Unlocking the COVID-19 Lockdown: Work from Home and Its Impact on Employees

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Abstract

The present pandemic caused by COVID-19 has caused unprecedented turmoil in human lives. Invoking the typology of crises, we classify COVID-19 as an intractable crisis that necessitated nations to impose lockdowns. As national economies and businesses got a severe blow with this closure, organizations encouraged employees to work from home. Drawing upon the employee isolation literature, we aimed to examine the impact of work from home on employees during the lockdown. This investigation would help us learn about the nature and quality of work in the context of the current crisis. Towards this, we conducted in-depth interviews with 24 middle and senior-level managers across manufacturing and technology-enabled service sectors in India and analyzed the data using MAXQDA software. Employees reported an increase in working hours, major changes in their roles, reduced levels of productivity, and increased levels of stress. Besides these findings, we discovered sparks of creativity among employees during this isolation period. These creative steps were either towards nurturing oneself for career growth or towards solving long-pending organizational issues. Interestingly, the creativity was self-initiated. Our findings have key implications for organizations and their leaders who need to revisit work-from-home policies for the future workforce. We highlight our theoretical contributions and outline the scope for future research.

Introduction

Mankind has faced the scourge of epidemics and pandemics on numerous occasions in history. The scale of devastation took on enormous proportions, such as during the Black

death of 1350 or the Spanish Flu of 1918. While the Black Death evaded India and China due to the limited pan-continental transportation of that era (Sussman, 2011), the Spanish Flu, in contrast, ran riot in India after originating in a distant corner of the globe (Patterson & Pyle, 1991). Thus, investigations on the biological characteristics of these occurrences prompted the deployment of 'lockdowns' as containment measures which are well-documented since the outbreak of the Spanish Flu. The effectiveness of restrictions on public movement and congregation, when implemented at different stages of the disease, resulted in remarkably different outcomes in its propagation (Hatchett, Mecher, & Lipsitch, 2007). In contemporary times, the outbreak of Severe Acute Respiratory Syndrome (SARS) was effectively handled by intense monitoring and imposition of restrictions on public movement despite the adverse impact on industrial production and livelihoods (Omi, 2006; Twu et al., 2003).

While the current Corona Virus Disease (COVID-19) had characteristics similar to a contagious viral infection (Wu et al., 2020), it evaded detection in a large fraction of people due to its asymptomatic nature. Further, the virus uncontrollably spread owing to the extensive movement of people across the globe. Despite its identifiable nature, its mechanisms of action remain largely unknown. Thus, we invoked the typology of crises (Gundel, 2005) to classify COVID-19 as an intractable crisis. Most affected

countries have imposed partial or total lockdown of their economies as containment measures towards timeboxing the virus (Lau et al., 2020; Remuzzi & Remuzzi, 2020). A three-week nation- wide lockdown was imposed by the Indian government from 26th March 2020, during the early stages of the outbreak of COVID-19 in the country (Barkur, Vibha, & Kamath, 2020). The lockdown was extended by two weeks at the end of the first interval. According to Gupta, Madgavkar, and Yadav (2020), the Indian economy functioned at 49-57% of its full activity. Thus, the industrial sector in India came to a grinding halt, resulting in a Gross Domestic Product loss of almost USD 98 billion (Aggarwal, 2020). While the restrictions

may have slowed the progress of the disease, nevertheless , the reported cases increased from 360 in the last week of March to 40,263 national cases by the first week of May 2020 (WHO, 2020).

The current global outbreak is different from the outbreaks of yesteryears as it is among the first to emerge in the backdrop of unprecedented advancements in information and communication technology (Okuda & Karazhanova, 2020). Leveraging the technological revolution, industries could function to varying degrees by using facilities such as remote access and online communication, even as factories were are largely shut and there were prolonged restrictions in physical movement. Thus, the current investigation assumes significance by providing a succinct note on how employees have responded to the challenge posed by the outbreak. While urging employees to work from home was the only viable option for organizations to function, we draw upon the employee isolation literature to unearth its psychological impacts (Cooper & Kurland, 2002; Golden, Veiga, & Dino, 2008; Mulki & Jaramillo, 2011). Employees working in virtual environments have reported feelings of professional and social isolation due to a lack of sense of belongingness, trust, and camaraderie that engenders during physical presence and interpersonal interactions.

Thus, the present study aimed to assess how employees in India were coping with work from home during this unprecedented lockdown. We conducted interviews of 24 middle and senior-level employees equally represented by the manufacturing and technology- enabled service sectors. The interviews were conducted at the end of the first lockdown period to allow for a reasonable time for the employees to develop an impression of the happenings. We contribute to the literature in two ways: first, we draw upon the organizational adaptation theory to suggest how the work-from-home model that has evolved during the lockdown will extend in the pandemic-recovery phase. Second, we contribute to

the creativity literature by citing empirical evidence of employee's self-initiated creative pursuits during work-from-home in forced isolation. In the following sections, we briefly review the literature on crisis, how organizations have responded to the present crisis by encouraging work from home, and the likely impact of working in isolation on employees. We present our qualitative research design and results. Finally, we discuss the implications of our study findings, theoretical contributions, and avenues for future research.

Theoretical Background

Crisis and response to the crisis

The COVID-19 pandemic started as a health crisis but has become the greatest global humanitarian crisis since World War II (UNDP, 2020). We invoke the widely-cited *typology of crises* (Gundel, 2005), which has two defining characteristics: predictability and influence possibilities. A crisis is deemed *predictable* if how it occurs is knowable and the probability of its occurrence is not neglected. A crisis is considered *influenceable* if responses to reduce damages by provoking the causes of the crisis are not only known but also possible to execute. According to Gundel's Crisis Matrix, we classify COVID-19 as an *intractable crisis*. Intractable crises are sufficiently predictable but almost impossible to influence due to the ir system attributes. Intractable crises are often easy to identify in time, place, and manner of their occurrence, but their mechanisms of action cannot be explored in-depth due to their complexity. Thus, preparation for facing such crises is difficult. COVID-19 was predictable because of its characteristics of a contagious viral infection. However, its spread could not be contained for several reasons including the presence of a large fraction of asymptomatic cases that escaped detection and the rate of spread was accelerated due to massive worldwide air- travel. Thus, such a crisis makes response difficult, preparedness hard, and impedes countermeasures due to conflicts of interest of stakeholders facing the crisis. Intractable crises are considered extremely dangerous with irreversible damages (Gundel, 2005).

Given the gravity of the intractable crisis, countermeasures by a single entity are rarely effective. Since COVID-19 has impacted people globally, strict and internationally applicable regulations have been enforced. Amidst a situation with unknown mechanisms of action, societies have deployed safety protocols of physical distancing and mobility reduction through lockdown, as immediate countermeasures to reduce the rate of virus spread. Lockdown is considered an emergency protocol that restricts an individual's movement. People must not leave a given area (usually their home) except for procuring essential supplies. All public places are shut down, non-essential activities discontinued, and travel by air, rail, and buses remain suspended during this period (Economic Times, 2020). The aim of the lockdown is isolation i.e. the separation of people who have been diagnosed with a contagious disease from people who are not sick (Brooks et al., 2020).

Businesses were least prepared for a black swan event such as the current pandemic which lead to a sudden and complete closure of offices worldwide. To survive the upcoming economic crisis, most organizations (where possible) required their employees to work from home. This practical business continuity response is described by the situational theory (Felstead, Jewson, Phizacklea, & Walters, 2002) wherein organizations react and respond to the pressures of the immediate situation. While under normal circumstances work from home was an option provided by employers to few employees, the COVID-19 lockdown left work from home as the only viable option for organizations to survive.

Employee isolation

Although remote work facilitates business functioning (Zhang & Wang, 2008), it is known to create psychological impacts on employees. The literature on teleworking and employee isolation cites emotional challenges confronted by employees who work in virtual environments (Golden et al., 2008;

Mulki & Jaramillo, 2011). Employee isolation is a psychological construct that describes employees' perception of lack of opportunities for social and emotional interaction with other organizational members (Mulki & Jaramillo, 2011). Workplace interactions help employees assimilate into the organizational culture and enable coordination and cooperation, whereas, in virtual work environments, employees often perceive themselves as a sole entity rather than as part of an organizational framework. Isolation could be perceived professionally and/or socially by the employee (Cooper & Kurland, 2002). Feelings of professional isolation create a fear that being out-of-sight will limit opportunities for career advancement, whereas, social isolation is felt when employees miss the informal interaction they garner by being around others at the workplace. Interpersonal networking, spontaneous discussions, and face-to-face communication facilitate information sharing and build trust. These key mechanisms are thwarted during isolation (Cooper & Kurland, 2002; Gajendran & Harrison, 2007). Feelings of isolation, thus, diminish employee's self-efficacy and confidence in their abilities (Golden et al., 2008; Mulki & Jaramillo, 2011).

In the present scenario, organizations have enforced work from home wherever possible. There is no historical precedence where societies have been locked down yet employees were required by their organizations to continue work remotely. Though the present study context is different from teleworking as examined in the past, we believe that the psychological impacts of virtual work environments will hold significance. Confinement, loss of usual routine and reduced interpersonal contact will engender feelings of work-related isolation (Brooks et al., 2020). Such perceptions coupled with anxiety about career progression, doubts of employment security, risk of infection, fear of death or of losing loved ones, will influence employee's stress levels and well-being. Thus, the present study is guided by the research question:

What is the impact of work from home on employees in manufacturing and technology-enabled service sectors during the COVID-19 lockdown?

Methods

Sample and data collection

Lockdown in India was declared in two phases: Phase 1 was from 26th March 2020 to 14th April 2020 and Phase 2 extended the lockdown to 3rd May 2020. Data for this research was collected in the fourth week of the lockdown (between 13th and 17th April 2020). We chose this time because we were aware that phase 1 of the lockdown had disturbed everyone's personal and professional routine (including ours!). While business continuity plans were being crafted at the professional level, at a personal level, people were grappling with household chores, stocking groceries and essential items, and sharing their anxieties about the unprecedented crisis. As phase 1 of lockdown neared its end, people and businesses were better informed of the pandemic and were mentally prepared for another phase of lockdown. People had started settling into the lack-of-routine mode and had come to terms with uncertain times. Thus, we deemed this window of lockdown as appropriate for data collection for the present study.

To address our research question, we interviewed 24 seasoned executives in large private sector organizations in India. Participants represented both manufacturing and technology-enabled service sectors. 12 participants in the manufacturing sector were employed in industries such as automobile and fast-moving consumer goods whereas remaining participants were employed in industries such as banking and information technology. All participants were middle to senior-level managers with at least ten years of work experience. Participants were employed in different companies spread across different industrial and metropolitan locations in India such as Chennai, Bangalore, Gurugram, and

Pune. Table 1 summarizes the participants' and their company's characteristics. We sought an appointment for conducting the interview after providing the purpose of the study. The participants were assured of confidentiality and anonymity of their responses. All interviews were conducted over the telephone as face-to-face interviews were not possible in the lockdown situation. The interview design was semi-structured in nature (see Appendix). Each interview lasted for 25-30 minutes and was transcribed within 24 hours.

Data Analysis

Table 1: Respondent characteristics

Participant number	Sector	Gender	Experience (in years)	Job function
1	Metals and mining	Male	13	Operations
2	Renewable energy	Male	11	Engineering Design
3	Information Technology	Female	10	Human Resources
4	Financial services	Male	11	Business Development
5	Financial technology	Female	12	Program Management
6	Information Technology	Female	10	Technology advisory
7	Paint manufacturing	Male	10	Human Resources
8	Automobile	Male	10	Sales
9	Banking	Male	10	Marketing
10	Financial services	Male	11	Market research
11	Banking	Female	10	Finance
12	Banking	Male	10	Sales
13	Technology for marine logistics	Female	25	Human Resources
14	Banking	Male	12	Sales
15	Auto ancillary	Female	28	Human Resources
16	Technology education	Male	12	Teaching & Research
17	Professional services	Female	11	Project Manager
18	Fast Moving Consumer Goods	Male	14	Marketing
19	Automobile	Male	10	Human Resources
20	Auto ancillary	Female	12	Human Resources
21	Mining & Power generation	Male	15	Human Resources
22	Oil & gas	Female	13	Safety
23	Industrial chemical manufacturing	Male	10	Marketing

| 24 | Electronics | Male | 15 | Supply Chain |

Following the systematic procedure for qualitative data analysis, we reduced and abstracted the transcribed data by inductively developing a coding scheme and iteratively refining it (Corbin & Strauss, 1990). First, we split the transcripts into manufacturing and technology- enabled service sectors to gain in-depth insights into the impact of work from home during the lockdown. Next, we familiarized ourselves with the data by repeatedly reading the transcripts. Using MAXQDA version 20, a software program for computer-assisted analysis (Kuckartz & Rädiker, 2019), we identified initial ideas representing distinct thoughts. We used a data-driven coding procedure called open coding wherein no categories are a-priori defined. While analysing the transcripts, the researcher discovers and codes segments of text. Names of codes closely reflect the content of the segment of coded text (for instance, stress). Subcategories of codes called subcodes can also be created (for instance, subcodes of stress include work-related stress and non-work stressors). We re-read the coded segments and their corresponding codes to review how well the codes mirrored the content and modified the codes, if necessary. The coding process includes several iterations to obtain a code system that is structured and refined. Table 2 provides an illustration of the code system including open code, subcode, and coded segments from the transcript.

Results

Table 2: An illustration of the code system

Open code	Subcode	Coded segment (in the transcript)
Percentage of company functioning	> 90%	100% working...no challenge in work from home and we are used to Zoom meetings. (Service sector, Participant 17)
	> 90%	95% functioning from home...we prepared ourselves one week before the lockdown (Service sector, Participant 10)
	< 30%	90% plant is shut down except for essential teams such as safety, fire, and medical. They are all stationed inside the plant and do not move out of the campus. About 25% of white-collar employees are working from home. (Manufacturing sector, Participant 19)
	< 30%	Plant is 100% shut down...for 90% of employees, there is very little to do from home.....only 10% of employees can work from home. (Manufacturing sector, Participant 7)
Change in working hours	Increased hours	Work is the same but timing has increased...now I login at 9 am and logout at 10 pm ...about 3 hours more than usual (Service sector, Participant 6)
	Increased hours	Typically my job is from 10 am-7 pm focusing on selling...but now my day is highly unstructured...my sales divisional head gives instructions to us...then I need to delegate work to my team of 45 members...I also have to call customers and dealers to maintain relationship... calls start as early as 8 am until 10 pm... (Manufacturing sector, Participant 8)
	Reduced hours	Usually, I worked for about 75 hours/week but now it's about 25 hours/week (Manufacturing sector, Participant 1)
Changes in role	Specific changes	Reaching out to new clients and client-end delivery has slowed down but other things are going on as usual. (Service sector, Participant 17)
	Specific changes	We cannot call default customers according to government instructions.....so...now-a-days online training has increased...how to reduce TAT [turnaround time], about different financial products, policy learning, etc. (Service sector, Participant 11)
	Specific changes	As a usual business practice, we used to gift our client

complimentary passes to concerts. Now, we fix an appointment with the client and surprise them with a video call with their favourite artist who would sing songs as requested by the client. Clients are very happy. (Service

sector, Participant 9)

Major changes	I meet 70 HR managers daily over Zoom who in turn check on 8000 employees …we are conducting online training…this was never done before…(Manufacturing sector, Participant 15).
Major changes	I am in the supply chain so no logistics work now….we spend time mostly in brainstorming and problem solving as there is global pressure to plan about the inventory in the warehouse. (Manufacturing sector, Participant 24)

	Major changes	I'm working on policy revision due to this COVID-19 crisis …related to compensation and talent management (Manufacturing sector, Participant 19)
Stress	Work-related stress	This is a good time for fraudulent transactions, hacking and malicious intentions….so I need to be alert and extra cautious…this has increased my stress….Plus, the process for a simple task has increased. Usually, you physically go to a colleague and talk. Now, they either don't take the call or there is poor net connection…so apart from work, there is an added stress of coordination. (Service sector, Participant 14)
	Work-related stress	Stress is definitely high… There is no difference between work and home…there's a lot of ambiguity….engagement in the office is easy but now I don't know in what situation the other person is…so I can't push for deliverables (Service sector, Participant 13)
	Stress-related to future	Stress is due to uncertainty – will temporary employees come back? What will the situation be when the market opens up? (Manufacturing sector, Participant 20)
	Stress-related to future	"….we don't know what the market psyche would be after lockdown?" (Manufacturing sector, Participant 23)
	Stress-related to future	"I am stressed about the future when the lockdown is over and the market opens up…. I have heard about 25% pay cuts and job loss." (Manufacturing sector, Participant 2)
	Stress-related to future	All of us are working on "if-then" scenarios…when lockdown opens how will the market react? (Manufacturing sector, Participant 24)
	Non-work stressors	There is tension around COVID…I'm concerned about my parents as they are far away… they are worried about me as I am alone and in the COVID hotspot". (Manufacturing sector, Participant 23)
	Non-work stressors	Work-related stress I can handle but I am worried about my team's health and feel that I have a social responsibility. (Manufacturing sector, Participant 18)
	Non-work stressors	"…no maids….I have to help in the household work… my

		kid thinks I'm on a holiday so I should play with him all the time!" (Service sector, Participant 9)
Productivity	Reduced productivity	"…down by almost 50%…but we understand…I have asked the leadership team to think of this situation as "people agenda" and not drive the business agenda." (Service sector, Participant 13)
	Reduced productivity	"productivity is little low…I'm doing my best but the regular physical meetings give a better picture of what the client is thinking…now I'm not sure…" (Service sector, Participant 10)
Advantages of work from home	More family time	"the good thing is that now I can spend a lot of time with family…I used to leave home at 7 am and reach by 8 pm…I hardly saw my daughter awake" (Manufacturing sector, Participant 19)

	Save cost	"Company has started understanding that we can function without much travel...so we can cut the cost of travel in the future." (Manufacturing sector, Participant 24)
	Save cost	"This coronavirus situation made me think...what is the need for new infrastructure?" (Service sector, Participant 3)
Creativity	Self-initiated creativity for organization	I have developed a training program on employee motivation by taking examples from Indian mythology. (Manufacturing sector, Participant 7)
	Self-initiated creativity for organization	With BS6 technology change, most companies have diesel models but we want to keep our product line running with the petrol model. How to do it is a challenge? And what should be the sales pitch to the customers? I have time to think about these now. (Manufacturing sector, Participant 8)
	Nurturing oneself	I wanted to have a good command over the best practices in the payment industry but hardly got about 30min/week. Now, I am spending about 4 hours/week reading and learning about it. (Service sector, Participant 4)
	Nurturing oneself	I am learning how to handle data, clearing my doubts in the policies and products and I am doing a module on big data and analytics (Service sector, Participant 11)
	Nurturing oneself	I am indulging in more research now...and taking online classes to update myself and learn better methods of sales negotiation, sales pitch, and credit management. (Service sector, Participant 10)

As a result of the above data analysis, several codes and subcodes emerged concerning the impact of work from home during the COVID-19 lockdown. MAXMaps of the findings are represented in Figure 1. The thickness of the lines linking the codes with the central theme in the Maxmap represents the frequency of occurrence of the code.

Percentage of company functioning

We found a stark difference between the workforce functioning in the manufacturing and technology-enabled service sectors. The service sector including information technology and financial services were

functioning 90%-100% from home. 10% of bank employees physically went to the branch on a rotation-basis as the government had declared banks as essential services. Most service sector firms already had systems in place to enable work from home. However, respondents acknowledged that work from home for such a long duration and at such a massive scale had never been anticipated. Unlike the service sector, the manufacturing sector produces tangible products that need functioning of plants. Moreover, most companies in the manufacturing sector employed about 20-30% of permanent employees (white-collar) and 70-80% temporary workers (blue-collar). Temporary workers who come from different parts of the country were forced to return to their native place due to the lockdown. While the white-collar employees could work from home, the companies barely had any control over a large part of the workforce. The plants for most respondents were completely shut except for plants that had continuous processes such as blast furnaces, and companies declared as part of essential services such as gas cylinder bottling and fast- moving consumer goods.

Change in working hours

Most respondents reported an increase in the number of hours they worked. This finding is sector agnostic (as all the respondents were working from home) but role dependent. Employees, whose roles included operations, supply chain, and finance, reported same/reduced number of hours. However, most respondents indicated an increase in their working hours. These primarily included functions such as technical, human resource, and sales. Respondent 13 said, *"I am constantly in touch with employees to understand their concerns regarding COVID…counsel them, keep track of their health status…People's safety is most important right now…usually, I worked from 9 am-6 pm…now I work from 9-9"*.

Changes in role

Specific changes

Since the technology-enabled service sector continued to work as usual to a large extent, respondents indicated specific changes in their role with an enhanced focus on employee training and customer relationship management. Most respondents noted that they were able to work partially including client engagement and product designing, whereas, client-side testing and implementation were suffering due to the lockdown. Further, while training is critical for all employees, the usual workdays keep them extremely busy with very little time for training. Thus, organizations are coaxing employees to train themselves online, attend webinars by subject matter experts, and volunteer for knowledge sharing sessions. Respondents in the marketing and sales function reported customer engagement as the key focus because organizations are concerned about retaining customers post lockdown.

Major changes

Employees in the manufacturing sector reported major changes in their work. For instance, respondent 18 who worked in a company manufacturing essential items said, *"My work has become complicated due to restrictions in movement of goods. Usually, the company manufactures and through distributors and*

retailers, products reach the customer. *Now I am in direct contact with the customers. This was never a part of my portfolio".* Respondents in the HR function also reported major changes in their work including counseling, stress management, and ensuring employee well-being. Conducting online training to upskill employees and monitoring hygiene practices in plants (which are partially functioning) are major additions in their role. Other respondents reported spending a considerable amount of time on research-related activities, building strategies, and brainstorming. Most manufacturing sector respondents noted working on "if-then scenarios" to prepare themselves for the post-lockdown situation. Stress-testing the portfolio across multiple scenarios, brainstorming through assumptions, and creating a dashboard of strategic actions will perhaps help organizations adapt to the times when business restarts.

Stress

Work-related stress

High levels of work-related stress were reported by most respondents in the technology- enabled service sector. Employees experienced stress because they were connected or were expected to be connected most of the time due to technology. Most respondents were continuously engaged in telephonic conversations, online meetings , or training sessions with hardly any breaks. They also shared that they felt lonely, disconnected and isolated. Virtual meetings did not fulfill the interpersonal bonding, commitment, team spirit, and trust that fostered from physical presence at workplace. Several respondents noted the stress due to the

increased need for coordination and synchronization. On the contrary, manufacturing sector employees reported stress related to the future. Since most of the plants and operations had come to a grinding halt due to the lockdown, respondents in this sector could not do much from home in terms of tangible work. They were stressed thinking about the future of the economy, their sector, their organization, and their jobs, once the closure is lifted.

Non-work stressors

Besides work-related stress, non-work stressors were also at play. There was a widespread fear of COVID virus, ambiguity related to its nature, lack of conclusive information about its impact, and an increasing number of reported cases and deaths across the globe. On the one hand, employees staying alone felt depressed due to lack of interpersonal connection, isolation and lack of belongingness with the organization; while on the other hand, employees with working spouses, children, and dependents were finding it difficult to balance their work and family demands. Further, a key support system for the Indian working class families which was not available during the lockdown was domestic help for household work. Most middle and upper-class Indian houses who are heavily dependent on house maids for domestic work, found it difficult to perform household chores. These non work-related stressors added to the work-related stress among employees.

Productivity

Unsurprisingly, most respondents reported reduced levels of productivity as compared to working from the office. Technology-enabled service sector respondents noted that despite working for longer hours than usual, poor internet connectivity, lack of adequate ergonomics, uncertainty related to work outcomes, lack of schedule, and lack of motivation were some of the reasons for low levels of productivity. Respondents in the manufacturing sector did not find the question on productivity relevant as productivity in this sector is determined by physical production, movement of goods, and sale of tangible products.

Advantages of work from home

While work from home is a prevalent practice in the technology-enabled service sector, it is uncommon in the manufacturing sector. Thus, several manufacturing sector respondents perceived advantages of work from home including cost saved in business travel, time saved in the daily commute, more time with family, and better work-life integration. Two respondents in the service sector questioned the need for investments in infrastructure by companies.

Creativity

Self-initiated creativity for the organization

We found sparks of creativity among the respondents while operating from their altered work environment. Several manufacturing sector employees shared that their organizations were grappling with long-pending issues that required cost-optimization, better planning, and research. However, these important parameters were often brushed aside while attending to matters that required quick decision-making. Participant 1 said, "*We had to build a logistics channel to reach north India. This was there in the mind for many years but I could never do anything. I had the data but no time to analyse it. Now, I got 8 hours of undisturbed time…and I created a proposal. This was done by me. Top management didn't ask for it.*" Another participant (number 23) expressed, "*We do a lot of surveys but never get the time to get deeper into the data…I picked up one such project… spent 2 days on it…I not only got good insights for the company but also realised where we had made mistakes…how could we do things better…This wouldn't have happened but for this lockdown*".

Nurturing oneself

Technology-enabled service sector employees predominantly utilised time to enrich themselves with skills relevant for their future career growth. They used this time productively to learn about the industry best practices, read subject-related content to keep themselves abreast of current trends, and enrolled themselves in online classes.

Discussion

The COVID-19 pandemic has brought forth an unprecedented global humanitarian challenge with severe implications for societies, businesses, and individuals. While nations remained partially or fully

shutdown, businesses tried operating to the extent possible by directing employees to work remotely. In this context, we designed the present study to assess the impact of work from home on employees during the COVID-19 lockdown. Further, there are inherent differences in the nature of the manufacturing and technology-enabled service sectors. Thus, we aimed to explore the differential impact of work from home during the lockdown across the two sectors.

Creativity boost among employees during the isolation period was an intriguing and novel finding of the study which we discuss in detail. A remarkable characteristic outcome of some of the historical lockdowns associated with epidemic outbreaks has been the ability of a few individuals to achieve unprecedented heights in their domain. The renowned historian Toynbee (1972) discussed this ability within a 'challenge-response' theoretical framework. Relatively milder disruptions such as economic recessions are associated with a 'cause- effect' relationship characterized by reasonably predictable future outcomes arising from a given cause. On the other hand, massive disruptions qualify as a 'challenge', and the response to a challenge is less likely to be predictable. While one response to challenge could be surrender, challenges can also push human creativity to the highest levels. The ability to leverage information technology and communication to continue business operations despite the challenge of COVID-19, itself represents a collective and creative response of mankind to the challenge. At an individual level, for instance, Isaac Newton discovered the law of gravitation and calculus in 1666 while living in isolation, when the University of Cambridge was shut for a year and a half on account of an outbreak of bubonic plague. This year came to be known as 'Annus Mirabilis' (the miraculous year) in Newton's honour (Manuel, 1968). While this is an example of an extreme human achievement in the backdrop of adversity, our study findings demonstrate that it is plausible that creative tendencies may be ignited across many individuals when they are subjected to challenges.

Implications

Manufacturing sector

In the present pandemic, we found sparks of creativity among employees while coping with their altered work environment. This finding holds practical significance in that organizations should provide certain liberty in space and time to its employees. This freedom may enable employees to come up with actionable ideas to either improve the existing processes or resolve important issues that had previously not attracted attention due to their non-urgent nature. This was found more relevant in the manufacturing sector where a large fraction of the workforce was not equipped to work from home. While creativity in such an isolated situation may demonstrate itself as a limited benefit for industries, managers should be aware of such possibilities to tap onto the creative skills. Identifying creative employees and allowing them solitude to experiment and deeply focus, may result in tangible, inspiring, and worthwhile pursuits.

Further, the pandemic has forced manufacturing sector organizations to rethink their workforce models in terms of adapting the roles and required skill-sets of employees to optimally function in the post-lockdown situation. Despite the government's decision of easing the lockdown, organizations must

consider several aspects themselves before re- starting operations. Current considerations have brought forth a good opportunity before leaders to assess the roles of all employees in the organization: roles critical for physical presence on-site, flexible roles for on-site presence, and roles that can fully work remotely. For on-site employees, line managers will have to account for the return of the workforce in a staggered manner, workforce readiness to resume work, maintain adequate physical distancing, and ensure all safety protocols are being strictly followed. Further, some employees who have worked from home for the first time have expressed several advantages of this method of functioning including saved commute time and better work-life integration. Thus, leaders should encourage employees who are willing to continue remote work in the future to develop new skill sets to swiftly shift into flexible arrangements (on-site or remote roles) as needed in the post-pandemic future.

Technology-enabled service sector

A large fraction of this sector can adequately function virtually, thus, remote work is presumed to continue in the foreseeable future. However, our findings highlighted high levels of stress among employees. In their attempt to maintain desired levels of productivity and efficiency, employees were overworking. Further, they were unable to coordinate activities or reach the right person for troubleshooting and were hesitant to approach higher-ups in the organization for guidance. While these problems may be brushed aside as hiccups in the sudden response to pandemic lockdown, they highlight actionable areas for smooth business functioning in the post-lockdown scenario. Employees must have the right infrastructure, appropriate ergonomics, and access to information and resources to work efficiently from home.

Further, with the blurring of boundaries between work and home, employers have to increase flexibility to account for employee's work-life balance while employees themselves have to be accountable for their work. Managerial trust in employees is a key consideration in this regard. With limited control, supervision, and face-to-face-interactions, managers must have faith in their subordinates and boost their self-confidence. Regular communication of work-related goals would help employees stay focused on the purpose, motivated to perform, and remain connected to the organizational core. This is critical given that feelings of isolation can become a persistent challenge in a teleworking environment. Processes such as interpersonal interactions, unscheduled discussions, and informal learning, builds trust among organizational members. These key mechanisms are severed during isolation. Thus, leaders need to check the synchronicity of remote work arrangements with an individual's need to nurture a sense of belonging with the organization. While video-meetings may diminish the sense of isolation to some extent, in the post-pandemic phase, a hybrid model could be proposed to employees. This model would provide employees an option to work remote ly as well as on-site in an alternate timeframe basis as required by the project. This flexible arrangement will not only provide an optimal balance of productivity, efficiency, morale, and connectivity, but also ease the infrastructure, logistics, and maintenance cost for organizations.

Theoretical contributions

This study makes two important contributions to the literature. Despite the numerous challenges in its implementation, the work-from-home model during the COVID-19 pandemic has been a revelation for employees and organizations. Mapping to the situational theory, work-from-home was an immediate response to the pandemic. However, going forward, organizations will have to adapt themselves to the drastically changing ecosystem (which continues to change at a burgeoning pace due to the pandemic as we write this article). Thus, our findings shed light on the organizational adaptation theory (Felstead et al., 2002) concerning the work-from-home model in the post-lockdown and pandemic-recovery situation. Organizations will have to reflect upon their current processes and redefine functioning to reflect and conform to the changes happening in the societal context. The adaptation process would include taking cues from the general and economic conditions, the changing nature of employees' work, their readiness to return to work, and the psychological impact of the crisis on their attitude and well-being.

We also contribute to the literature on creativity. While there is evidence of creativity in aloneness or voluntary isolation (Bowker, Stotsky, & Etkin, 2017), ours is the first study to find people's creative tendencies when they were required to work-from-home by their employers under conditions of forced isolation. This is because individuals spent uninterrupted and quality time on a task of their choice. Solitude engendered their intellectual capabilities and creative thinking. Thus, time spent in mandatory seclusion enhanced employee's involvement with the task, and fostered creative outcomes.

Limitations and future directions

An important aspect that future researchers should consider is the individual's disposition towards remote work. Individuals with personality traits such as conscientiousness and agreeableness may contribute positively in remote environments (Neill, Hambley, & Chatellier, 2014), whereas, Bowker et al. (2017), found individuals who preferred solitude to be creative. Thus, individuals along with their managers must determine whether they can function optimally in a virtual or physical or hybrid environment. Further, as more employees and organizations shift to the work from home/hybrid model, several changes will be necessitated in the human resource management policies and practices. For instance, what will be the hiring criterion and service conditions for employees working on-site, working remotely, or in a hybrid arrangement? How will managers measure employee productivity and review the performance of these different segments of the workforce? How will leaders include, value, and lead this mix of physical and virtual workforce? We believe that these avenues are well worthy of further examination.

The outbreak of coronavirus, COVID-19 becoming a pandemic, shutdown of economic activities, and confinement of people to their homes has all happened within a few months. However, rather than meekly succumbing to the crisis, the human spirit collectively emboldened by continuing their vocation in capacities as possible. Individuals working in altered virtual environments expressed reduced productivity despite increased levels of stress. However, we noticed sparks of creativity in these individuals who were necessitated by their organizations to work during forced isolation. While we did not witness the fruition of creativity within this limited timeframe, we hope organizations will leverage their employees' creative

instincts. We also believe that a hybrid work-from-home model will enable optimal and resilient business functioning in the post-pandemic era.

Declarations

Availability of data and material

The data supporting the findings of this study are available within the article in the form of illustrative quotations from the participants. Further details will compromise the privacy of research participants.

Competing interests

There are no financial or non-financial competing interests.

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Authors' contributions

AJ conceptualized the study, collected and analyzed the data. AJ and CJA co-wrote the manuscript. All authors read and approved the final manuscript

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Figures
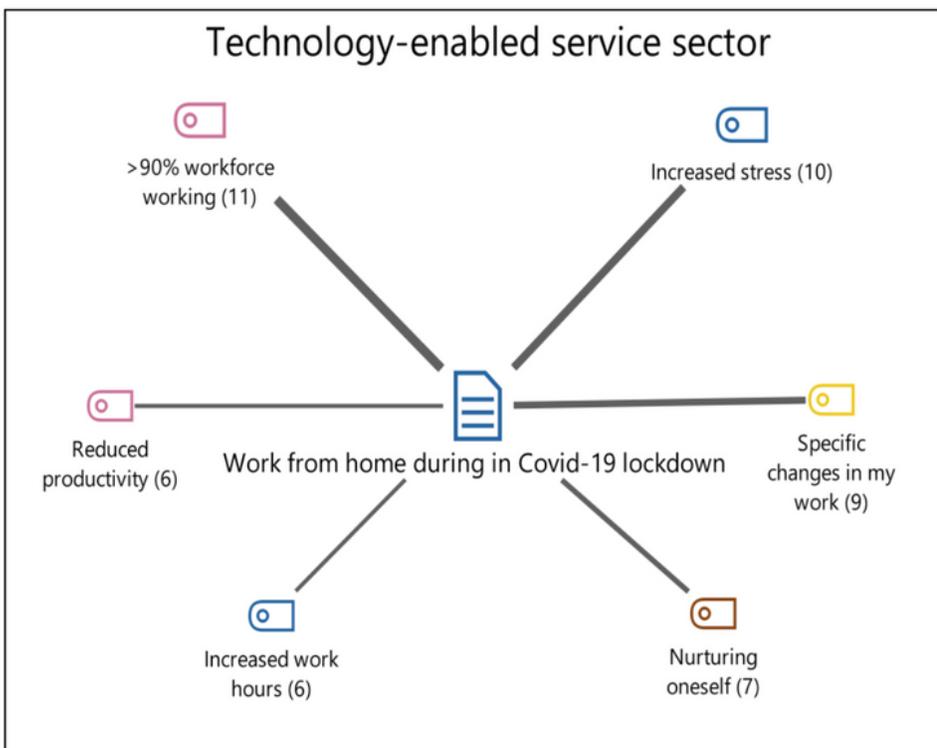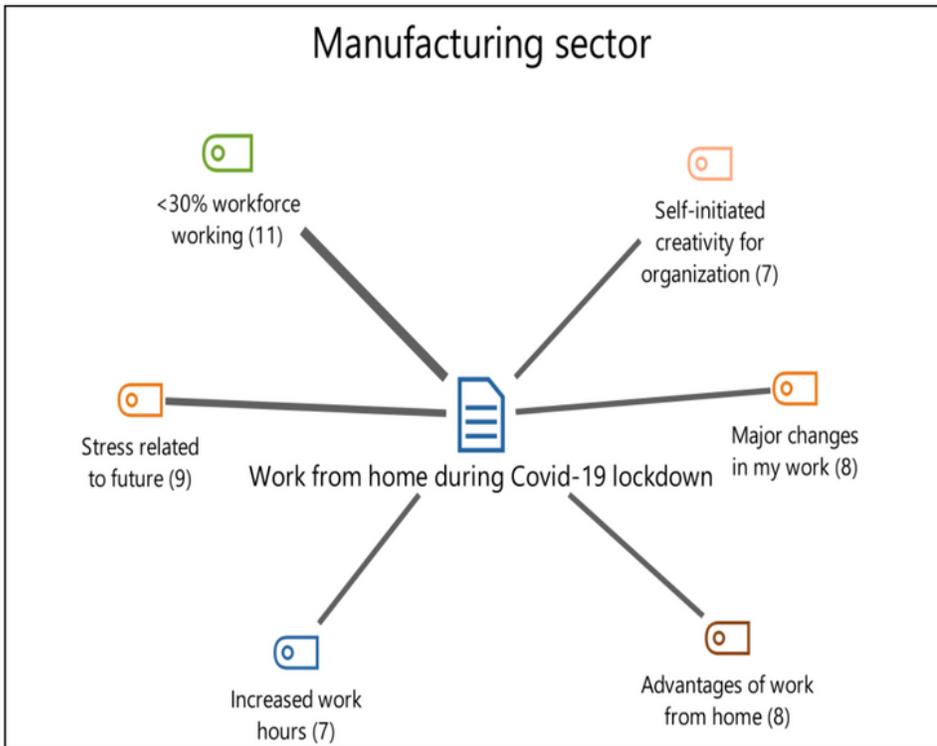
Figure 1

MAXMaps of the findings

Supplementary Files

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- APPENDIX.docx