

A Qualitative Investigation of the e-learning Paradigm for up-scaling Skills during Pandemic

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Abstract— The effects of the pandemic are presently being felt and may continue to do so in the business world. Some people were fighting for their lives when Covid-19 wreaked havoc on the nation, while others were just attempting to hold onto their jobs. In this situation, a lot of people have started using online learning to progress their careers. For the purpose of identifying talent and preparing users for the most dreaded word in the workplace i.e. layoffs, many portals offer both paid and unpaid learning tools with certification. This study consists of qualitative research conducted over a forty employees, taking into account the findings of several interviews with employees of multinational corporations about their difficulties and the advantages of e-learning. Also, these research provided practises one might use to survive and thrive in a cutthroat environment. In order to close the gap between learning and understanding, the stated scope for further research could include running a large survey and assessing the findings.

Keywords—Up scaling, Performance, Pandemic, e-learning, Qualitative Research, Mind Maps

I. INTRODUCTION

Companies in a range of industries have faced challenges as a result of the COVID-19 epidemic. Numerous of these firms have been compelled to implement new internal working procedures and have come under intense pressure to make their products available online. Businesses have undergone significant change and quickly adopted digital technology-based solutions [1]. The combination of advanced technology and the incorporation of physical and digital systems are the defining elements of digital transformation. The demand is high for innovative business models, new production methods, and the creation of knowledge-driven goods and services. In order to enhance the ability to cater to customers, digitization requires the restructuring of processes, fostering greater agility within the business, investing in more flexible structures, and strengthening standardization and automation. The challenging and unpredictable times caused by COVID-19 have accelerated the natural progression of digital transformation. As the coronavirus pandemic persists, the employment market

is suffering significant and long-lasting damage. Along with the stress and sadness of having to let go of a significant portion of their workforce, many managers are also concerned about their own job security. It is now crucial to start looking towards the future after COVID-19 and, more importantly, to explore how we can use these difficulties as opportunities for new business ventures and internal organizational improvements. In 2008, during the global economic crisis, the manufacturing industry experienced its most severe financial struggles. Data from the Central Statistical Agency shows that around 13% of the manufacturing sector filed for bankruptcy during that period. Only industries such as agriculture, gas, power, clean water, transportation, and communication saw growth. [2]. In this pandemic, it has been noticed that many employers are requesting information on an employee's skills and how they perceive their position in relation to others. As workers' networks become more static and walled, with fewer bridges connecting different parts of an organisation, a study by Microsoft demonstrates that remote work represents barriers to collaboration and innovation. A decline in synchronous communication and an increase in asynchronous communication make it more difficult for employees to establish relationships, exchange more complicated information, and agree on what information means [3]. Workers are less likely to be exposed to new knowledge, which is a barrier to creativity, by increasing the amount of time spent collaborating with stronger relationships and decreasing the amount of time with weaker ties. A person's career path and skill set evolve through upskilling. You might be automating a major business that has a warehouse. Consider the software engineers you already employed. They are now need to learn how to create software that can actually listen to signals from robots and the Internet of Things and integrate those signals into the process. Formerly, they had specialised in creating automated processes for this. Hence, it's only an additional level of specialty on top of their current position; it's not a completely new role or career path. As previously indicated, reskilling is a revolution in which workers are

suddenly performing entirely new tasks. Consider how swiftly manual procedures were replaced by machines during the Industrial Revolution, which affected a large part of industries. Technology-based E-learning depends on the internet and other necessary resources to create educational content, instruct students, and manage courses within an enterprise. When it comes to scheduling, geography, and health concerns, e-learning is adaptable [4]. By providing access to a vast amount of data, it improves collaboration and fortifies connections that support lifelong learning. It also boosts the effectiveness of knowledge and skills. E-learning can improve educational quality; however there is debate over whether having E-learning resources available can actually improve learning results beyond certain sorts of group evaluation [5]. Since COVID-19 began, more businesses are using e-Learning to deliver material to various audiences whenever and wherever they are. The majority of e-learning that takes place in organisations today is asynchronous. E-learning that is "pre-recorded" or accessible to staff members at any time of day, possibly from anywhere, is referred to as asynchronous e-learning. Along with asynchronous e-learning, there is a continuum of sorts of synchronous e-learning [6]. The most basic sort of synchronous learning is real time 'chat' sessions where employees join on at the same time to discuss training subjects. Synchronous sessions are more complicated, when participants join the training at a predetermined time from different locations, and an instructor promotes discussion while projecting slides or writing on a "whiteboard" that displays on the participants' computer screens. Companies use e-learning for a variety of reasons, such as the need to: shorten the delivery cycle time, lessen information overload, improve learner convenience, upgrade the abilities of the workforce, aid in finding new jobs in the event of layoffs, etc. E-learning has the potential to control the increase in the amount of knowledge that employees must learn. This expansion has frequently resulted in information overload during training, which makes training inefficient because learners are unable to retain all of the knowledge that is given to them. The information can be disseminated over a longer period of time by conducting some of the training asynchronously, some of it synchronously, and just the most participatory part of it in a classroom.[7]. Since the outbreak, there have been half as many promotions given to Indian employees, increasing the number of persons searching for new employment. It is increasingly more crucial to engage and retain people in the present context where leaving a job just entails staying in the same house and making a different Zoom call, and switching expenses are not as significant. Companies also needed to make the most of digital learning technology to guarantee that

employees who worked from home could still advance and enhance their abilities. E-Learning technology has several benefits, from updating staff on company policies to enhancing client understanding of their products. In this study author has surveyed and interview some respondent about their up scaling skills during pandemic and how this has helped them securing their existing jobs and in some case changing the career path towards new success. The paper is structured as follows: in section II research methodology is presented, section III presents results and discussion. Section IV defines future scope of the work and conclusions are drawn in section V.

II. RESEARCH METHODOLOGY

In this study, mind maps were first created to visualise how the survey questions were organised for the research. The hierarchy will demonstrate the connections between the issues and how several paradigms are related by means of a single idea. Mind mapping displays information as keywords in a vivid, colourful manner by combining information from several sources. A page's centre is dedicated to a significant, central concept. An effective method for enhancing your ability to take notes and solve problems creatively is mind mapping. By using mind maps, you may immediately recognise and comprehend a subject's structure and the relationship between different bits of information, as well as record the unprocessed data seen in typical notes. Additionally, it can be used in conjunction with other tools to create and distribute knowledge. Its value is increased by their usefulness as pedagogical tools for training, e-learning, and education [8]. Figure 1 Illustrate the mind map that represents our study, it is seen that radial diagrams help people remember and recall the relevant information because they help people visualise the thematic concepts with their sub concepts. By allowing for divergent inquiry and visualising prior knowledge, mind mapping helps question generation. Mind mapping encourages brainstorming and information sharing, which makes it a good tool for visualising prior knowledge. Participants in focus groups and interviews were asked a lot of open-ended questions. The first was a comparison ("Which would you prefer: face-to-face learning or distance learning? Do you have a preferred method of learning? Have you ever taken a standard distance education course? What distinguishes it from distance learning ? Have you ever studied online? The second question asked, "From your perspective, what are the benefits and drawbacks of e-learning?" "How would you describe your relationship with your friends, colleagues, and supervisors when it comes to e-learning?" was the third question. Role-playing was used in the fourth question ("From your perspective, who is benefiting from e-learning and who is

losing out?"). The fifth question was about effects: "Has e-learning in recent times had a beneficial or bad impact on your social and professional lives?" What manners? "Do you have

suggestions to make e-learning more effective?" was the sixth question.

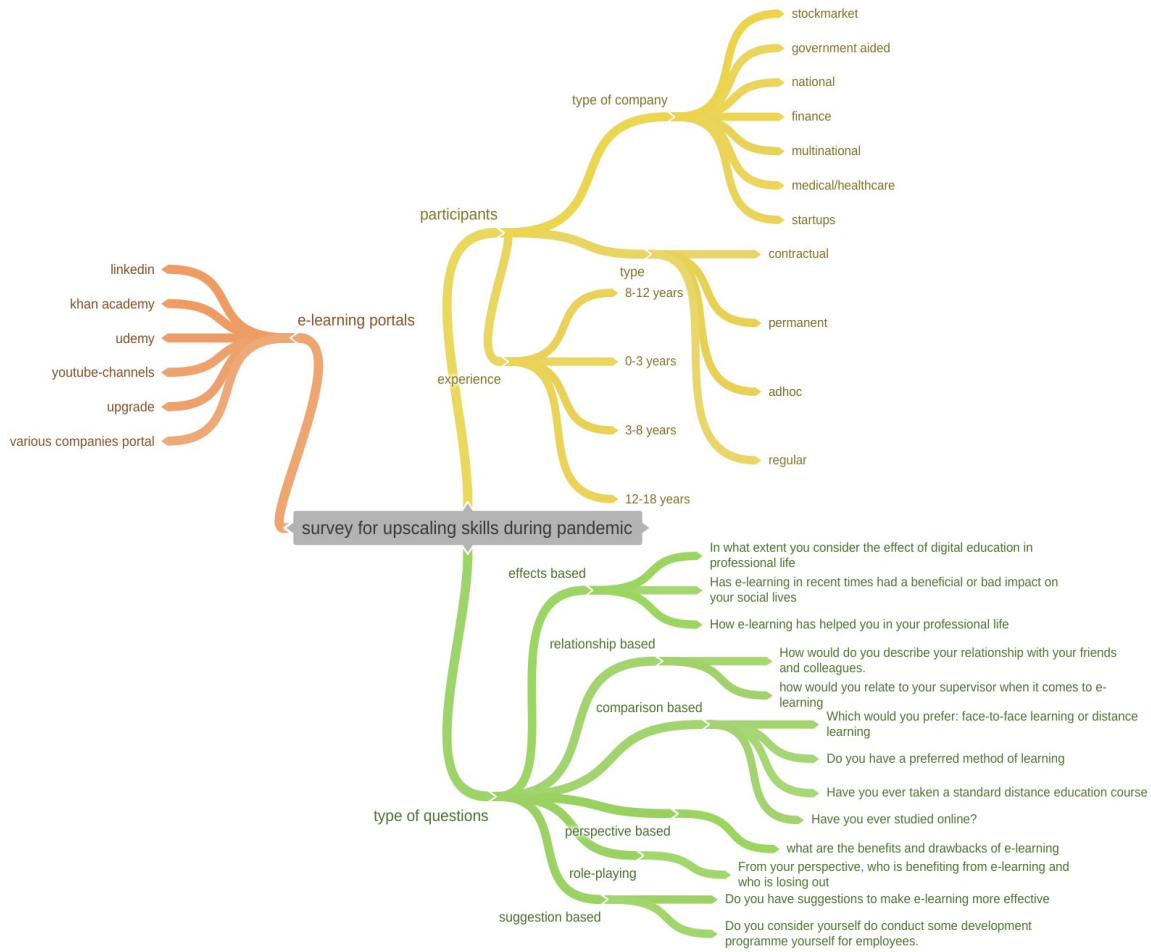


Fig. 1. Mindmap for designing survey on up-scaling skill during Pandemic

III. RESULT AND DISCUSSION

For numerous years, survey research has been utilized to collect information from both individuals and groups. This process can range from casually approaching people on the street and asking a few direct questions about their preferences and behaviors, to conducting a more extensive investigation using credible and reliable methods. Public opinion polls and commercial or political studies of consumer behavior are examples of less rigorous surveys. The primary objective of sampling strategies in survey research is to obtain an adequate representative sample of the target population. Collecting data from the entire population of interest (e.g., all IT certification-seeking employees in a smaller area) is often unfeasible, hence a subset or sample of the population is used to estimate the population's responses. The larger the random sample size, the

greater the likelihood that the sample responses will accurately represent the entire population. For valid inferences about the population, the sample must include individuals with traits that are similar to the population. This research focuses on the up scaling of abilities for different people working for diverse firms. The study also focuses on how a person's abilities helped them survive during the pandemic, when there were the most layoffs. It is generally accepted that those who have worked hard on themselves and have reached a point where they have admitted that with their current talents they can't sustain and can't justify the place in the organisation are the ones who have performed well over time with their skills. A survey of fifty employees has been conducted and five of them have been interviewed closely. The survey findings are shown in table I. It is clear from the table that learning about current

trends has aided respondents in maintaining their careers. Because their employees were constantly completing certification while learning new skills, taking on new projects, and collaborating with clients, several businesses have developed surprisingly positive reputations in the industry. If statistics are to be believed, 60% of employees claimed that after getting certificates and successfully completing online courses, the company's market reputation had improved. 30% of them claimed to be able to bring new initiatives that were previously difficult to complete since they were unaware of the most recent trends and methods. 10% of them increase business by bringing in new customers while showcasing their improved skills. Unedited answers to open-ended questions were collected under subjects pertinent to the study questions. With Microsoft Excel, coding matrices were created, with the cases in the rows and the emerging codes in the columns. Guided descriptive content analysis was then done [9].

TABLE I. BENEFITS TO COMPANIES FROM EMPLOYEE E-LEARNING

S. no.	Broad Areas benefitted	percentage
1.	Increased Market Reputation	60%
2.	new projects	30%
3.	new clients	10%

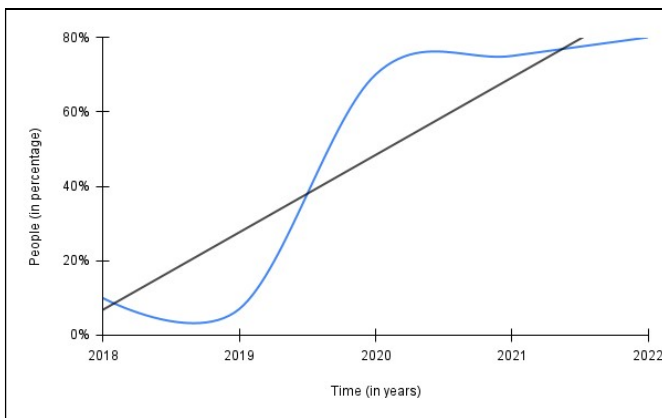


Fig. 2. Trend about people taking e-learning courses over the period over time

Following the pandemic, people are now pursuing e-learning courses seriously in an effort to upgrade their skills, as shown in Figure 2. This may be for two general reasons: first, the pandemic has given people more time to learn new skills and engage in courses that don't require travel; many of them also offer free certifications based on quizzes and assignments; second, lay-offs are at their peak during this time, in pressure, employees are demonstrating why they are superior to their peers for the position. By the end of 2022, 80% of employees have obtained certain qualifications to advance in one or more

of their fields, according to the graph, and it has been trending upward from the trend line since 2019. Many employees have benefited from e-learning; nearly 60% of survey results show that they received salary increment due to their advanced skills, and 30% of them received new job opportunities. These individuals first educated themselves about the market regarding the trending jobs and what skills or certification are required before engaging themselves in learning such as R or Python software, machine learning, Tableau, etc. All of them agreed that they are upgrading themselves in some way for a better future, especially at a time when the global pandemic has struck. 45% of them have been promoted: they have undergone incredible changes in themselves that are long-term benefits for the organisation. Even before this pandemic, e-learning had a sizable influence in the education sector. It is not a recent phenomenon.

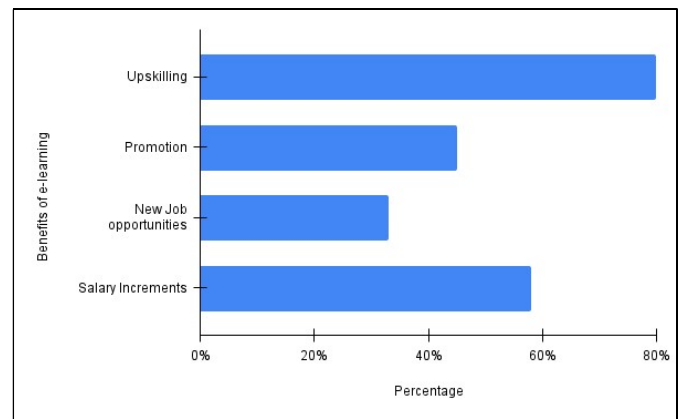


Fig. 3. Employees benefitted from e-learning

Through the use of digital platforms and artificial intelligence, technologies have changed the way that education was once obtained conventionally. However, since the pandemic, it has also become a part of business background learning, whether for one's own growth, for job upgradations, or even for scaling up one's abilities.

IV. FUTURE SCOPE

Achieving upward mobility is the main goal of online learning. Employers may now affordably educate their staff members while also saving time, effort, and money thanks to online course certification programmes. The poll was simply designed to measure how employees' abilities needed to be upgraded in order to avoid being laid off; additional topics to discuss include opportunities or challenges they encountered during pandemics. The questionnaire had to be ad hoc and wasn't a tried-and-true method. In a large-scale survey, it is possible to include information on the employees' emotional

and mental health. Here too, more engagement and collaboration building will certainly be required. Employees from other fields from different organizations, such as start-ups, people of national or international origin, etc., might be included to create more high-quality research because the participants in this survey are few and only represent one area.

V. CONCLUSION

In this study, emphasis is placed on the idea that upgrading your talents would not only improve your personality but will also protect your long-term future. Forty persons who work in technical domains were surveyed, and some of them were interviewed for in-depth analyses of the subjects. Individuals who use e-learning to update their skills in a variety of disciplines not only make the most of the time during pandemics, but it also elevates their talent relative to their peers and helps them perform exceptionally well when challenging situations arise in the workplace. The company's market reputation has improved, and they are now better able to attract new clients and projects. Their greatest assets are the staffs, who are demonstrating this. The focus of the study is on e-learning skills for pandemic up scaling, but a thorough survey on how employees have maintained their mental and emotional health during those difficult times and are still doing so might be conducted.

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