The emergence of e-learning and online-based training during the COVID-19 crisis: an exploratory investigation from Bangladesh

Shamsul Huq Bin Shahriar
Department of Human Resource, American and Efird Bangladesh Ltd., Dhaka, Bangladesh

Sayed Arafat
Department of Marketing, University of Dhaka, Dhaka, Bangladesh

Intijamul Islam
Department of Learning and Development, Enroute Center for Development, Dhaka, Bangladesh

J. M. Ekram Hossain Nur
Department of Civil Engineering, East West University, Dhaka, Bangladesh

Saifur Rahman
Department of Audit, BRAC EPL Investments Limited, Dhaka, Bangladesh

Syful Islam Khan
Department of Business Administration, Institute of Business Studies (IBS), Chittagong, Bangladesh, and

M. Sayeed Alam
Department of Business Administration, East West University, Dhaka, Bangladesh

Abstract
Purpose – The extreme measures that have been taken by governments across the globe to minimize the spread of COVID-19 have had significant impacts on almost all the public sectors, especially on the economy and education. This study aims to address the approaches and prospective of online-based training and e-learning for employee learning and development during this COVID-19 crisis.

Design/methodology/approach – With an emphasis on the qualitative approach and considering the complex COVID-19 emergency, required data were collected from in-depth interviews to interpret the experiences of the respondents.

Findings – The findings suggested that the digital learning ecosystem offered flexibility of time, place and pace, which provided essential convenience during the COVID-19 crisis. From the human resource (HR) perspective, the e-learning culture has enabled the organizations to quickly adopt the new normal, secure sustainable continuity of organizational development and ensure decent work and growth within and across organizations. The adoption of e-learning and flexible working conditions following the setback has enabled the organizations to quickly cope up with the new normal, causing a significant paradigm shift in the organizational culture and corporate sector of Bangladesh.

Research limitations/implications – The study will assist the HR of any organization to contemplate e-learning systems as effective alternative training methods. Also, the study will be suggestive to traverse new dimensions and skillsets for the pedagogues.

Originality/value – This study offers new evidential scenarios regarding the emergence of effective e-learning initiatives and online-based learning programs for developing the workforce to be efficient and productive even in distressful and inconvenient COVID-19 situations.

Keywords COVID-19, Pandemic, Online training, Employee development, E-learning, Digital learning ecosystem, Physical distance, Developing country

Paper type Research paper

1. Background of the study

Bangladesh, a developing country, is facing a sudden upsurge in coronavirus detection also decided to enforce public holidays or nationwide unofficial lockdown throughout the county from the last of March 2020 to the last of May 2020. Later on, when the situation got better like in other counties, it also lifted the lockdown and allowed to reopening of all sectors with some health guidelines and general restrictions. In a primary response to the COVID-19 pandemic, most of the organizations across the country had to continue their business activities to a limited extent with "work from home" or "online-based remote work" facilities. Organizations had to adopt some critical changes and innovations in their job role very quickly as there were no other options. Undoubtedly, post-COVID-19 corporate world is going to experience a transformation in functional and strategic job roles to ensure efficiency and productivity in the organization.

To protect the interests of their employees and society, organizations are heading to revise their strategies and prepare their workforces for such extreme situations as the COVID-19 pandemic. As face-to-face or classroom-based direct training cannot be arranged at this time, therefore, organizations considered online-based training or e-learning as the key tool to develop their workforce during the pandemic situation. Digital transformation has indeed revolutionized the learning and development (L&D) ecosystem of Bangladesh, significantly facilitating executive education across the organizations as well as the enthusiastic learners beyond. As this pandemic has brought some fundamental changes in global education and mode of learning (Maqsood *et al.*, 2021), global massive open online course (MOOC) platforms like Coursera, Edx, Udemy, etc. made thousands of fundamental skills courses completely free of cost during this tough time and also provided financial aid to the learners.

In this study, the authors attempted to discover employee L&D practices through online-based training and e-learning during the COVID-19 crisis.

2. Purpose of the study

The coronavirus pandemic even has presented the workforce environment with a major setback and most of the organizations are trying to handle it through alternative and contingency plans. The ongoing coronavirus outbreak is challenging companies to rethink their approach to training and development of the employees in this situation. Although the economic impact of this global health crisis is yet to be seen, its effect on the corporate L&D functions has already shifted in very recent months. The importance of sustainable L&D has risen to such an extent that it now provides the essential tools and technics to the employees for formulating their drives to maximize individual efficiencies and organizational goals. That is the reason, in this COVID-19 situation, L&D policies can help to increase employee efficiency and commitment toward the organization and boost employee morale to achieve measurable outcomes.

This study aims to explore the approaches, use, effectiveness and prospective of online-based training and e-learning for employee L&D during a pandemic situation like the COVID-19 crisis from the perspective of a developing country, Bangladesh.

3. Research methodology

According to Creswell (2012), qualitative research is more suitable for developing an in-depth understanding of a phenomenon, then again Frankfort-Nachmias and Nachmias (1996) mentioned that qualitative research is essentially useful for a comprehensive understanding of concepts and relationships among them. Therefore, in this study, where there is little knowledge available regarding the fact and the study is exploratory in nature, a qualitative approach was adopted for the research.

To fulfill the purpose of the study, the required qualitative data were collected through in-depth semi-structured interviews; authors used the method as a type of "conversation" (Burgess, 1984) with the respondents; from both sides, representatives from the HR department and employees from other departments. For the analysis, respondents were divided into two groups:

(1) Cluster 1: Respondents working in the HR department and looking after the L&D (see Table 1); and

(2) Cluster 2: Employees working in the non-HR department and participating in online training. Later on, 30 respondents from Cluster 2, which was named as Cluster 2.1 (see Table 2).

For Cluster 1, to get insights from the HR perspective, a total number of 14 people working in the HR department were interviewed in depth. HR people were selected via using judgment sampling technique based on their experience with training, L&D, culture and policy development in any organization (especially experience of implementing e-learning in the organization). The respondents are mainly working in different multinational organizations, banks, non-bank finance organizations and telephone operator companies leading the L&D and playing critical roles in human resource (HR) and L&D. Researchers found their views

Code	Role	Working experience with L&D	Number of online training arranged in COVID-19	Number of employees engaged in the training sessions
H-R01	Head of HR	12+	16	70+
H-R02	Head of HR	6+	30	200+
H-R03	Senior executive	4+	24	90+
H-R04	Manager	7+	44	150+
H-R05	Manager	6+	21	70+
H-R06	Assistant manager	5+	17	200+
H-R07	Senior manager	10+	15	170+
H-R08	Deputy manager	7+	24	130+
H-R09	Executive	3+	8	81+
H-R10	L&D specialist	4+	40	450+
H-R11	Executive	3+	14	200+
H-R12	HRD specialist	4+	25	100+
H-R13	HR business partner	6+	8	120+
H-R14	Senior executive	3+	15	150+

Source(s): Authors, interview analysis

Table 1.
Interviewees' profile
Cluster 1

Particulars		Frequency	%	Particulars		Frequency	%
				The sample size, N = 30			
Sex	Female	12	40%	Devices uses for	Only mobile	4	13%
	Male	18	60%	learning purposes	Only laptop/desktop	1	3%
					Mobile and laptop	21	70%
Years of	0–2	2	7%		Mobile and desktop	3	10%
experience	3–5	11	37%		Mobile, laptop and desktop	1	3%
	6–8	8	27%				
	9–10	5	17%	Average hours	3–4	1	3%
	11–13	3	10%	spend online (March	4–5	1	3%
	More than 13	1	3%	2020–January 2022)	5–6	3	10%
					6–7	8	27%
Department	Sales and marketing	8	27%		7–8	10	33%
	Business development	3	10%		More than 8 h	7	23%
	Internal audit	1	3%				
	Operation (Production)	8	27%	Number of training	1–3	3	10%
	Brand and communication	1	3%	attended (March	4–6	4	13%
	Finance	2	7%	2020–January 2022)	7–9	9	30%
	Customer service	4	13%		10–12	8	27%
	Commercial	1	3%		13–15	2	7%
	Quality assurance	2	7%		More than 15	4	13%
		30	100%				

Source(s): Authors, interview analysis

Table 2.
Interviewees' profile
Cluster 2.1

very important to explore the current practice of employee training and learning development and their perception of e-learning as an L&D tool.

Cluster 2 to get the learners' view, 50 employees working in different organizations in cities of Bangladesh like Dhaka, Chittagong and Rajshahi in different departments were interviewed initially, who were selected via convenience sampling technique.

After the initial interview, the researcher picked 30 respondents and named the group as Cluster 2.1, considering the engagement with e-learning with at least five online-based training or e-learning courses. For a deeper understanding, each respondent from Cluster 2.1 was interviewed twice, and each interview session lasted around 30 to 40 min.

4. Findings and discussion

4.1 Employee learning and development

HR is not only the foundation of organizational competitive advantage (Sultana *et al.*, 2018) and effectiveness (Senge, 1990) but also a means of achieving the goals of an organization. At the same time, L&D initiatives in any organization essentially enable its employees to accomplish their personal and collective organizational goals. It is firmly believed that employee L&D or HR development is the most effective tool that allows the employees to transform the organization's vision, mission and goals into performance-specific outcomes.

In any organization, the L&D unit under the HR department deals with the continuous process of employee learning and training need analysis, take L&D initiatives, i.e. arrange on-the-job or off-the-job training, help the employees to attend short or long courses and certification programs depending on specific job role.

Measuring the effectiveness of the training, succession planning, building the succession management pool are also a part of HR development or L&D programs. L&D programs or training increases the employees' ability to complete the assigned tasks in a shorter time, increase their work efficiency and increase employee job satisfaction (Olejniczak-Szuster and Łukasik, 2018; Pajo *et al.*, 2010). It also increases their adaptability to new changes. Training helps organizations to develop their workforces to acquire

different skills and integrate performance and progress that benefit all organizations. Training or employee L&D is considered a strategic investment to improve employee performance and increase their productivity (Watson, 2008; Smith and Hayton, 1999). Studies showed that managers engaged in training and self-study are the high-performing employees in the organizations and provide better support to the participative management system (Miah *et al.*, 2003).

The learning process within the organizations can be explained well with Figure 1 framework developed through the analysis of interview outcomes. For instance, the learning process in an organization begins with personal or institutional goal setting and planning, which are determined based on the assessment of collective and individual skill gaps or by identifying specific skillset or knowledge requirements. Training processes throughout the organizations can encompass various approaches, ranging from formal to informal procedures. Formal training is usually initiated through on-the-job and off-the-job systems, where face-to-face, online and hybrid-type training facilities are organized in off-the-job training programs. Organizations inaugurate diverse training programs where most usual types include induction, change management, soft skill development, functional or technical skill development, process improvement and law and regulation education-based training. The effectiveness of any training program is evaluated through direct observation, performance monitoring and finally peer or supervisor evaluation.

As training and learning process can be both formal and informal, in the case of informal learning, individuals learn from doing the job; from trial and error; from peers, coworkers and supervisors. There are mainly three modes of formal training or certification-based or regular off-the-job training, i.e. face-to-face or classroom-based training; online-based training or e-learning and mixed or blended learning.

Once any formal training is done, the organization must evaluate the training method and its effectiveness through a systematic feedback form, through employee performance evaluation and review from peers, supervisors and heads of the departments (HODs).
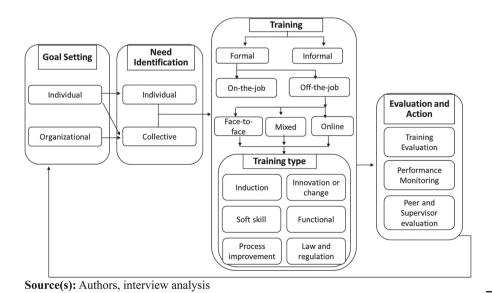

Figure 1.
Organizational L&D
process

Source(s): Authors, interview analysis

4.2 Digitalization and Bangladesh

Over the past two decades, the uses and access of information and communication technologies (ICTs) have increased noticeably not only in developed countries but also in developing countries such as Bangladesh. Bangladesh is now very close to accomplishing its "Vision 2021" and achieving the status of "Digital Bangladesh" by 2021 (Finance Division, Ministry of Finance, 2011; Bangladesh Enterprise Institute, 2010; Karim, 2010; Access to Information Programme- Prime Minister's Office, 2009). The access and uses of computers, the internet, ICTs have also increased at a very rapid pace because of governmental policies and support. These policies aided the revolution in the digitalization process and ensured the collective acceptance of digital platforms by the population. The number of internet users is increasing day by day in suburban areas, i.e. divisions, districts and even in unions and small villages alongside metropolitan cities.

The expedition of the internet in Bangladesh was first introduced in 1996 (Ahmed *et al.*, 2016), and since the 1980s, the country had been using computers, only for research purposes at the initial stage (Ahmed *et al.*, 2016). Over the years, the country has experienced almost exponential growth in the use of the internet. According to the website of the Bangladesh Telecommunication Regulatory Commission – BTRC (2020a), the total number of internet subscribers in Bangladesh hit 99.984 million by the end of February 2020 (see Table 3).

The present data on internet subscribers show the consistent growth of the country's internet users and usage as the number of subscribers is growing at a persistent rate. Bangladesh government's vision of building a "Digital Bangladesh" not only digitalized common public services and made them internet based but also subsequent investment in the information technology (IT) sector expanding the number of internet users day by day. The coverage throughout the nation and affordability have made the internet well available for almost everyone, which is bringing a new technological revolution as people are transforming to online-based services, businesses and education, breaking the traditional paradigms.

As a developing county, Bangladesh has made outstanding progress in reducing poverty. Bangladesh has earned the lower-middle-income country status in 2015, and by the purchasing power parity, it is now the 29th largest economy. Because of the economic development, people gained more purchasing power, so they were able to buy smartphones, personal computers, laptops and tablet computers, which by the same token increased the use of the internet. Whereas upper- to upper-middle-class people can buy international brands, local brands took the strategy to produce and sell smartphones at a low price to capture the segment of working class and low-income or upper-lower-class (Kotlar and Armstrog, 2012, p. 140) people.

Some mobile operating companies even offered free smartphones with internet connections as a part of company promotion strategies. Alongside broadband and Wi-Fi connections, the presence of these mobile operator companies providing stable internet connections all over Bangladesh has greatly impacted the feasibility of digitalization in Bangladesh (see Figure 2).

A massive increase in the use of smartphones can be remarked as one of the main reasons that influenced the exponential growth in the usage of the internet in Bangladesh.
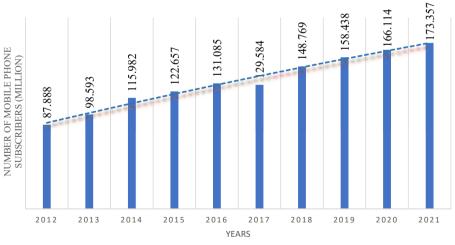
Internet subscribers (million)	Operators	Years						
		2015	2016	2017	2018	2019	2020	2021
	Mobile internet	41.959	55.512	63.120	77.495	86.268	94.236	103.193
	WiMAX	0.215	0.136	0.089	0.086	0.061	0.005	
	ISP + PSTN	1.245	2.669	4.036	5.56	5.731	5.743	9.522
	Total	43.419	58.317	67.245	83.141	92.061	99.984	112.715

Table 3.
Number of internet subscribers in Bangladesh

Note(s): *Considering the data of February for each year
Source(s): Bangladesh Telecommunication Regulatory Commission-BTRC (2021a), website, from February 2015 to February 2021

Flexibilities	Details
Date and time	After enrollment, learners can complete the course according to the course schedule, they can read the learning materials and watch video lectures at any time they want
Distance learning	Learners can access the courses from anywhere (from home, office or any other place), they just need the internet access and a device
The flexibility of device uses, easy access and user-friendliness	Learners can use devices like personal computer, laptop, tab and smartphone (including Android, Apple's iOS or Windows phones). According to the learners, these e-learning platforms are easy to access, and many are user-friendly. After creating a personal account on any e-learning platform, they just need to follow the general instructions to fully complete an online course
Learning pace	Through e-learning, learners can learn at their own pace. They can read and revise as many times as they want within the course period and even discuss with their peers, the course coordinator and the course instructor to clarify confusion or doubts
Flexibility of exam	Learners can participate in the exam at any time according to the course schedule; however, they can also participate in a re-exam if they face any technical problem, or learners can even upon request to the course coordinator
Interactive and interesting course content	E-learning course contents, i.e. video lectures, puzzles, gamification with elements such as points, levels, badges, visual case studies and competitions and recognition, ensure the active participation of the learners. According to the respondents, it helps them to better understand and remember things

Source(s): Interview analysis of Cluster 2.1

Table 4.
Verbatim analysis of
the respondents'
Cluster 2 on the
benefits of e-learning
from the learners'
perspective

Note(s): This table was generated considering the data of February for each year
Source(s): Bangladesh Telecommunication Regulatory Commission-BTRC (2021b);
Website, from February 2015 to February 2021

Figure 2.
Total number of mobile
phone subscribers
(million) in Bangladesh
from 2012 to 2021

Consequently, these aspects helped the availability and acceptance of the internet through
the use of smartphones. Within just eight years from 2012 to 2021, the number of mobile
phone subscribers has increased from 87.888 million to 173.357 million.

The increased number of mobile phone subscribers is allowing people to have easy access to the internet and online-based services, and eventually, internet users, as well as online services, are rising constantly. Moreover, as a powerful handheld device, mobile phone smartphones are enabling users to surf the vast sea of the internet and learn new things. Additionally, mobile or smartphones created substantial education opportunities for institutional and corporate learners by easing access to MOOC platforms where learning became convenient, affordable and spontaneous.

Wind of the information age and implementation of IT in every aspect of business activities also shaped HR management ways. As a shift to digitalization became imminent in their affairs, they adopted measures accordingly to cope with shifting tides. As one of the HR executives explained:

> Digitalization associated with information technology is the current age's foremost demand and to fulfill this demand we have adapted to up-to-date and creative measures. . . . .We even started online training programs and webinars for employees' benefit and skill development. We think online systems are great ways to train a large number of employees in terms of accessibility and cost as well as effectiveness (Respondent Code: H-R06, interview date: July 11, 2020).

When respondents were asked about the merits of digitalization and its opportunities in their productive activities, many of them expressed how they are affiliated with technology and digitalization profoundly, for instance, an employee mentioned:

> Digitization or if I should say internet-based services and activities have become a part of our lives. I think digitalization is everywhere now, like scheduling a meeting with Google Meet, chatting with colleagues via Facebook messenger, or reporting to a work-team via WhatsApp groups and even calling a ride via Uber, all things have made life easier and convenient. And yes, online learning methods are the most blessed product of internet and information technology (Respondent Code: N-H06, July 5, 2020).

Using the internet for educational purposes is also becoming very popular among young people in Bangladesh. Most university students have accounts on social networking sites. They browse various open-access websites and video-sharing sites to collect important information and learning materials, which also enhances the foundation of basic knowledge transfer in the international context.

4.3 Online-based learning for employee development

E-learning or online-based learning is more about self-driven learning, where a learner joins in an online course offered by a MOOC provider or online training and go through the learning materials, i.e. interactive online video-based lectures, PowerPoint presentations, books and Word documents, case study-based question–answer sessions, puzzles, instructive games with level-up options, peer review and interaction, online assignments and finally, short quizzes and exams. After successful completion of any e-learning course, the learner receives a certificate. Or, learners get online access from the HR department of the organization or any third party (L&D solution provider) based on the HR department's nomination.

MOOC-based e-learning platforms mainly offer MOOCs designed for unlimited participation via online and open access for all. Many e-learning platforms and MOOC providers are already offering different types of courses worldwide. Some of the most popular platforms include Coursera, edX, Alison, Instructure, FutureLearn, Khan Academy, LinkedIn Learning, Udacity, Udemy, Masterclass, etc. Muktopaath, eshikkha, REPTO, 10 Minute School, Shikkhok Batayon, Sudoksho, BYLCx are some Bangladeshi e-learning platforms (mainly MOOC, but some are providing corporate training solutions too) for open-access online courses.

Interestingly, nowadays companies have also started acknowledging e-learning courses. Experts are also suggesting e-learning for skill development; as a result, the demand for e-learning is increasing. Organizations are trying to overcome the disadvantages of

classroom-based training; therefore, the use of online-based training and e-learning is increasing for employee L&D. E-learning is fun, engaging, interactive and effective; therefore, organizations are now considering e-learning as their best partner for employees' L&D. Big corporate houses, multinational companies, banks and non-bank financial institutions are even implementing their own e-learning platforms and digital content library.

However, recently, the concept of blended learning is getting more popular. Blended learning is a combination of online learning (e-learning, online classes, online assignment quizzes, etc.) and classroom-based training/learning. It is becoming more and more popular among both learners and trainers or facilitators. Blended learning is said to have a more positive impact on effective learning (see Figure 3).
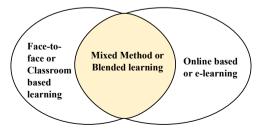
As a mixed learning approach comprising both traditional and e-learning, blended learning is becoming more popular and effective in the corporate learning or HR development sector because of its convenience and practicality. During the pandemic time, organizations relied on e-learning systems, and later on, the application of both traditional and e-learning provided sustainable learning outcomes.

In a situation like the COVID-19 crisis, as organizations are using the technology to stay connected with the employees, clients and key stakeholders, it helped them to immediately shift to the online-based remote working environment, where employees can support the business without any face-to-face interaction. It was also found that among 14 HR personnel, 11 mentioned that organizations are very concerned about the coming days as they need to prepare their workforce ready for the new challenges in upcoming days. As training and learning present prime opportunities to upskill, reskill and expand the knowledge base of the employees, organizations are quickly adapting to these new-age learning methods.

4.4 Emergence and acceptance of e-learning: employer perspective

This pandemic crisis has brought dramatic changes for the management of organizations (De Massis and Rondi, 2020), impacted organizational culture (Spicer, 2020) and transformed the operational strategies in 2020. Organizations around the world had to move toward remote working practices and roster-based duties quickly; these changes may even last in 2021 or following years as well. Organizations have had to transform the daily office and working practices into the home office during the lockdown caused by this COVID-19 pandemic. Consequently, L&D processes also experienced radical transformations.

HR division designs and develops L&D solutions for the employees to unlock employees' true potential. To make the work-from-home period productive, most of the organizations are busy with allocating home-based tasks, and HR divisions at the organizations are playing a vital role to accelerate the process. Here are WHYs to think over the necessity of e-learning in the COVID-19 pandemic period. By acknowledging these professional requirements, HR, line managers, divisional heads made the strategic decisions to implement online training that benefited the company and its employees.

Source(s): Authors, Interview Analysis of Cluster 1

Figure 3.
Blended learning (the combination of e-learning and traditional classroom-based learning)

4.4.1 Prepare the workforce for "new normal" and post-COVID-19 workplace. COVID-19 situation or the coronavirus pandemic event introduced "new normal" scenarios in daily life as well as business activities. Today, people are on the "Internet," they are way more informed (Momen *et al.*, 2020) and connected with others now than they used to be earlier (Shahriar *et al.*, 2019). This advancement in the ICT sector essentially helped the organizations to move to the remote work exercises. While employees were instructed to work from home, keeping them in pace with this new normal situation risen by the pandemic event was challenging by the HR management. Online sessions and training programs contributed profoundly in such circumstances as an HR executive dictated:

> Pandemic situation brought distressful repercussions in the work environment, though employees were working from home and virtually, they were new to this procedure and they needed proper support and teaching. To keep them productive and motivated we launched several online learning sessions including webinars, training, or coaching programs as well as some open-ended discussion sessions. I believe these approaches helped them to cope well with the "new normal" situation and they adapted to this unique circumstance relatively better (Respondent Code: H-R08, Interview date: August 25, 2020).

Experts are also expecting some permanent, long-term and shift changes in the post-pandemic workplace (Kane *et al.*, 2021; Joly, 2020; Pedersen and Ritter, 2020). Findings indicated that to redesign the workplace for the post-pandemic world, organizations are seeking people with a growth mindset and rethinking HR development framework, training mode, change leadership, team dimension, open communication culture, etc.

Therefore, it is clear that organizations that invest in continuous L&D programs by innovative learning tools in the concurrent new normal era for upskilling, reskilling, multi-skilling and cross-functional skilling of its employees are the ones who will be able to retain their top talent and create future-ready leaders. This habituation by adapting L&D is the best optimization of ongoing uncertainties.

4.4.2 Most convenient mode employee learning and development. Events like pandemics or global outbreaks of deadly diseases are not something that the world faces every now and then. Since most of the organizations and institutions are closed, their activities are carried out through the internet and at home if possible. Considering learning as an important part of the employee life cycle, organizations continued to offer training and different certified courses to their employees online.

> One of the respondents from the Cluster 1 mentioned that "Unlike many organizations, those believe that employee training and development is unnecessary during the pandemic, we found it important to engage employees and boost their motivation level. To contain the spread of Coronaviruses disease, we are avoiding offline or physical training but we are regularly arranging In-house training though online" (Respondent Code: H-R06, Interview date: August 25, 2020).

As the COVID-19 pandemic event restricted HR's ability to initiate physical training and development programs for the employees, HR managers had to rely heavily on the online learning modes. They started training sessions in online software and also encouraged employees toward personal development and learning, for instance, an HR manager from the Cluster 1 narrated:

> We could not initiate any physical training or development programs, sessions at the pandemic time when employees were working from home. So, e-learning was the only way, we tried to make the best out of the internet and as employees were familiar with software like Zoom or Google Meet, we started some training sessions over those apps and also held some webinars on regular basis. Some new recruits were also coached by our online training programs. We also recommend and inspired employees to learn more from online MOOC portals. I think online training and learning programs worked effectively for the employees (Respondent Code: H-R012, Interview date: August 30, 2020).

4.4.3 Acceptance of online-based trainings among the employees. The internet has transformed the mode of global learning; e-learning, distance learning, virtual classroom, online

training and MOOCC are some buzzwords that are pronounced very often nowadays. Employees are also used to it, so it became easier for organizations to continue the L&D initiatives through online training.

> For the first three months March, April, and May we have gone through an uncertain and unwanted situation. Later on, we planned two in-house online training by using MS Team and Zoom, initially, we thought we might not get the desired participation but interestingly we found that employees are used to online training and e-learning courses. We also supported employees to obtain international certificates from Coursera and edX (Respondent Code: H-R013, Interview date: August 22, 2020).

4.4.4 A tool for employee engagement. The physical and emotional well-being of employees should always be important to employers. Interestingly, 100% of respondents from Cluster 1 and around 89% of respondents from Cluster 2 admitted that they found online-based training programs and e-learning-based capacity-building programs as an effective tool for employee engagement during the pandemic. Respondents from Cluster 1 also confirmed that online training sessions help them to engage all employees in their health and well-being projects.

> A respondent from Cluster 1 shared a similar view and said "In response to the pandemic we have initiated work-from-home facilities for most of the employees. Departments like Customer service (CS), Finance, and commercial are fully working from home. Teams like Sales and marketing, Planning, IT, Technical Support are doing roster-based (2 days a week in the office and rest of the days working from home) duties both in factory and Head office. Teams like Production, Maintenance and Logistics and Delivery are doing regular office. We are frequently arranging online and offline training sessions both for the Executives and factory-level workers. Currently, we are more focusing on functional (Prompt customer service, Online Sales and support, etc.) and employee health and safety-related training (i.e., Preventing Corona, Social distancing at workplace and workplace safety, stress management and work-from-home guidelines)" (Respondent Code: H-R04, Interview date: August 9, 2020).

> Respondents from the both clusters confirmed that online-based learning sessions, virtual employee engagement initiatives, employee psychical and mental well-being programs essentially helped the employees to achieve mental stability during the lockdowns.

4.5 E-learning as a source of knowledge: employee perspective

E-learning has a huge potential in the digitalization of learning for the local workforce and of the L&D of the employees of the organizations in Bangladesh. Following the footprints of global e-learning platforms, organizations in Bangladesh have come up to enhance the process through distinctive e-learning platforms and creative solutions. The fast growth of the e-learning culture in Bangladesh has been fueled by the spontaneous participation of educators and learners and the quick adaptation of the stakeholders to the e-learning ecosystem.

4.5.1 The alternative source of knowledge. COVID-19 or the coronavirus pandemic event presented the workforce environment with a unique situation. Following the health protocols, most of the employees had to work from home, and it gave them much leisure in some cases. While employees were already engaged with official online activities, this leisure helped them to learn new relevant things. For instance, an employee described her situation like this:

> As I had to work from at the time of covid-19, surprisingly I got much free time than before. So, I decided to use this spare time in some productive activities for my career development plan. Outside activities were not available, so I searched online and found many interesting courses in Coursera, edX, Udemy, finally, I ended up enrolling myself in some of the preferred courses (Respondent Code: N-H024, Interview date: October 15, 2020).

> Another respondent from Cluster 2.1 mentioned "Online learning has helped me to utilize my time in this pandemic and skill up myself in a more convenient way. Many of us think of training ourselves to cope with the dynamic environment of the current world. But most of the time, we do not do it because of the lack of convenience. However, as this pandemic has forced us to work from home

through online media, it also encouraged us to get involved with several online learning platforms and also give and receive training through video conferencing media" (Respondent Code: N-H21, Interview date: November 1, 2020).

4.5.2 Psychological recreation self-initiated learning. During the coronavirus pandemic time, not only the employee-initiated self-development goals via e-learning measures but also their employers or respective companies assisted them and adopted designated procedures to enhance employees' capabilities through online mediums. For example, an employee's statement reveals that:

The pandemic event is a stressful time but those of us who were blessed with leisure time, we managed to keep ourselves busy with personal development programs or courses available online. I found some free and paid courses or programs available on various websites and YouTube that helped me a lot learn technical and job-related new things as well as honed my work skills. My company also held some webinars (online seminars) and live training programs online which also helped me to learn new things (Respondent Code: N-H028, October 26, 2020).

4.5.3 Affordability due to discount offers from the massive open online course providers during this pandemic. Also, during the pandemic time, to keep learning and education afloat and to make the learning experience smoother, many universities, as well as online learning portals with MOOC facilities, made their courses and programs easily available at low or no cost, which also increased learner's participation in e-learning. For instance, one employee stated:

At the time of the COVID-19 pandemic, while I was looking for some online course relevant to my career, I found many courses on renowned online MOOC platforms which were offered at free or discounted prices. So, I enrolled and completed a lot of them, I think this temporary but constructive opportunity really helped me learn many things (Respondent Code: N-H022, Interview date: October 25, 2020).

4.5.4 Core benefits of e-learning and online training. From the learners' perspective, the best part of e-learning is its flexibility. Here is the list of flexibilities that respondents from Cluster 2 have mentioned:

Learners were asked about the other free access platforms that provide learning materials and information free of cost. According to the interview result, respondents said that they learn many things from video-sharing sites like YouTube. One respondent mentioned:

I often go to YouTube to learn many things, like how to use a formula to solve any particular problem in Excel, how to make a better presentation using infographics or how to change my WIFI password but I cannot claim my learning in my CV in any interview board (Respondent Code: N-H06, Interview date: July 13, 2020).

YouTube is considered the largest (Gill *et al.*, 2007) and extremely popular video-sharing site among e-learners. It is a source of huge open- or free access video content for the users; even registered users not only can see and download the videos like other users but can easily upload videos (Ng and Hussain, 2009); the videos can also be shared on other social networking sites. But, these are mainly used for informal learning, though useful but informal.

However, MOOC providers or companies' online platforms provide more methodical and formal learning. Most of the courses on MOOC platforms are created by universities or renowned institutions that also provide formal certificates. Training provided by organizations' e-learning platforms also provides certificates to its employees after successful completion of the courses; therefore, most of them prefer these courses for training as they have better acceptance, which advances one's career.

5. Discussion
The COVID-19 outbreak turned out to be a global pandemic at the beginning of 2020 and dramatically transformed the world within a few months. The changes brought about by this

pandemic are perceived to be lasting for a longer period. In the past, pandemics used to have brought the world to its knees. Today, with the advancement of technology, the world is better equipped to fight a global pandemic.

The findings of the research also suggested that Bangladesh has all the components to turn out to be one of the most potential hubs of e-learning in the days to come, given that the process is already up and running. With some fundamental benefits such as flexibility, distance learning facility, with no time restrictions and pace fitting learning (Alsalhi *et al.*, 2019; Kimathi and Zhang, 2019), e-learning is becoming more and more popular for employee development programs. It has also served as an efficient tool for employee engagement and active monitoring. Even though, as a developing country, Bangladesh faces challenges and impediments from multiple fronts, the country is on the verge of achieving its long-cherished dream of "Vision 2021" by digitalizing the country with widespread and easy internet accessibility, IT implementation in all sectors and adaptation of the latest technology following the global trends. The results of such extensive measures are vividly noticeable throughout the nation, as even in the stressful coronavirus pandemic, public and private, all types of organizations managed to continue their services with the help of internet facilities.

When pandemic measures restricted physical office and training or development programs, organizations improvised and introduced online-based HR development practices. However, later on, online-based learning or training for employees became a part of organizational culture for many institutions as many of their employees reacted positively to such approaches, and the management found online-based learning-training effective in enhancing employee capabilities. So, from mere improvisation to adaptation, e-learning or online-based training and HR development programs introduced new dynamics in the organizational talent development scenario. The transformation or shift of traditional paradigms to virtual or hybrid (both traditional and online methods) systems is not only theoretical now, rather more practically proven as effective. Hence, e-learning and online training and development concepts are providing organizations and their HR managers sustainable opportunities to take steps toward virtual learning-training systems or platforms, and since the outcome is favorable for most organizations, or proven to be effectively fitting with organizational HR development goals, adaptation to such new learning-training standards firmly can yield positive HR development and management returns.

Organizations have initiated online L&D programs to enhance their employees' capabilities; many employees even engaged themselves in their self-development activities through available online courses and programs on various platforms. People also got used to lots of open-source alternative digital learning methods with the advent of e-learning culture fueled by "having to spend lots of free time in digital space due to the pandemic."

6. Conclusion

To summarize, the development of the e-learning ecosystem in Bangladesh has been an integral part of its successful elevation to the middle-income countries in 2015 and its successful journey toward "Vision 2021," a new digitally transformed Bangladesh. The significance of e-learning, including online training e-learning courses, cannot be overlooked now, as there are evidential certifications for participation and performance in online learning events now, and many HR personnel also concluded that online learning has shown effective results in their employees' performance as well as skill developments. Since it is hard to estimate how long the pandemic will last and as e-learning has manifested constructive potentiality in business or especially workforce management, and also as the shift toward online systems is becoming eminent day by day, its high time e-learning or online-based distance learning get the limelight of further contemporary business research studies.

The findings of this paper will encourage future researchers to explore new horizons of digitalized, remote and blended learning in the various segments of academia and organizational

context as the e-learning ecosystem shapes in Bangladesh. Grounded on the present paper, future researchers can shed light on the extent to which the infrastructure of Bangladesh is prepared to welcome the emerging demand for e-learning, the strategies and policies of the Government of Bangladesh in mainstreaming e-learning and the involvement of the public and private sector business institutions in capitalizing the digital learning phenomena.

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Corresponding author
Shamsul Huq Bin Shahriar can be contacted at: shahriarhuq002@gmail.com