technique. All respondents from Cluster A were interviewed between April 2022 and June 2022.

## 5. Analysis findings and discussion

### 5.1 COVID-19 and world in 2019–2022

The Coronavirus (2019-nCoV) or COVID-19 pandemic is mentioned as the biggest health disaster of the 21st century; it is one of the most difficult collective challenges for humanity after the Second World War (Al-Omoush *et al.*, 2020; Krogh *et al.*, 2020; Towns *et al.*, 2020). Starting from Wuhan, a city in China by the first week of May 2020, it had affected almost every country and territory around the globe. According to the website of Johns Hopkins University (2022), as of April 02, 2022, it had infected a total of 489,636,920 people and caused 6,148,664 global deaths. However, according to the WHO (2022) website, the total number of confirmed cases is 486,761,597, including 6,142,735 global deaths as of the same date. In Bangladesh, as of April 2022, according to Johns Hopkins University (2022b), the number of confirmed cases is 1,951,658 and the total number of deaths reported is 29,122. Some countries have even experienced the second wave of the coronavirus. As a precautionary measure to prevent the coronavirus disease and its widespread outbreak, almost the entire world went through a lockdown situation.

With its sudden emergence and outrageous impacts, the coronavirus pandemic rattled the cage of the socio-economic situation and shattered the existing ways of human social life and livelihoods. From late December of 2019 to April 2021, people around the world have lived through lockdowns for several times, millions of people worldwide and their livelihoods have been severely impacted by this menacing coronavirus pandemic situation, mass crowds of people have been hospitalized and many have lost their lives. As a result of the coronavirus pandemic and its aftermath, many people lost their jobs in 2020. When the number of Coronavirus cases started to decline at the end of 2020 in Bangladesh, many hoped that 2021 might bring them new employment opportunities and economic prosperity, however, everything changed by April 2021 when the virus emerged again and made another vicious appearance to debilitate the recovering socio-economic stability. But in the meantime, people have been seen to adapt to the "new normal" lifestyle, so innovation, improvisations, technological leaps and quick adaption capabilities have made a big contribution and prepared or equipped people finely to handle the situation better than the first time. As this pandemic turns into a global economic crisis, businesses are going through huge uncertainty; its impact on their workforce management, recruitment of employees and retention is also becoming visible.

In an interview, the country director of ILO Bangladesh, mentioned that ILO projected approximately around 1.6 billion people around the world are at risk of losing their jobs (ILO, 2020). ILO (2021a, b) reported global employment losses of 114 million jobs in 2020, compared to 2019. Certainly, this is not good news for employees and professionals.

Research findings also showed that initially (from March 2020 to May 2020), most of the organizations were concerned about financial turmoil, and around 79% of the respondents from Cluster-A (HR department) confirmed that they were instructed to design new manpower management plans with only high performers and essential employees.

However, while dealing with pandemic adversities like operational ineffectiveness, reduced financial performance and budget changes, retaining talent, more specifically the right talent, became a big challenge for organizations.

Interestingly, all respondents (100%) from Cluster-A consider changes in human resource planning as the right decision. Although the purpose of the project was to retain an inventory of talent in the organization, at the same time, it helped the organizations to identify talent gaps and specify hiring and retaining goals for the "new normal" and "future of work".

According to respondents from Cluster-A, during this pandemic and changes in skillset, organizations have become more focused on building high-performance teams, which have also reshaped their total talent management, including recruitment, L&D, performance management and retention process.

*5.2 New challenges in 2022: Russo–Ukrainian war and economic crisis*
The Russia–Ukraine conflict poses a serious threat that could spark a humanitarian crisis and economic shock immediately after the COVID-19 crisis (Bin-Nashwan *et al.*, 2022). The crisis between Russia and Ukraine is threatening the entire global economy, increasing risk on financial markets, global supply chains and labor markets (Wiseman and Mchugh, 2022). According to the ILO (2022), since the beginning of the Ukraine–Russian conflict, about five million jobs have been lost in Ukraine, and it is possible that other neighboring nations, particularly Hungary, Moldova, Poland, Romania and Slovakia, could experience labor disruptions as a result.

The level of market volatility in the USD has increased significantly. In the case of Bangladesh, it appeared more difficult due to the imbalance in supply and demand and panic purchases. The strain on trade deficits during the first nine months (July to March) of the 2021–2022 fiscal year—when import payments rose by 44%, export income rose by 33%, and remittances fell by 18%—can be vividly felt (Alam and Hossain, 2022). The unemployment rate in Bangladesh has also increased to 5.41% in 2020 and 5.23% in 2021 from 4.43% in 2019 (The World Bank, 2022). The labor market has become more competitive and challenging, especially for unexperienced fresh graduates (Momen *et al.*, 2022). All respondents (100%) stated that during this period, their organizations had to review their budget and cost-control strategies.

Around 73% of respondents working in banks, IT, and export-oriented textile companies mentioned that they think that the country's job market is going to be more critical over the next few months.

*5.3 Future of work: remote work employability skill*
The world is on the edge of another paradigm shift (Kodama, 2018), which will essentially change organizations and work processes with automation and real-time control (Spoettl and Tūtlys, 2020). This fourth industrial revolution will also change the dynamics of labor markets and employability. Though the transformation of employability skills seemed to be a continuous process for the last 2 decades, but the world has witnessed that the technological advancements and skill set requirements in the labor market have fundamentally evolved over the last two to three years. Nowadays, organizations look for geeky or technophile people and consider digital literacy as a fundamental requirement for all kinds of white-collar jobs and even for many blue-collar jobs.

However, organizations have undergone significant transformations over the last three years. From traditional office attendance to remote work, hybrid offices, the use of online tools and the emergence of e-recruitment, organizations have fundamentally changed their traditional HR practices in terms of flexibility, employee engagement process and change management policies. Now, organizations are more open about the processes.

With the emergence and popularization of "future of work" (World Economic Forum, 2020), the employability skill set has also changed in the last two-to-three years (Shahriar *et al.*, 2022b). Along with hard skills like data analysis, presentation skills and sales excellence, soft skills like leadership, teamwork, negotiation, communication, emotional intelligence, mindfulness, critical thinking and decision-making, etc. are now equally important. From MS Excel course to an online master's program, learners can advance their theoretical and practical knowledge of the global business ecosystem on these MOOC platforms.

A total of 69% of respondents agreed that MOOC platforms really helped them learn advanced skills with global insights. In total, 76% of the respondents mentioned that they feel MOOCs provide actionable knowledge that can be easily converted into practical action plans.

*5.4 Changes in skill set requirements and "new normal"*
HRD is a continuous process for any organization; it is the process of enhancing employee knowledge, skills and capabilities. HRD not only consists of employee training to develop employee skillsets as per their job requirements but is also associated with some other aspects of HR operation such as succession planning, need assessment, the full cycle of employee learning, training evaluation, performance analysis, employee engagement, etc. HRD is also known as L&D or talent development depending on the organizational culture and HR practice.

HR had to work as a conduit between management and employees in many cases to coordinate their work processes or activities for managing an effective remote working environment. Engaging the employees with the new work environment and redistributing their work schedules, job roles as per the new work processes, and coping with the managers' or employees' pandemic stress were among HR's continuous efforts and measures to keep organizational productivity steady. A respondent from HR mentioned that:

> At the point when the pandemic began, the terminals made their best undertakings to give expanded leave and profile rosters. Shockingly, the circumstance has gotten delayed, so, we had to reschedule the whole routine-works and added an online counseling program to support employees. This includes stories 'from the bottom up', where employees from different business units discuss how they've managed the crisis. – (Respondent-01, Cluster-A, Dhaka, Bangladesh)

*5.5 Changes in organizational L&D goals*
To confine this virus's unwanted expedition and to protect the people from this deadly virus, the world was introduced to some new sets of rules and regulations obliging strict health guidelines and lockdowns (Pattyn *et al.*, 2020). And it has resulted in a significant shift in people's behavior and lifestyle. Considering the "new normal" and employee health and safety, organizations have adopted new approaches to continue their regular business operations; which have also restructured the L&D practices in the organization.

The research findings confirmed that the "new normal" has brought significant transformation in organizational L&D goals in 2020–2021. Key findings related to changes in organizational L&D goals are as follows:

(1) Transformation of workplace L&D modes: from classroom-based, face-to-face, traditional learning to online-based digital learning modes.

(2) Improve employee digital literacy/capacity and prepare them for the new normal and future of work.

(3) Align L&D with changing operating goals, changing skill sets, new methods and data.

(4) Encourage employee SLD initiatives including MOOC-based online courses and certification programs.

(5) Focus more on current employee reskilling and multiskilling programs.

(6) Employee engagement and motivation during the COVID-19 period.

(7) Reduce administrative costs related to L&D.

*5.6 Transformation of learning and development practices and mode*
As employees can be the key source of competitive advantage for the organization (Sultana *et al.*, 2018) employee development or HRD programs are considered an important part of regular HR operations. Proper skill management and development enhance employability skills and professional capacities, help people to get decent jobs and enable them to be effective, and efficient in their jobs or professions. Training is considered as an essential element to increase the productivity and competencies of the employees (EL Hajjar and Alkhanaizi, 2018); considering the evolving requirements of the competitive labor market, one must prepare himself/herself with the right sets of skills and aptitudes. Interestingly, digitalization has made the process of training, learning, and development easier and more entertaining. Over the last two decades, the increased access and use of the Internet have accelerated the transformation of the education and learning system globally (Shahriar *et al.*, 2021). Thus, employee participation in online-based learning has become popular nowadays, especially among young professionals and fresh graduates.

Interview analysis (Cluster-A) confirmed that effective training programs require time, money, place, accommodation support and proper employee commitment. Though organizations nowadays highly value the learning practices of their employees, however, it often becomes hard for the HR department to offer exclusive face-to-face training to all employees due to a lack of budget and other resources. Sometimes it becomes difficult to organize training on working days due to employees' regular job routines. Nevertheless, e-learning is providing some essential and convenient facilities to remove the barriers to traditional learning. In this era of digital learning, where knowledge creation, transformation, and application are heavily reliant on digital platforms, learning approaches, initiatives and training dynamics are constantly changing and improving.

Digital or online platforms offer the opportunity for cross-cultural or international learning. Substantial developments in information and communication technologies (ICT), and high utilization of the Internet in a global context have collectively facilitated the transformation from traditional to digital learning. In 2020, the worldwide pandemic event presented the globe with unique circumstances where human social interactions needed to be limited by maintaining social distance. This affair complicated work, workplace engagements, learning and other various environments where people usually participate and interact in a face-to-face manner. This coronavirus pandemic, in other words, has redefined how organizations can operate, sustain or initiate employee training and development strategies. Simultaneously, employees have had to modify their learning practices or adapt to new organizational changes; eventually, these circumstances caused a huge transformation in organizational processes and the arrival of the future of work. Organizations had to adopt some radical changes, i.e. remote work, e-recruitment, e-learning and online-based training, digital appraisals, digital payment (both for management and nonmanagement employees), etc.

At that time, e-learning or online-based learning emerged as a ray of hope in this troublesome pandemic event to keep the workforce progressive and productive. Not only educational institutions, but also business organizations, found online learning to be an extremely effective mode of human resource training and development. When remote

working and limitations of gathering or social interactions became, crucial parts of pandemic prevention measures, organizations improvised with the situation and sustained growth with e-learning initiatives even amidst pandemic difficulties.

From mere orientation programs to employee job-specific training and soft skill development initiatives or professional development schemes, MOOC platforms and internet-based learning methods undoubtedly accelerated employee learning opportunities and capacities during unfavorable pandemic times. Although for some nontech friendly or technophobic employees, new and transformed learning opportunities created inertia and discomfort, from the broad organizational perspective and employee opinions, new or e-learning initiatives including the adoption of global MOOC platforms certainly fostered employee growth and professional capacities removing financial and pandemic situational hindrances.

*5.7 Emergence of MOOC platforms: an organizational perspective*
To prevent the transmission or spread of the virus, countries around the world have applied many initiatives (Uddin, 2021) including lockdowns (Jarman *et al.*, 2020; Rahman *et al.*, 2020) and shutdowns, considering the transmission rate and the health emergency. But these measures were controversial and consequential for a lower-middle income developing nation to implement because such kind of lockdown and restrictions can eventually result in an economic downturn when these measures are imposed for a long time. The severity of the pandemic situation and its morbid grasp all over the world crippled people's lives literally and livelihood.

This pandemic circumstance might have forced the organizations to adopt an online-based remote work culture, digital L&D practices such as online training and video-based lectures. It has facilitated many employees with the opportunity to work with flexibility (Shahriar *et al.*, 2022a) and to enjoy more leisure time for personal growth and development. Thus, employees or learners opportunely adapted MOOC platforms for SLD and skill development practices.

Interview analysis of Cluster-A revealed that, usually, organizations used to consider face-to-face L&D practices (by internal and external trainers) and certification programs from well-reputed training institutions, i.e. Bangladesh Institute of Bank Management (BIBM), Bangladesh Institute of Management (BIM) for postgraduate diplomas (PGD) and top-ranked universities for PGD or masters level certifications. However, due to fundamental advancements in the sector of ICTs, these stereotypical concepts regarding employee L&D through traditional approaches have changed in past few years. Nowadays, organizations are accepting MOOC certificates and online-based learning initiatives.

Research findings also showed that due to economic turmoil, new employment opportunities are shrinking and businesses are putting more emphasis on cost-cutting in 2022. Respondents working in the HR department (engaged in recruitment and L&D) also confirmed that now they prefer candidates with experience and professional training over fresh and unskilled applicants. Around 81% of the respondents said that organizations are reluctant to hire unskilled people in permanent positions.

Organizations had to reduce their budgets for HRD during a critical period. Changes in employee skill development priorities and practices are visible now. As a result, learning new skills has become more difficult than ever for employees.

Employers have placed a strong emphasis on SDL to overcome this limitation. Considering the affiliation and affordability, organizations have also begun to recognize employees' SDL efforts. According to 55% of respondents, this is the reason why MOOC-based learning is becoming more and more popular among employees.

*5.8 The popularity of MOOCs among the learners in Bangladesh*
Though learning is considered to be a lifelong process; nevertheless, in the past ten years, acquiring work-related skills through MOOCs has become a new trend to supplement an

individual's journey of L&D. Previous research findings showed that the acceptance of MOOCs-based learning among the relevant stakeholders is comparatively low (Egloffstein and Ifenthaler, 2017) and the success of online education or learning practices essentially depends on SDL initiatives (Zhu, 2021). One of the female professional working in finance department mentioned that:

> Since MOOC based self-directed learning is new to me, I'll be honest. Because it's flexible, I finish my coursework when I have free time between job and family responsibilities. -(Respondent-24, Cluster-B, Chattogram, Bangladesh)

During the COVID crisis from March 2020 to January 2022, online-based MOOC platforms and self-directed learning became very popular among the corporate learners of Bangladesh. MOOC platforms provided significant self-learning opportunities to corporate learners due to their features of convenience, remote friendliness and cost efficiency.

This study also found out that easy access from smart devices like personal computers, laptops, smartphones and tablets is one of the main reasons behind the popularity of MOOCs-based self-directed learning during the corona pandemic in Bangladesh. Interview analysis of Cluster-B confirmed that most of the learners use smartphones and laptops and mobile Internet for MOOC-based learning. Statistics of Bangladesh Telecommunication Regulatory Commission- BTRC (2022) also suggested that the number of mobile Internet users has increased from 93.315 in 2020 to 114.74 in 2022 within 24 months. Grameenphone Ltd., Robi Axiata Limited, Banglalink Digital Communications Limited, and Teletalk Bangladesh Ltd. are the existing telecommunications service providers in Bangladesh. According to the data of BTRC (2022), the number of mobile subscribers also increased during the period.

The easy user interface or learners' experience of the MOOC platform is also mentioned as one of the main reasons for the adoption of MOOC-based learning. Many mentioned it as "easy online learning". In short, learners from corporations found the systematic method or instructional design used in these courses very efficient and effective for their learning. Open learning materials designed with defined course objectives, learning activities including video lectures, right time tasks, the scope for research, an open discussion facility, along with the assessments through short quizzes, assignments, viva and online exams together made a strong learning ecosystem that benefited the learners in accomplishing their learning objectives during the pandemic. The flexibility of any-time classes with pre-recorded videos and remote or device-friendly portals, along with forum-based discussions associated with online learning or MOOC platforms, made learning easier and more effective for busy corporate people.

Based on the information provided by respondents in cluster-A, here is a list of benefits that the organizations are now appreciating. Here, the authors considered two types of e-learning: Companies' own e-learning systems, where organizations provide online learning access to selected participants, and another is of MOOCs where organizations normally pay employees to complete courses offered by global e-learning or MOOC provider platforms. Interestingly, many self-motivated employees even complete required online courses from MOOC platforms by themselves.

*5.8.1 Benefits of MOOCs.* Following is a list of benefits of MOOC was prepared using verbatim analysis of respondents from the cluster-A and cluster-B

(1) Providing access to high-quality learning/training to selected participants as most of the MOOC courses are created by renowned universities and trainers so most of the courses are designed with high-quality and focused learning materials. Top-ranked universities, for example, MIT, Harvard University, Australian National University, Curtin University, University of Queensland, Boston University, University of Michigan, etc. organizations like IBM, Google, Amazon, and many others are offering

a wide range of online courses through e-learning platforms or more especially MOOC provider platforms e.g. edX, Coursera, Udemy, FutureLearn, Udacity, Canvas Network, etc. edX, one of the top e-learning platforms was created by Massachusetts Institute of Technology and Harvard University in 2012; it is now recognized as one of the best massive open online course providers worldwide. From database design to creative writing, MOOCs cover a wide variety of disciplines.

(2) Providing the opportunity to achieve international certificates with flexible distance learning; participants can access the course from anywhere at any time. When asked about some MOOC functions that enhanced their learning experience, the respondents mentioned features like the flexibility to learn at their own pace, advanced learning materials, simplified user interfaces, reminders, quizzes and discussion options.

(3) Self-paced learning, as each learner has their own pace of learning with different educational background, it provides them a comfortable process of learning to complete the courses at their own pace.

(4) Reduce the cost of global certification such as getting rid of international travel and accommodation expresses. The respondents also mentioned the unique feature of MOOCs named "audit course" option, where participants can do the course without paying and do not receive any certificates upon finishing the course; however, when they pay the course fee, they get the certificate of course completion. Most platforms also offer full or partial scholarships to applicants.

(5) Collaboration with the global community and international exposure to the participants. These MOOCs offer a special feature called a discussion forum where participants, or students, can express their opinions and thoughts with their classmates and instructors. Around 81% of respondents stated they found the "discussion forum" and the scope for networking and collaboration among academicians and professionals really helpful for gaining international exposure.

(6) No restriction on the number of participants. Any number of participants can enroll in the course just by paying the course fee.

Most of the HR and L&D managers mentioned that e-learning also reduces cost and time, and as such, learning has become easier now even during this COVID-19 crisis.

*5.8.2 List of benefits of companies' own e-learning system.* Companies' e-learning system mainly refers to the companies' own e-learning platform, it also includes supportive learning tools including Microsoft Teams, Zoom, Skype and Google Meet based on the requirements. The following list of benefits was prepared using the interview analysis of respondents from the cluster-A and B.

(1) Faster employee (New joiners') onboarding and effective induction program and providing access to organizational document archives (HR manual, company rule book, labor law and other required documents).

(2) Conducting online training need assessment, a flexible schedule of learning

(3) Publishing online training notice and schedule

(4) Sending a particular course invitation to selected employees through email and phone numbers and also notifying them about their course progress report

(5) Collecting auto-generated and real-time progress reports and exam reports of individuals and groups of employees

(6) Arranging online video conference-based learning for active participation of the participants

(7) Real-time reporting, so they can and provide feedback to the learners.

(8) It is a more secure platform for organizations to keep internal data and reports. As they can also use the platform for intranet data store for employee reference and easy access.

(9) Giving access to any number of participants at any time. As most e-learning system has no limit for the number of participants, management can provide access to any number of employees according to their need.

Due to huge advancements ICT sector in recent decades and previous experience with such technologies, organizations were able to move the remote work quickly. Though this transformation has provided key benefits to the organizations to continue their operation and organizational process successively, initially (during the first phase of the pandemic and lockdown, March 2020 to August 2020) various convolution holds aspects like simple inertia to psychological difficulties and technical impediments associated with online-based L&D practices.

## 6. Discussion
In the 21st century, the use of technological devices and internet-based systems or interactions has become more usual and important in every aspect of life. With the rapid and comprehensive adoption of the Internet and communication, multimedia devices, information seeking and learning opportunities are now within the grasp of every person. Despite the barriers created by the social distancing or pandemic difficulties, the world responded well to education, learning and development issues through technology or internet-based learning systems. Distance or online learning not only solved the pandemic time learning problems rather, online learning systems like MOOC platforms also proposed new opportunities for convenient learning.

Companies have engaged in head-to-head competition in search of sustained growth, but the COVID-19 and war crisis have changed many aspects of business operation in 2019–2022. The workplace environment across organizations has also gone through significant changes and transformations due to the health and safety guidelines following the outbreak of the COVID-19 pandemic. Consequently, organizations also had to redesign their L&D practices over the period. Organizations achieved success in employee skills and professional development by implementing online learning approaches such as MOOC-based L&D. Furthermore, by providing comprehensive and effective learning services, MOOC platforms quenched the thirst of knowledge-seeking, self-motivated, personal growth-oriented employees.

Employability skills and employee development strategies have also changed with the emergence of the "future of work". Organizations support employee participation in MOOC learning by not only accepting it but also encouraging it. MOOCs provide some unique features for effective learning, like flexibility, the scope for individualization and self-direction, which together offer a whole new experience of learning. For female employees in particular, the MOOCs have opened up new doors of opportunity for skill and career development.

This study also revealed and highlighted that, even in developing countries, where technological adaptation is not as advanced as in first-world countries, distance or Internet-based learning is becoming popular in work sectors, and MOOC platforms are contributing significantly to employee professional development. All too often, in the regular pressure of

attaining short-term financial results, employees lose sight of long-term career goals. MOOC-based learning provides employees with new skills and tools, as well as applied knowledge, to turn strategic ideas into actionable steps to achieve individual and organizational goals for long-term business growth, which in the long run ensures their career growth.

This contemporary approach, in fact, should also be considered a viable option to train and develop HR under normal or any future circumstances. Research findings also showed that the flexibility of MOOC-based learning makes the skill development journey of employees more pleasant.

## 7. Conclusion

The coronavirus pandemic, Russo–Ukrainian war, and 2019–2022 economic crisis has thrown the global economy into uncertainty and presented the global health, education, economic, business and employment sectors with significant challenges. When the first COVID-19 case was officially detected in China in late December, no one could have thought it was going to significantly impact the entire globe within a very short period of time. In order to stop the spread of COVID-19, most countries have imposed strict guidelines such as maintaining social distance, staying home, limiting unnecessary movement and in the most extreme case, partial or full lockdown. As a result, it has significantly affected the global corporate culture and L&D practices.

In other words, this coronavirus pandemic accelerated the digitalization of the operation and support processes. Organizations have also made fundamental changes in their employee engagement and development policies and programs based on changing priorities in these critical times. Because it is usually considered an emergency measure, there is little research on the subject. Nevertheless, several of these policies are expected to provide effective results in the post-COVID period to build high-performing teams and to create high-learning ecosystems in organizations.

Furthermore, this research will help the organizations to design interactive training methods as an effective alternative to traditional training, considering learners' psychology and requirements. Also, the study will be suggestive to traverse new dimensions and skill sets for the pedagogues. It will also help the readers, practitioners, including HR professionals, training institutions, corporate trainers and MOOC platforms to understand the changing L&D ecosystem. Although MOOC-based learning appears to be effective in usual circumstances, based on specific employee demographic characteristics like age, gender, social status or other aspects, further research can be carried out to determine the universal effectiveness of MOOC learning and in-depth learning issues associated with this platform in the case of employment or other sectors.

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