Covid-19 Pandemic Preparedness of Organizations and its Impact on Digital Maturity

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Abstract

Covid-19 pandemic has hit each and every industrial sector globally. The sudden lockdown imposed by nations has severely affected business dynamics. Some businesses have transformed their operations so as to adapt to new environment and sustain in such environment. However, many other businesses were not prepared for such events and met their designed fate. As a result of unpredictability and interruption, businesses must now focus on building resilience into their operations. The pandemic's important lesson has been needing of business resiliency, as companies strive to guarantee that they can continue operating in event of another calamity. Business has clearly moved to digital platforms for commercial, educational, and personal objectives leading to discussions globally on digital maturity. As a consequence, customers no longer expect just the same experience they had previously. They now considerably exhibit greater digital expectations. This is why all organizations, regardless of location or size, must accelerate their digital adoption and restructure their processes in order to meet customers where they are now and deliver the experience they mandate. Objective of this study intends to study effect of lockdown situation on digital transformation that various organizations underwent to sustain in new environment. The study aims to explore which industries transformed digitally more quickly than others and its impact on current perceived digital maturity of the organization. From a methodological perspective, a structured questionnaire is prepared to collect primary data from employees of various industries. 124 responses were collected and analyzed. The findings of study will help organizations to develop sustainable practices in such type of situations. Limitations are also discussed which can be considered for resolution in future studies.

Keywords: Covid-19 Pandemic, Digital Maturity, Digital Transformation, Lockdown, Organizational Preparedness

Introduction

Individuals and businesses alike have become more conscious of the necessity of digital connection, technology, services, and solutions as a result of the COVID-19 pandemic. Although the digital change of society and business began long before the pandemic, the health catastrophe that began in January 2020 forced the movement to become more general.

The digital transformation process is currently a vital instrument for improving the efficiency and competitiveness of businesses that are always seeking for new ways to increase their output. Technology that enables the integration of heterogeneous systems and the creation of digitally controlled networks of autonomous devices as well as sensors, as well as the Internet of things and a variety other solutions are widely used in organizations (e.g., 3D printing). Changing information systems and new technologies like cloud computing, big data analytics, and the Internet of Things have made it possible to access any information at any time and from any location. The consequence is that custom-made or limited products may be produced affordably and easily, and they can be tailored to meet the exact needs of the customer. According to a 2020 worldwide study (McKinsey, 2020), the COVID-19 pandemic-induced acceleration of digitization in business is large and frequently measured in 'years'. The way businesses are conducted has changed, for example, as customer demand for online services and sales/purchases have increased, as have the acceptance of remote working and the movement of corporate assets to the cloud. As a result, business models have evolved.

Working conditions have improved for today's workforce as a result of constant innovation and improvement inside the workplace itself. Digital innovations including smart technology, artificial intelligence (AI), cloud computing, robotics, and the Internet of Things (IoT) are increasingly changing how we work and generating questions about the future of employment and organizations. A company's business model must be updated and altered in order to remain competitive in the face of rapid change. In the meantime, the development of sophisticated technology has transformed the kind of talents and competencies necessary in the workplace, forcing a paradigm shift among people, teams, and organizations.

Literature Review

While digital transformation is frequently addressed in corporate contexts, it is also explored in social contexts. However, the term "*digital transformation*" does not only relate to a technological transition. Stolterman and Fors (2004) define digital transformation as "*the transformations that digital technology brings about or impacts in all spheres of human activity.*" Solis (2017) defines digital transformation as "*the realignment of, or new investment in, technology, business models, and processes with the goal of creating new value for consumers and workers and competing more effectively in an ever-changing*

digital market." From an organizational standpoint, digital transformation may be thought of as a significant and accelerated change in processes, activities, competencies, and models. It enables businesses to capitalize on the changes and possibilities brought about by digital technology.

Schlepp (2019) defines innovative usage of digital technology as *"the novel application of digital technology to address traditional challenges in unique ways and enable novel sorts of innovation."* From a sociological standpoint, digital transformation refers to the process by which humans reshape the way society functions by their interpretation and comprehension of society, which includes the use of digital technology in daily life.

Lin et al. (2013) performed an empirical study in Taiwan with the goal of implementing a maturity model based on the Singapore Smart Industry Readiness Index. Cluster analysis was used to determine the maturity of Industry 4.0 in Taiwan. The investigation resulted in the classification of 80 Taiwanese organizations into four groups. According to the study, a high association exists between technology, procedure, and organization. The majority of firms were judged to be immature or underdeveloped, necessitating more growth in digital transformation. The study indicated that the Singapore Smart Industry readiness index is appropriate for self-assessment in Taiwanese businesses.

Employee well-being and resilience are crucial in the face of rapid changes in both work and technology, as seen by the current COVID-19 outbreak. Digital transformation is a new and urgent need, but rigorous research may be utilized to understand these growing trends. There has been a lack of emphasis dedicated to employee-related aspects of digital transformation in recent studies and analyses of the subject. There are a number of crucial gaps that need to be bridged in order for an organization's total digital transformation to be successfully completed by the authors of this article with the hope that they can identify and combine the critical parts of digital transformation. Research from a wide range of fields was analysed, and conclusions were compiled into a multi-level framework. Technology adoption, perspectives and attitudes toward technological change, skills and training, workplace resilience and adaptability, and work-related well-being are the five overarching determinants for effective digital transformation among employees at the individual level. In order to achieve digital transformation at the group level, they identified three important variables: team communication and collaboration, workplace connections, and team identity, as well as team adaptability and resilience. Organizational digital transformation may be aided by focusing on leadership, human resources, and culture/climate.

Wadhwan and Gupta (2020) examined the influence of valuable and relevant information on recruiters' intentions to utilize LinkedIn throughout the recruiting process. A standardized questionnaire was used to collect data from 125 recruiters in Delhi and

the National Capital Region. A factor analysis was conducted to ascertain the various qualities of LinkedIn as seen by recruiters. The findings indicated that the perceived utility and relevance of material provided on LinkedIn had a substantial impact on individuals' intentions to utilize LinkedIn for recruiting.

Wernicke, B., et al (2021). Their study sought to develop a mechanism for assessing construction sites' digital maturity. The proposed framework contains evaluation areas that define the development range of digital technologies, and an assessment technique that guides assessors. The framework's purpose is to help decision-makers enhance digitally-based site operations while taking organizational concerns into account (individuals, technologies, organizational structure, goals, and environment). Digital maturity refers to a site organization's ability to examine and deploy digital technologies, as well as manage them systematically inside the permanent company. Thus, digital maturity is the capacity to monitor and incorporate organizational repercussions into digitally enhanced site development processes. At its most advanced, the framework decides if a site is integrated into the firm's long-term project portfolio, potentially allowing digital transformation.

Research Methodology

The study's primary purpose was to determine the level of digital maturity of all participants working in different non I.T enterprises.

Hypotheses of the study are framed based on Literature review and experts' view.

H_1- Type of Industry and Employee Perception of Preparedness for digital transformation are significantly related.

H_2- Type of Industry and Employee Perception of digital maturity of organization are significantly related.

H_3- Employee perception of Preparedness of organization for digital transformation and their digital maturity perception are significantly positively correlated.

The study is conducted in Pune city. Sample unit for this study is Employee of any non IT organizations who have at least 1 year of experience with the current organization. The purposive sampling technique is used to select samples. More than 200 employees were requested to respond to the questionnaire, however only 134 employees from various industries like Automobile, pharmaceutical, retail and education to name a few responded to the structured questionnaire. Out of 134 responses 4 responses had to be discarded because they were incomplete with more than 30% (of total questions) missing values. 6 other responses had been discarded because they were unengaged responses. Total 19 questions are there in the questionnaire. Around 80 of the responses are collected by meeting the sample units personally at their offices and remaining 54 responses were collected through Google Form. The data is analyzed in SPSS through appropriate statistical tools. For Secondary data past research works were reviewed.

Data Analysis and Discussion

Reliability of the questionnaire

Cronbach's alpha coefficient was observed to check the reliability of the questionnaire. The result is shown below.

Table no. 1 Reliability Statistics

Cronbach's Alpha	N of Items
.892	19

The reliability of the scale was investigated in SPSS. The Cronbach's alpha value is checked and it is found to be greater than 0.7. Thus the questionnaire is considered reliable.

Descriptive Statistics

Table no. 2 Descriptive Statistics- Preparedness of the organization for digital transformation

	N	Minimum	Maximum	Mean	Std. Deviation
My organization could immediately adapt to lockdown situation and conducted business activities through digital infrastructure	124	3.00	5.00	4.1371	.81982
My organization sustained during lockdown situations because organization to some extend was prepared for online/ digital business activities even before lockdown was imposed	124	2.00	5.00	4.1371	1.10678
Lockdown did not affect my organization's cash flow as organization have had already adopted some of the digital transformation strategies (such as available online for sales, work from home strategy etc.)	124	1.00	5.00	3.7258	1.36351
Overall Mean				4	

From table no.2 Descriptive Statistics it was observed that the overall mean of the preparedness subscale is 4. It indicated that most of the respondents feel that their organization have had enough resources and infrastructure to face the challenges of pandemic.

Table no. 3 Descriptive Statistics- Digital Maturity of the organization

	N	Minimum	Maximum	Mean	Std. Deviation
Employees have enough knowledge and skills in dealing with digital technologies	124	2.00	5.00	3.7661	1.04461
Employees and related stake holders receive appropriate training on digitalization from my organization.	124	3.00	5.00	3.7258	.69069
Employees have favourabale attitude towards digitalization	124	2.00	5.00	4.3145	1.02304
Employees (in general) are ready to receive further training on new technology	124	2.00	5.00	4.1774	.98813
Organization has up to date infrastructure required for digital transformation (going online from offline)	124	1.00	5.00	3.8629	1.33334
My organization has enough and adequate digital equipment and software required for digitalization	124	1.00	5.00	3.5887	1.16180
In My organization adequate technical support is provided to all employees	124	1.00	5.00	3.7661	1.28220
My organization is financially self-sufficient to establish and maintain digital infrastructure required	124	1.00	5.00	3.8629	1.22531
My organization has efficient procurement and maintenance system for digital technologies	124	1.00	5.00	3.7258	1.25807
In my organization standard operating procedure exists about the usage of digital infrastructure	124	1.00	5.00	3.5484	1.16420
My organization's culture supports adoption of new technologies whenever need arises	124	1.00	5.00	3.4113	1.37936

My organization's culture is open to new technologies	124	2.00	5.00	3.5887	1.37936
My organization's culture supports inculcating change whenever required	124	2.00	5.00	3.7258	1.01484
Employees in my organization can communicate openly and can get support from supervisor and colleagues	124	2.00	5.00	3.5887	.89272
Overall Mean				3.8	

Table no. 3 shows that overall mean of digital maturity subscale is 3.8. It indicates that in employees' perception their organizations are digitally matured and can cope up with challenges created due to uncertain situations such as Covid-19 pandemic. The table also shows that the statement "Employees have favourabale attitude towards digitalization" has got highest mean value among all other statements.

Hypothesis Testing

H1- Type of Industry and Employee Perception of Preparedness for digital transformation are significantly related.

To test this hypothesis one way ANOVA is used in SPSS. The result is shown in table no.4 below.

Table no. 4. ANOVA- Industry and preparedness for digital transformation

		Sum of Squares	df	Mean Square	F	Sig.
Prepared-ness	Between Groups	23.151	2	11.575	28.804	**.000**
	Within Groups	48.627	121	.402		
	Total	71.778	123			

Table no. 4 shows that the significance value of F test ($p<.01$) is less than .01. Therefore we fail to accept null hypothesis. Thus we accept H_1. In simple words as industry changes employees' perception of preparedness for digital transformation also change significantly.

H_2- Type of Industry and Employee Perception of digital maturity of organization are significantly related.

To test this hypothesis one way ANOVA is used in SPSS. The result is shown in table no.4 below.

Table no. 5. ANOVA- Type of Industry and Employee Perception of digital maturity

		Sum of Squares	df	Mean Square	F	Sig.
Digital Maturity	Between Groups	63.150	2	31.575	67.726	**.000**
	Within Groups	56.412	121	.466		
	Total	119.562	123			

Table no. 5 shows that the significance value of F test ($p<.01$) is less than .01. Therefore we cannot accept null hypothesis. Hence H_2 is accepted. This means that employees' perception of digital maturity of the organization changes as per their type of industry.

H_3 - Employee perception of Preparedness of organization for digital transformation and their digital maturity perception are significantly positively correlated.

This hypothesis is tested using Pearson's correlation. The result of the test is shown below in table no. 6.

Table no. 6- Correlation- Preparedness and Digital Maturity

		Preparedness	Digital Maturity
Preparedness	Pearson Correlation	1	**.974****
	Sig. (2-tailed)		**.000**
	N	124	124

**. Correlation is significant at the 0.01 level (2-tailed).

Since the significance value is less than .01 ($p<.01$) we fail to accept null hypothesis H_0 - Employee perception of Preparedness of organization for digital transformation and their digital maturity perception are not significantly positively correlated. This we accept H_3.

Conclusion

The Covid-19 pandemic has hit almost every Industry and business in entire globe. Many businesses could not sustain because they could not manage the sudden changes that environment has created for them and thus they have to either shut their operations down or sell their business. This means that such businesses did not have appropriate change management system in place. The findings of this study showed that organizations' preparedness perception for digital transformation and perception of digital maturity of organization differ as per type of Industry in which organization is operating. Finally preparedness of organization and digital maturity are strongly positively correlated. To conclude it can be said that organization which were well adverse with digital technologies could sustain the lockdown phase and could come up with create ways of doing business in new normal situation imposed by Covid-19 pandemic. Digital transformation offers a potential to strengthen solidarity throughout the organization and within the divisions but it should not deepen divisions and disparities between high- and low-performing divisions. From our observation we can say that the implementation and acceptance of digitalization should not be limited to only enterprises in urban areas but the focus should also be on rural and semi urban areas. it is vital to close the digital barrier between rural and urban enterprise functional circumstances; establish digital cohesiveness through outreach to as many small and medium-sized enterprises (SMEs) as feasible and prevent the negative externalities that impact the digital change that may have on employment and on labor market.

The small sample size is the major limitation of this study. The study is based on employee perception therefore actual digital maturity may slightly different than what it is in reality. While this study has limitations, it also opens various avenues for further investigation.

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