



REORIENTATION IN TRAINING STRATEGIES IN IT INDUSTRY: RESILIENCE DURING COVID-19

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Abstract:

Purpose: to examine how the organizational approaches to learning and development in the IT sector changed both during and after the COVID-19 epidemic, with an emphasis on comprehending the transition from traditional techniques to progressive training tactics.

Methodology: Using the PRISMA methodology, a Systematic Literature Review (SLR) has been carried out to gather and examine the body of research on changes made to training and development strategies in the IT industry both during and after the COVID-19 epidemic.

Findings: The study concluded that the issues presented by the pandemic could not be adequately addressed by conventional training and development methods. One of the main strategies that became quite popular during the COVID-19 pandemic was e-learning.

Practical Implication: The results indicate that in order to successfully manage personnel resources in a robust and dynamic IT environment, firms need to implement proactive, adaptable, and contextually appropriate training and development strategies.

Keywords: Human Resource Management, COVID-19, Training & Development, IT Companies, PRISMA Framework.

1. Introduction:

1.1 Background Theory:

Szczygielski et al., (2021) asserted that the largest worldwide health concern at a moment was COVID-19, which has left organizations unstable, unsure, complex, and ambiguous due to its widespread mutation. Moreover, Blustein & Guarino, (2020) suggested that organizations faced a



number of difficulties as a result of this epidemic, including company continuity, low employee motivation, remote labor, and unemployment. Vosloban, (2012)

Similarly, Cozzolino et al., (2021) also, found that businesses in every industry will constantly have to contend with more intense and cutthroat competition; in this environment, advanced technology alone won't be sufficient to win.

Molloy & Noe, (2010), it is expected from the personnel to show better responsibility for developing new competencies and enhancing existing ones so as to cater to the employment demands, ensuring their employability and creating leadership qualities in order to transition and move forward in and between companies, as required. The dynamic VUCA environment or the situations where the companies operate need a fresh and resilient strategy.

Because of volatility, it becomes more and more difficult to forecast the course, magnitude, and pace of future occurrences.

This aligns with the conclusion drawn by Williams, (2020), The work environment is constantly shaped by factors such as the rate of change, events' uncertainty, unpredictability, and ambiguity, as well as the rapid advancement of modern technology. These factors also have an impact on employee development trends and practices. As developmental forms alter and expectations shift, novel instruments and training become necessary.

The notion is furthermore supported by Sloman, (2007) and Jarvis, (2004), that, A shift from formal training to creating a culture of lifelong individual development took place. In support of it Joshbersin, (2018) found that the shift encourages learning, teaching, as well as reviewing in the course of employment. Along the same line, Swanson, (2007) added that today, human capital development is no longer just a set of organized, time-based activities aimed at changing human behavior.

Vahdat, (2022) concluded that modern technology plays a critical role in combating the crisis since it makes communication, distant work, and online learning possible on a never-before-seen scale. In support of it, Fake & Dabbagh, (2020), stated that employees can access training materials continuously (on-demand) from any location using a variety of devices thanks to the integration of interactive technologies to the educational setting.



Bajpai et al., (2022) concluded that employees play a crucial role in the continued development of any firm, alongside other considerations. The firm is taking initiatives to improve employee welfare, and the IT sector has begun implementing measures to create a positive work environment.

In support of the thought Man, (2020), found that Human resource development (HRD) policies and training programs, particularly in the context of the Industrial Revolution 4.0, which demands sophisticated technological expertise, act as catalysts at the national level to increase the productivity of the labor force. This also holds true for the businesses' human resources. Cai & Yates, (2020); (Gartner, (2020).

2. Research Gap:

Studies that explicitly examine how COVID-19 has impacted training and development practices in the IT industry are still extremely rare. Carnevale & Hatak, (2020) noted that the initial COVID-19 research in human resource development focused more on organizational and worker responses than on industry-specific training interventions. Because of this, the current assessment first discovered studies looking at the connection between COVID-19 and training and development techniques in general Gigauri, (2020); Hamouche, (2021). The review then concentrated on studies that specifically examined how the pandemic impacted training and development strategies employed in the IT industry, including organizational resilience, reskilling, and the utilization of electronic learning Dwivedi et al., (2020); Waizenegger et al., (2020).

3. Problem Statement

This epidemic also altered the field of learning and development in organizations. Today, employee development is a topic that is more vital than ever. This paper's goal is to examine the scope and direction of changes in IT organizations' approaches to employee development brought on by the COVID-19 pandemic.

The study aims to demonstrate the diverse approaches to training and development used by IT Companies during the epidemic. The study aims to find out why there is the need for IT businesses to invest in remote tools and staff development programs.



4. Aims And Objectives

4.1. Research Question:

This study is centred around the following research question: In light of the COVID-19 pandemic, what information can be obtained on the reorientation of training efforts in the IT sector? The question's objective is to systematically examine and include the corpus of both empirical and conceptual studies that demonstrates how IT firms adjusted, updated, or reorganized their strategies for employee training and development in response to interruptions caused by pandemics. It focuses on outlining the features of training reorientation, including the shift to digital learning settings, initiatives for online skill development, and resilience-focused training interventions. By collecting data from previous studies, this topic seeks to highlight significant trends, practices, and outcomes linked to training strategy reorientation in addition to pointing out gaps in the literature that require additional research.

4.2 Rationale

This article's goal is to examine the scope and direction of changes in IT organizations' approaches to employee development brought on by the COVID-19 pandemic. The study demonstrates that diverse approaches to training and development were used by IT firms during the epidemic. Some businesses have totally shut down their development departments as a result of budget cuts, layoffs. However, other businesses are beginning to invest in remote tools and staff development programs, marking the beginning of an unparalleled period of rapid growth for the digital transformation of HRD Kniffin et al., (2020) McGuire et al., (2020).

5. Methodology:

To create this review, we adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) criteria. PRISMA offers a common technique that employs a checklist of guidelines, which were rigorously adhered to in this work. This helps to ensure the quality and reproducibility of the review process. A review methodology was created that detailed the search strategy, data extraction, data analysis, and data selection criteria.

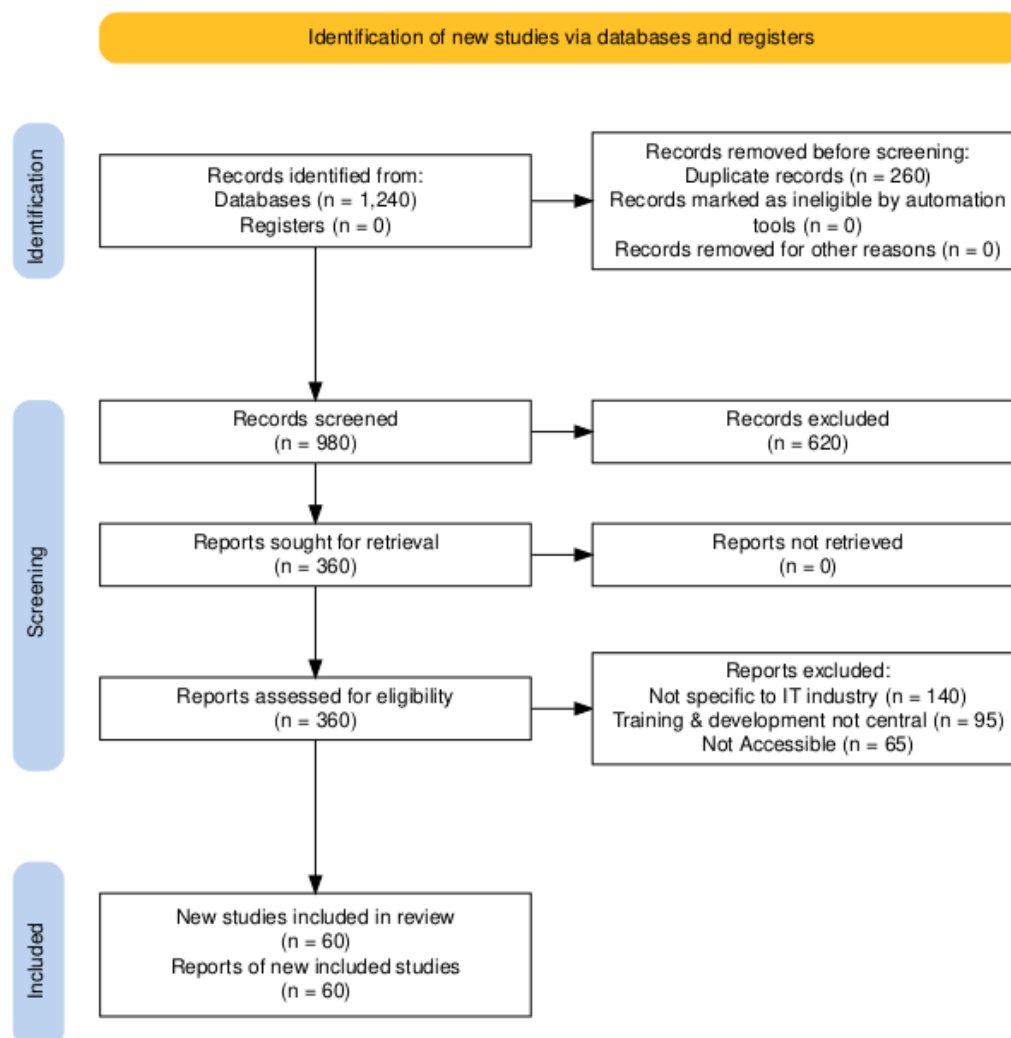


Figure: 1 PRISMA Framework

The research uses secondary data. The research is exploratory in nature. Examining recent and pertinent research that looked into the effect of COVID-19 on training and development practices is the goal of this literature review, which has an informative goal.

5.1 Data Sources and Search Strategies

Using a combination of terms pertaining to coronavirus OR COVID-19, human resource management, HRM, pandemic, and HRD and Training and Development Practices, IT Industry, we looked for research journals, articles in Google Scholar, Science Direct, WOS, Elsevier, Research Gate, and Semantic Scholar. An article search was conducted by hand. The findings that follow are an effort to close this research gap. Articles released between January 2020 and November 2025 were the main focus of our search, including previous studies for the purpose of



defining the general conclusions and definition. Epidemiological articles are not included in our analysis. The "References" section contains a list of all the articles that were examined for this paper.

The keywords "employee training and development" and "COVID-19" were used in a systematic search of worldwide electronic databases. We expanded our search parameters and tactics in order to find as many relevant studies as we could. The following is the combination of search terms, informatics, and Boolean operators. The terms "Training & Development* AND "COVID-19* AND "IT Industry* AND "employees' development* AND "IT Professionals" as keywords for the topic, article title, abstract, and keywords. The reference lists of the eligible articles included after the electronic search were also manually searched.

5.2 Selection of Studies:

The researchers assessed the titles and abstracts and utilized the aforementioned criteria to determine if the paper was eligible to be included in the study. For ultimate inclusion, the complete texts of possibly pertinent papers were examined.

5.3 Design

From these databases, the records and a search of all 2020 to 2025 published entries up until November 2025, yielded 1250 records; which were taken out.

Following the elimination of 260 duplicates, these papers' titles and abstracts were examined in light of the inclusion and exclusion criteria. All research that looked at the difficulties and tactics of training and development programs during the COVID-19 epidemic met the inclusion criteria. Papers not related to IT Industry were 140, papers whose complete text was unavailable to access were 65, and 95 articles which were not-relevant due to training and development central, were also excluded. 60 publications were ultimately included in the study after carefully chosen for full text review based on inclusion and exclusion criteria after the titles and abstracts of the studies were screened. Figure 1 lists the reasons why the articles were excluded. A flowchart illustrating the procedures for finding, screening, and obtaining the ultimate quantity of articles as well as data extraction is presented in Figure 1. The final 60 papers' contents were then examined. Tables and textual analysis are used to present the study's findings.



6. Analysis and Findings:

6.1 Literature Review:

6.1.1 Organizational employee development

These days, people view human capital as a desirable and valuable asset that, when used effectively, increases a company's market value and, in the long run, proves to be far more significant than the acquisition and application of financial and material investment. Tharenou et al., (2007) Nadiv et al., (2017); Somogyi, (2020).

Badrudin, (2016) states that Organizations must cherish their employees in order to achieve excellence. To achieve excellence, the organization's personnel must be managed effectively.

Mayo, (2000) stated that the primary factor driving value growth in any type of organization is employee development, which includes the ongoing creation and mutual sharing of knowledge and experience.

6.1.2 Training:

Nischithaa, n.d. (2014) stated training as the process of improving the skills an employee needs to perform a specific task, while Mozael, (2015) defined it as an ongoing process that aims to improve employee performance through bettering their perspectives and working methods.

Elnaga & Imran, (2013) claim that it is a strategy employed by businesses to boost employee morale and keep ahead of industry advancements and contemporary technologies. Higher motivation and confidence would allow the worker to be more efficient Dost & Khan, (2012).

Training programs are therefore the most effective way to prepare staff members to handle and navigate the COVID-19 pandemic issue.

6.1.3 Professional Development:

Activities that an employee engages in outside of work frequently have an indirect impact on their professional life, adding to their skill set and knowledge. These activities may not always be directly related to the job, but they may eventually aid in its execution Skule, (2004) Spaan et al., (2016). Professional and personal development are processes that occur concurrently, entwine, and impact the other at certain points in life, making it very difficult to analyze one without the other Noe et al., (2014). Additionally, it has been discovered that HRD has a beneficial impact on social



capital development, management motivation to learn, leadership, employee engagement, and the advancement of a learning culture Sheehan et al., (2013). Particularly, emerging technologies are crucial in helping to discover novel approaches to support individuals of all ages in gaining expertise and abilities Mulvie, (2021). These technologies have also practically become the only choice available to ensure employee growth during the COVID-19 epidemic.

6.1. Development of professional careers

Sutherland, (2017) provide a more thorough definition of this, highlighting five fundamental purposes of professional development: gaining more knowledge, learning from experience, forming new attitudes and beliefs, potential for regaining professional credentials, collaboration and input to the training of staff members.

As Armstrong & Taylor, (2023) asserted ,Professional development is typically understood from a management perspective as an employee's growth inside an organization in accordance with the needs of the organization and the outcomes, capabilities, and interests of those working there. It establishes standards, demands, and enforces behavioral modifications as well as the learning of new abilities and information. Additionally, any changes to the organization's internal or external environment necessitate adapting to the new environment, which shapes the essential competencies.

6.1.5 Culture of lifelong learning

Opportunities for growth and education are more abundant now than they have ever been Maheshwari & Vohra, (2018). Employers are aware of this and are using contemporary development techniques and resources more frequently to draw in and keep the best employees.

According to some recent study, individuals who adopt a lifelong learning mentality are more likely to achieve both objective as well as subjective success in their careers Drewery & Sproule, (2020). In addition, employee professional development lowers turnover and boosts job satisfaction Glazer et al., (2018). It is imperative that academics recognize the growing scope of development initiatives and incorporate employee-driven development into conventional development theory at this time Dachner et al., (2019).



Companies that fund programs for workplace training and development benefit from having a workforce that is more dependable, resourceful, diligent, and Badruddin & Saxena,(2016). Talented and competent workers from emerging markets are in high demand both domestically and abroad.

6.1.6 Development process modifications brought about by COIVD-19

Jaiswal & Arun, (2024) asserts that significant changes occurred during the COVID-19 era, including the implementation of lockdowns and the forced remote work of the majority of the staff. At a never-before-seen rate, businesses' interest in (and demand for) remote and virtual training increased. As a result, the majority of businesses and organizations switched from traditional in-person training techniques to online training methods, concentrating on online training amid the COVID-19 pandemic.

In the same line, LinkedIn Learning Report, (2020) has also reported that it is now essential to shift the development area from offline training facilities and in-person interactions to online learning environments. The coronavirus has sped up the process of change and revolutionized education. Organizational priorities have evolved, necessitating the demand for new competencies. L&D specialists are confident that this is just the start of a more significant and long-lasting shift in employers' and employees' perceptions as well as in technology. There is pressure on employees, supervisors, and company executives to retrain and upskill. The majority of them claim that COVID-19 and the ensuing financial crisis have made learning new skills more urgent. Furthermore, with the current global wellness and economic crises, it is more difficult to discover development possibilities at work. During the epidemic, nearly half of employees (46%) claim their employers have decreased opportunities for upskilling and reskilling Degreed Report, (2020.)

According to Iqbal et al., (2025) programs for staff development and training aid in improving workers' knowledge, skills, and capacities as well as fostering efficiency, value creation, and competitive advantages among prospective employees. Employees must embrace new work environments, duties, and technologies in this crucial COVID-19 scenario in order to continue being productive and meeting performance goals.



6.1.7 The role of learning and development departments

Helping people retrain and enhance their skills has always been one of the main goals of L&D divisions in organizations. Due to significant demographic, socioeconomic, and economic changes, the requirement has been in existence for a long time. Senior staff members are retiring or taking advisory roles. Others must acquire newer, more practical professional skills. The aforementioned problems were brought to light by the COVID-19 pandemic, which in turn increased the need and opportunity for L&D departments to actively participate in organizations Mikołajczyk, (2021). According to Fatima et al.,(2025) By aligning educational and training initiatives with market needs, these collaborations can address persistent talent mismatches. Tiwari & Badruddin, (2025) underline the need of funding coordinated training and development activities to boost employee happiness, attitudes, and skill levels.

In many instances, the L&D departments lacked the necessary skills and resources to handle such a shift. Out of the 108 companies that took part in the Fosway Group survey in May 2020 in Europe, only one in four acknowledged that they had no significant issues during the pandemic, and almost all of them had to modify their current approach to learning and development due to the COVID-19 outbreak *Learning Technologies Summer Forum 2020 Downloads and Resources*, (2020). The need for a swift transition to digital learning has been the primary driver of this change, and demand for it has sharply increased among stakeholders and students alike.

L&D professionals were asked how the meaning of in-person training might evolve in the COVID world in a different study called, The Ken Blanchard Companies (2020) survey Witt, (2020). Wherein 24% of respondents think that live meetings will only be held for high-impact events, 56% of respondents think that traditional classroom activities will continue to be important and will be incorporated into hybrid learning initiatives (blended experience). Just 17% of respondents say that classroom instruction will continue to be the norm and the recommended method of development.

Additionally, a substantial rise in the use of e-learning in organizations is indicated by the research findings published in August 2020 by The Association for Talent Development. Five years ago, only 76% of organizations offered e-learning to their employees; today, 99% of them do. According to the ATD Research Report (2020), all participating organizations (100%) say they plan to provide e-learning as part of their HRD activities over the following five years.



Employees' perceptions of remote learning, their experiences and preferred methods of learning, and employers' attitudes toward virtual education were all examined in the Digital University and Great Digital Report (2020) study carried out in Poland. Overall, 77% of respondents think that, whether positive or negative, remote learning can be just as much of an experience as residential schooling.

Singh et al., (2023) An effective staff training program can boost productivity and worker happiness. Training acts as a dedicated overseer for both the organization and its employees. It Increases income while lowering employee turnover and absenteeism.

The COVID-19 pandemic had inexplicably compelled the training industry to heavily rely on video as the most effective stand-in for in-person meetings. Among professionals in many industries, videoconferences, webinars, online trade shows, open days, and networking events are commonplace events. In order to obtain a competitive edge, it is important to think about how to apply development procedures in such circumstances.

Companies in the US devote an average of 11% of their budget to staff training and development, according to (Freifeld, 2018). Malaysian businesses have seized the opportunity to increase employee support and engagement during the COVID-19 pandemic. In accordance with Suazwina (2020), Malaysian companies survey has demonstrated three trends: 11% of the organizations are thinking about expanding healthcare benefits, 13% are concentrating on improving work-life balance programs that will help them obtain more flexible and adaptable work arrangements, 6% intend to support and concentrate upon their training and development programs. However, according to a survey on certain nations' budgetary allotment for training and development initiatives, Sweden, Denmark, and the United Kingdom were among the nations whose businesses set aside the largest percentage for training and development (44%, 42%, and 38%, respectively), while France spent the least amount, only 2% of their budget Bouchrika,(2022). Businesses everywhere are realizing how crucial training is to their workers' development in order to sustain high performance and efficiency from a workforce that can adapt to a changing and dynamic environment. Due to the effects of COVID-19, and working from home, the workplace has recently been marked by uncertainty, difficulties, and a completely different atmosphere for both employees and enterprises.



Cultivating the knowledge and abilities of the workers in an organization is one of the most important tasks of human resource management Bo Hansson, (2007). As stated by Becker and BECKER & HUSELID, (2010), in order for employees at all levels to make contributions to the organization and improve their performance, they must understand the firm's strategy. Building on this conversation, it can be concluded that more than at any other moment, companies during COVID-19 had to teach and communicate with their staff about the new organizational approach.

6.1.8 Significance of Employees' Training and Development in Surviving through Pandemic Covid-19

Everything was unclear when the quarantine was put into effect. Though many have attempted to ascertain, it is unclear exactly how the SARS pandemic could influence the world economy. Some citizens started working from home or operating remotely. As they hurried to have workable backup options, many businesses found themselves in a challenging situation. One popular technique for retraining employees how to use the right technology was eLearning and other imitated training. The foreseeable future of employee planning started to revolve around new forms of engagement. In order to accommodate the growing number of online learners, online learning platforms picked up steam. A variety of remote technologies are now being used by an increasing number of businesses to communicate, send notifications, and more. A new generation of remote workers has emerged as a result of COVID-19's impact on learning and development. We can alter how we work, interact, purchase, and teach in the future, just as we have in the past.

6.1.9 Solutions for Remote Learning

Without a doubt, preparation and remote work are here to stay. Organizations should use creative approaches to keep employees growing more adaptable.

It has been observed that distance learning has become increasingly popular among employees and professionals. Employers can take advantage of the LinkedIn Learning Course and many other learning platforms to upgrade their skills and cope up with the competition.

Training initiatives will help businesses stay afloat during the pandemic and preserve their competitive advantages Kanapathipillai & Azami, (2020).



Simplilearn (2022) polled HRM and development and training professionals worldwide, with the majority of respondents hailing from the US and India. The findings demonstrated a significant shift toward training digitization. According to graph No.2 below, 86% of businesses have moved their development and training initiatives online, 76% intend to expand their online training initiatives, and 68% believe that online training is just as effective. These details are summarized in Figure 2 below.

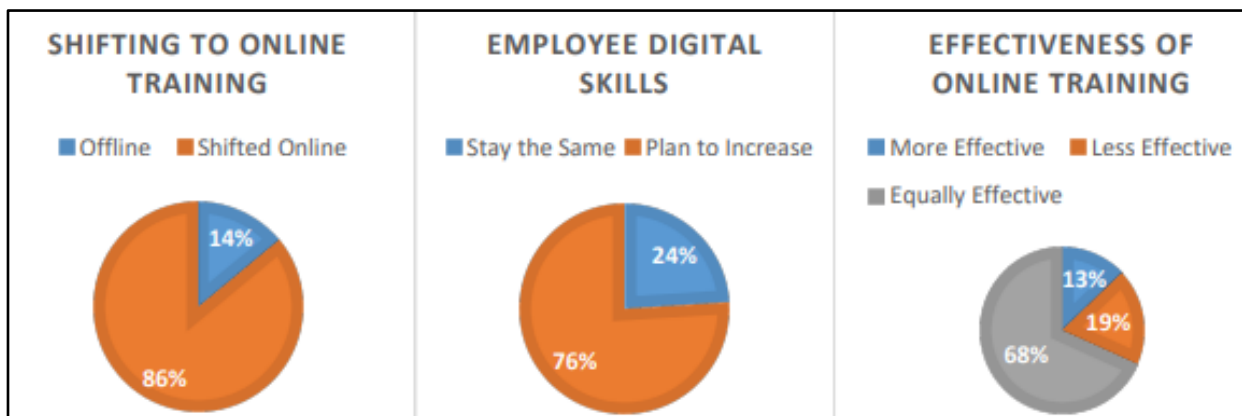


Figure 2: Training and Development Shift to Online. Source:(Simplilearn, 2022)

Because of this, it is now crucial for businesses to explore other options and rely more on cutting-edge communication technologies in order to sustain effective employee performance and achieve successful communication.

As seen in Figure 2 below, a global survey by the Training Industry website found that businesses were using up to nine new online technologies to assist with employee training and development Taylor, (2020). The names of these technologies are not mentioned in the report, though.

There have been many changes, and the world is changing quickly, particularly as a result of COVID-19. Karm and Mahadevan, 2019 remarks that we should have the ability to learn whenever and wherever it suits us.

Pinto et al., (2020) affirms that Training and Development initiatives has proved to be an effective tool in assisting businesses in reaching their business objectives and strategic objectives as well as gaining market leadership, Furthermore, in the same line AL-Sinawi et al., (2015) added that training and development initiatives can raise worker productivity and product quality, allowing the business to meet industry productivity standards while lowering product scrappage rates.



6.1.10 Employee Training and Development Practices in IT Company amidst of COVID-19

As per the Article published on Learn Tech Asia, 2022, The COVID-19 epidemic has accelerated the adoption of digital learning technology and drastically changed staff training practices in IT businesses. It has been found that 94% of training sessions have been switched from Conventional training techniques, such in-person workshops and seminars, to digital learning post-pandemic. In order to guarantee ongoing learning and development, the need for distant work sped up the shift to digital platforms.

7. Limitations:

The paucity of research on COVID-19 and the development of human resources since the disease's onset was one of the study's weaknesses. In order to perform a more thorough examination of the existing studies, the researchers attempted to use references and citations from each of the papers included in this investigation. Additionally, only English-language publications that were published in reliable international databases were examined for this study; many more websites and other information sources might have not been taken into account. In conclusion, this study attempted to create a solid idea that can be applied in future research to manage businesses and staff members as effectively as possible by offering a conceptual framework of a viable organization in respect to human resource development to conquer the challenges of COVID-19.

The following are recommended for additional research: the experience and lessons of the IT organization, the innovative strategies for managing human resources during the COVID-19 pandemic, the quantitative study of IT professionals for human resources management during this crisis, and empirical research to learn more about the challenges of human resources during COVID-19.

8. Conclusion And Future Scope of Study:

IT Professionals have traditionally been the first to embrace new technologies. After COVID-19, it will be even more crucial for them to accomplish so.

To help with this, the Training Industry offers a great strategy. Corporate training methods have changed as a result of the pandemic, and L&D experts have adapted brilliantly. It has also made us consider our requirements and how we can become susceptible in the event of a rapid change.



What will change in the future is still up in the air. All we know, however, is the fact that we are ready to embrace change and adapt to it. Four functional groups—administration, content, delivery, and technology—are used by the Training Process Model to classify and group training roles and processes.

Now is the moment to focus on technology. To attract learners and maintain their attention, virtual training ought to be constantly concise and direct.

Is the post-pandemic period going to be the next big development in the training sector? Although the answer continues to be unknown, if it is, this age will have the impact of normalizing virtual and remote training and reiterating the significance of technical ability for training experts.

However, some limitations should be taken into account when evaluating this paper's contribution. First, the fact that our study is an overview of the literature with an informative goal raises the prospect of a subjective literature selection. Nevertheless, the most cited articles are found in the databases we used, which are Google Scholar, Science Direct, WOS, Elsevier, Research Gate, and Semantic Scholar. Furthermore, a comprehensive literature review of the literature is not necessary for this paper's goal or informative nature. As a result, it is impossible to precisely identify the long-term opportunities and challenges. To find these opportunities and challenges, longitudinal analysis should be the focus of future research.

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