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Impact Analysis of Work Culture and Transformation During COVID-19: A Structural Equation Modeling Approach

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Abstract

Staff members use tried-and-true procedures when completing workplace visits, delivering services, and completing client tasks. However, the COVID-19 pandemic compelled employers to change the work styles of individual employees to ensure good communication, work-life balance, and flexibility for employees while maintaining optimal work productivity levels. In addition, the World Health Organization established social separation guidelines to combat COVID-19. Thus, the pandemic challenged the work culture and resulted in employees being quarantined in their homes. As a result of this transformation, employees were encouraged to use digital tools to facilitate work-from-home opportunities. The current study analyzes employees' psychological and productive effects of work-from-home culture. It also looks for coworker bonding threatened by this transformation and suggests a way to keep it intact. Through a thorough literature review, the authors developed a comprehensive model to assess the pandemic's impact on employees' lifestyles. The conceptual model was empirically tested by applying the model to data collected from 233 employees from various backgrounds. The model result was validated using Partial Least Squares Methods-Structural Equation Modeling. The inferences highlight the factors influencing employee morale and work culture and the parameters closely related to employee functioning in the organization that should not be affected.

Keywords: COVID 19; Employees; Organization; Work Culture; Pandemic

1 Introduction

Notably, COVID-19, as a significant threat to all organizations worldwide, has caused a change in the working environment of these organizations and the communication between employees. The pandemic outbreak compelled the government to implement preventive and controllable measures, such as guidelines for staying at home [1].

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Online communication technologies have thrived to a large extent during this pandemic. Most studies have suggested that COVID-19 could pave the way for a teleworking revolution [2, 3]. Over the last decade, scientists have used work-from-home as a topic of debate and a regional study trend. As a result, work-from-home (WFH) has emerged as the new hot topic. This pandemic is unique in many ways, as the sudden shift to work-from-home and its viability was not anticipated. The pandemic compelled several organizations to turn telework into a requirement. Thus, the effects of teleworking's rapid and widespread adoption on workplace health following the COVID-19 pandemic have been assessed and discussed. Corporations were the essential players throughout pandemic management and played a part in mitigating the unforeseen safety effects of disease prevention initiatives. The effects of flexibility, work-life balance, lack of trust, etc., on the employee's teleworking efficiency, has been studied to increase work productivity in organizations. Thus the study would undoubtedly help develop the WFH model [4]. It is known that the implementation of the WFH strategy has both advantages and disadvantages, highlighted as follows:

1.1 Benefits of Telework

Several scientific studies and research conducted have cited the advantages of teleworking, and most of them contribute to practical advantages [5–7].

1. Work-life balance - Employees working from home save the strategic time they probably have spent commuting to their workplace with their family or babies.
2. Flexibility - The flexible working hours allowed employees to critically utilize and manage the work as per their comfort [6]. Moreover, it offers the versatility to telework with more than one company or works even though it is impossible to get to the workplace due to illness, remote home areas or care duties.
3. Commuting time reduced - Reducing commuting can have a beneficial impact on costs, time, and tension. This could be the primary factor why staff opted for telework.
4. Reduced work overheads - Organizations targeted the reductions by removing the need for costly workplace facilities and overheads like heating, power, etc. The new telework trial at the British Broadcasting Corporation (BBC) reduced costs by about 25% [8].
5. Expanded skills available for the employer - Teleworking companies have taken advantage of the labor market with skilled employees who are not generally willing to work full-time in a traditional workplace setting, such as people with disabilities or childcare duties.
6. A rise in productivity - Popular literature [7] shows high productivity in teleworkers than other employees, and this high level of performance is attributed to fewer interruptions, long working hours, and flexibility in scheduling work schedules. It should be noted that reports for increased telework productivity are typically derived from self-reporting results, with a few notable exceptions [9].

1.2 Problems with telework

Telework has become the solution for working with social distancing norms due to the COVID-19 pandemic. But with every new thing, there exist pros and cons. The various problems concerning teleworking include:

1. Social seclusion is the most commonly noted prime delinquent in teleworking; a study conducted in the United Kingdom (UK) in 1983 revealed that 60% of teleworkers referred to it as the most significant drawback [10]. It has been linked to an increased risk of heart disease, stroke, and even death, according to the Centers for Disease Control and Prevention (CDC).
2. Presentism – It is not just about working long hours but also about working while sick. According to publicly available statistics, teleworkers are less likely to be absent from work when they can. In contrast, they return to work while recovering from illness instead of taking a full day off [11]. Moreover, a further disadvantage for teleworkers is that their illness remains a secret. Some employees even continue to work while they are sick to ease their managers' worries about telework. People who work while ill are likely to suffer the consequences due to their level of employment [12].
3. Lack of support - Teleworkers place a high value on technological support, and providing the required technical support in a controlled office environment is difficult. Thus, a mobile teleworker's lack of technical support is more devastating [13].
4. Career progression - Job marginalization is a problem for home-based employees because "visibility and workplace communication networks are the main factors in employment opportunities" [14]. Since teleworkers are "out of the movement" of political events, such as the delivery, evaluation, reward, and promotion of services provided by organizations, the teleworkers inevitably become "politically disadvantaged" [6].
5. Blurring of boundaries - A survey found that 60% of their sample staff thought a convenient split between home and work. Even though many teleworkers attempt to establish a physical and temporal border between work and home life, such as by having a workspace exclusively for work, working from home blurs the lines between roles, not just for the teleworker but also for the family [15].

6. Telework and gender - According to Bibby [16], teleworking integrates work and home obligations better than the standard working culture and is practiced worldwide. However, sexuality determines how the work environment affects the employee. Women might be very concerned that working remotely would be a substitute strategy for keeping them out of the workforce when there is an additional complexity that others might assume that women who follow flexible work schedules do not work [6].

2 Related Work and Research Objective

According to the study by Mann et al. [6], teleworkers experience feelings they would not have experienced otherwise while working in the office. The negative feelings they experience while working in the office almost double. The study indicated that teleworkers' mental health problems increased compared to office employees' mental health problems. It also revealed that females have higher rates of mental illness than males. Referring to work documented by Mustajab et al. [17], workplace flexibility causes massive changes in corporate culture and work performance. Women are especially affected by the new work environment, which requires them to do both office work and homework simultaneously. High workloads resulted in emotional vulnerability between husbands and wives, which triggered disagreement. WFH can be effectively extended to organizations that have excellent work facilities, but it cannot be applied to all areas of work [18].

Bouziri et al. [19] concluded in their paper that the introduction of wireless and broadband internet aided the growth of home telecommuting since 2000. As of late March 2020, nearly all of us were confined to our homes and thus resulting in millions of employees being exposed to telecommuting. The article by Baert et al. [20] provided insights into how the study of Flemish employees viewed telework as a result of the COVID-19 crisis, in general, and in its broad form. According to most respondents (two-thirds), teleworking will become more popular. Employees with resident children surrounding them, on the other hand, are dissatisfied with the increase in teleworking. Long-term teleworking has a greater positive impact on employees with migration in certain areas. Working mental health is becoming increasingly important in management and workplace research. Academicians, clinicians and policymakers are particularly interested in learning more about how structural changes affect mental health. A few organizations use the findings of existing workplace mental health studies to guide job design. The presented work thus aims to investigate the factors that influence work culture and assist employers in understanding what this pandemic has resulted in and adapting to changes as needed. Thus, this research aims to determine the changes people have experienced from working from home, identify whether time flexibility has led to increased productivity at work and investigate areas such as coworker bonding and work-life balance during WFH.

3 Methods

This study's research philosophy is a positivist paradigm based on empirical observation and measurement. A questionnaire survey method was used to collect data. Structural Equation Modelling (SEM) used the Partial Least Square Technique, and Covariance Based Structural Equation (CB-SEM) modeling was used to test the hypotheses. The hypotheses are developed through previous studies linked to the study's variables. The empirical approach to research was chosen because it can provide quantitative evidence for the existence or absence of statistically significant relationships between the study variables. As the study aims to draw implications of the COVID-19 pandemic on the global working model, testing relationships between research variables becomes inevitable.

3.1 Hypothetical models

The relation between communication and work culture

COVID-19 has become a major challenge to all organizations worldwide, leading to the requirements concerning improvements in the methods of operation and even human contact within the organization [18, 19]. The WFH typically provides benefits, but the employees most widely experience a disruption of contact with peers and managers. Poor correspondence is also caused by technological issues such as network interruption, making it impossible to deliver reports and job-related information and creating a difference from the social contexts they frequently encountered in the workplace just before the COVID-19 outbreak [17]. In jobs, those employees who rely more on others experience more negative effects from prolonged telework. In particular, during this prolonged telework phase, they experience more disagreements with colleagues and family and struggle to balance the multiple means of contact accessible to them. Less satisfaction with prolonged telework is also the situation with employees who are used to receiving much feedback, interacting outside their organization, and experiencing high levels of job autonomy [21, 22]. A study found that using information and communication technology at home harms the quality and uniformity of sleep, resulting in a 'psychological disconnect' from work, but it happens only to those who do not set limits concerning the use of job-related technology at home [23]. Examination and analysis have indicated that the digital workplace mental health interventions can enhance psychological well-being and job performance among employees trying to find solutions to problems [24].

The relation between coworker bonding and work culture

The COVID-19 pandemic has resulted in managers increasing their subordinate's schedule and scope of work, which resulted in managers knowing more about their subordinates concerning values, strengths, motivations and interests [25]. Technology has easily made coworker connections during this pandemic, and employers tend to encourage employees to stay connected while respecting their organization's time and liberty. Limited communication, primarily due to internet issues, has resulted in a decrease in work output. It has disrupted the flow of work and caused psychological differences because employees are used to talking face-to-face and sorting things out rather than communicating via email [17].

The relation between infrastructure and work culture

Employees are experiencing a variety of issues because they do not fully comprehend the concept of WFH. Home is where most employees unwind after a long day at the office [26]. Several home-employed employees lose concentration because they are unsure whether to work or spend time with their families to appreciate the quarantine imposed to prevent COVID-19 from spreading. Many challenges, such as requests to chat via social networks and enjoyment, such as watching movies, karaoke singing, and playing with children, frequently result in lower motivation at work [18, 27]. WFH does not require employees to commute between the office and their homes, significantly reducing non-working time. The employees can spend this extra time either for their office work or household work, particularly in the case of married female employees [17]. Also, many employees feel confident about their jobs with WFH as they do not feel directly supervised by their managers as in the case of the normal workplace. Working under direct supervision sometimes makes employees uncomfortable because they must keep decorum in front of managers. Supervision, however, is no longer a barrier to work concerning WFH, as they are free to work without needing to maintain decorum, as they have to do in the office [20].

The relation between flexibility in timing and work culture

Employees prefer working without the manager's supervision because it gives them the freedom to work when they want [28]. Studies also have shown that the time consumed while commuting to the office is saved, which helps the employees save much productive time and also facilitates in saving much money in terms of transportation costs, which makes the employee more content with their job and thus more productive. The employee's wage is also not affected by the WFH policy as this is a force majeure, and employees can do nothing about it. Previously, there were clear distinctions between work and personal life; however, the pervasiveness of mobile technology devices has blurred these distinctions.

Employment is no longer specified with time and location, as over 64% of adults own a mobile phone. Work is done outside the office and working hours are not typical. A study conducted in 2012 [17] found that employees used mobile phones for holidays (40%), social events (27%), practice (14%), on a date (17%) and even in a toilet (12%).

The relation between work-life balance and work culture

In an attempt to avert the spread of COVID-19, an outbreak of public health that took thousands of lives and caused fears of the worst global crisis since the 'Great Depression,' almost half of the world's population was on lockdown. This has deeply influenced the business world and our mental and physical well-being [29]. Moreover, work-life balance has become one of the most crucial aspects of everyone's life during this economic downturn. During WFH, employees have found a balance between work and social life. Several employees have agreed that they have more leisure time and can spend more quality time with their families without leaving work with the implementation of the WFH policy [17]. In contrast, often, employees have to split the priority between communicating with the family and concentrating on the job to be completed; however, most of them claim that dividing the emphasis does not decrease the quality of time spent with the family during WFH [26]. However, female employees, particularly those with children, face few problems sharing household work with their partners, such as childcare, cooking, and other duties, because husbands cannot perform such duties efficiently and effectively, and household servants who perform the duties are coerced to leave because of quarantine. Moreover, this dual function and mission don't apply to partners who split activities with their partners, rendering the mood at home more harmonious and full of collaboration [18, 27].

The relation between policies of work-from-home, travel and work culture

After the outbreak, the World Health Organization (WHO) recommended that every country impose a lockdown to stop the spread of the virus, but this resulted in organizations having to change their working methodology to WFH [30]. Swift and coordinated policy changes were required to tackle the threat of recession looming over the whole world economy and look after the world's citizens [31]. During the pandemic, maintaining customer relationships and ensuring business continuity were the top priorities for every employer, but they were also considering the impact of the pandemic on their employees and the employee culture. The employees also tried to stay connected to their employers and other employees through technology. The ability of the executive team to adapt, encourage teamwork and provide mental support became of paramount importance. Travel bans resulted in work being slowed down but also resulted in wasting less time commuting to the office and time commuting to the client site [29]. International Labor Organization (ILO) laid out several rules to ensure the safety of the employees and their families, to re-stabilize the economy, and to protect the employees and their incomes [31].

3.2 Conceptual Modeling and Questionnaire Development

Based on the investigated literature a conceptual model was developed to illustrate the relationships between the variables in our study, which is shown in Figure 1

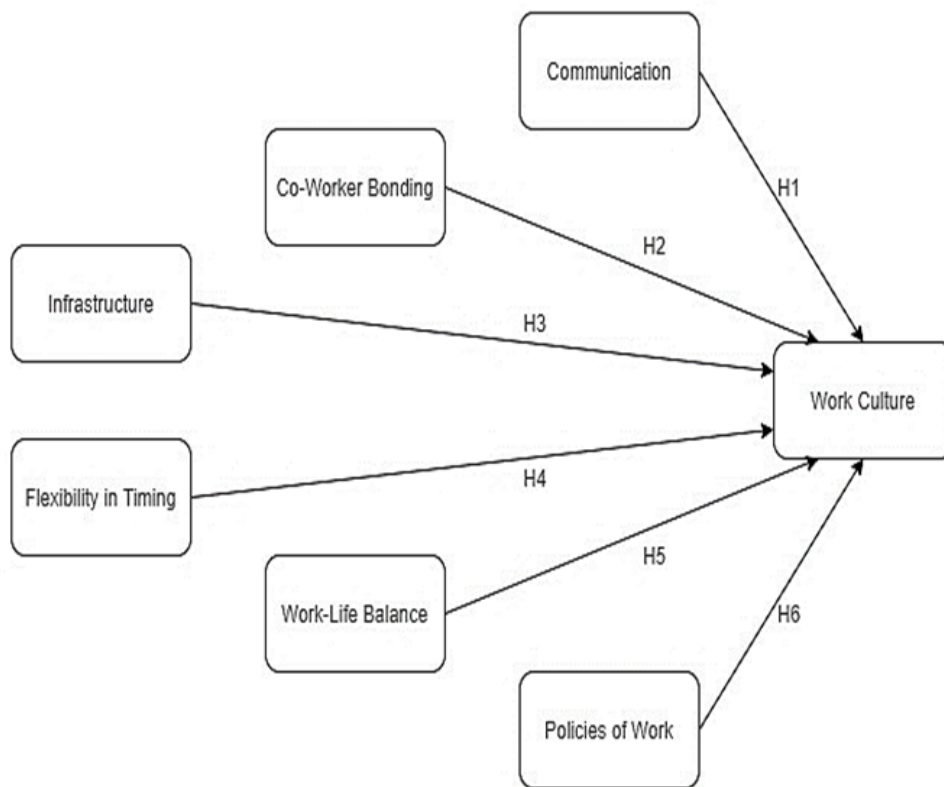


Figure 1: Conceptual model developed in the present study.

The questionnaire was developed based on the standard methodology of skimming through the accessible scales and measurements, collecting expert comments through the specialists in the field, pretesting the questionnaire, and subjecting it to the validation and reliability test through the pilot study [32]. The self-administered questionnaire developed in this research had two sections: the initial segment was designed to elicit the demographic details of the respondents (gender, age, the annual income of the family and zone in which their organization lie), and the second part elicits quantitative information through the Likert 5-point scale (1-Strongly disagree; 5-Strongly agree). The dimension of the study, meaning, contributing authors and the sample item from the questionnaire are shown in Table 1.

Table 1: The questionnaire’s dimension, meaning, contributing authors and sample item.

Dimension	Meaning	Contributing articles	Sample item
Communication	Refers to the means of communication between the employees of the organization.	[6, 17, 29? , 31, 33]	I feel that telecommunications are hampering my work output.
Coworker Bonding	Refers to how coworkers become a team and how their team spirit is affected.	[6, 17, 29]	I feel that having emotional involvement plays an important role in productivity.
Infrastructure	Refers to the setup on which they work and the environment in which they work.	[17, 26, 29]	I feel an office setup is an aid to my work output.
Flexibility in Timing	Refers to the flexible working hours due to work-from-home.	[6, 17, 26]	I feel shift timings should always be flexible.
Work-Life Balance	Refers to the balance between the employee’s work and personal life.	[17, 26, 29, 33]	I feel I have more time to look after myself
The policy of Working from Home and Travel	Refers to the various steps employers take to help improve their work productivity.	[30, 32, 33]	I think traveling for work when I can teleconference is unnecessary.

3.3 Sample design

Samples were drawn from all over India. Convenience sampling was used as the method of sampling owing to the limited resources available and the time constraint. The data was collected electronically through Google Form - questionnaire. The link for the questionnaire was communicated to many people through social sites, and 250 responses were received, out of which 233 were selected, as the rest were erroneous. This questionnaire was used for collecting primary data and information from the sample size of 233. The data thus collected was then analyzed using the structural equation modeling (SEM) package Smart PLS® version 3.0 and CB-SEM.

4 Results and Discussion

4.1 Descriptive statistics

The sample demographic characteristics are shown in Table 2. It can be observed that the number of male responses has been higher than that of female responses. In terms of age, the majority of the responses were from the age of 24 and more, followed by the age group of 21 to 24 years of age. According to the study, most organizations lie in the red zone. In terms of the annual income of the families, the majority were from the middle-class income group, and the least belonged to the elite group.

4.2 Negative impact of WFH

The proliferation of the COVID-19 outbreak affected the business, financial, social, political and cultural facets of every country in a greater scope. All organizations must have a policy and capacity to handle unexpected developments that could not be forecasted. COVID-19 has transformed the organization's attitude and the morale of its employees. WFH has become a trend that has both positive and negative implications for the company [6]. While many employees profit from WFH, they also recognize hazards and losses, such as exhaustion, that tend to decrease labor productivity induced by the syndication of jobs. In this situation, several employees are forced to perform different tasks simultaneously, like domestic and official duties, leading to losing concentration [34]. Using tablets, computers and networking resources also disrupts the quality of work, as one has to work and, along with that, contact supervisors and employees [35]. The job-syndication often induces reduced enthusiasm and efficiency in employees [36].

Table 2: Result of different online queries

Variable	Frequency	Percentage
Total	233.00	100.00
Gender		
Male	153.00	65.70
Female	80.00	34.30
Age		
<18	1.00	0.40
19-21	17.00	7.30
21-24	96.00	41.20
>24	119.00	51.10
Zone in which your organization lies		
Green zone	47.00	20.20
Yellow zone	37.00	15.90
Orange zone	49.00	21.00
Red zone	100.00	42.90
Annual income		
Lower (Less than 50,000)	26.00	11.20
Low (50,000–5,00,000)	51.00	21.80
Middle (5,00,000-25,00,000)	124.00	53.20
Upper Middle (25,00,000-50,00,000)	20.00	8.60
Elite (>50,00,000)	12.00	5.20

4.3 Positive impact of WFH

WFH has seen numerous beneficial impacts on employees who achieve an equilibrium between work-life and social life, leading to increased workplace productivity. An organization with a WFH policy promotes the work-life arrangement of its staff [37]. WFH's effect often offers flexibility for employees to function in a manner that allows them to be more comfortable with when and where they function, thereby creating workplace security to improve employee satisfaction [38]. WFH gives employees more time to interact with their families by saving time by not commuting to the office. It is special since they will operate in the home, clearly not juggling time for job and families, but this is not entirely applicable to male employees and appears to be experienced by married women employees [39], while most men employees feel responsible for spending time with their families [40], they do so at the same time to shield them from the impact of COVID-19 spread.

4.4 Impacts of WFH on work productivity

WFH impacts productivity at work [6]. WFH has improved the working style of most companies and the morale of its employees throughout the spread of COVID-19. When pointing at each positive and negative impact, one always looks at the effectiveness of the employee's job when performing from home. The finding of the previous studies was very surprising as the work output of employees working from home declined because of the absence of support facilities for work such as computers, internet networks, and some other disruptions like feeling overwhelmed by the same environment for a relatively long time with social restrictions imposed due to the pandemic. WFH was not the work culture already introduced in many organizations, so many companies and employees could not perform WFH in this situation. Furthermore, several employees experienced certain psychological disruptions, such as the fear of the COVID-19 outbreak, which is the cause for the WFH; thus, they were more involved in seeking out about the current COVID-19 outbreak on television or browsing the internet to know as to what degree the government has resolved the problem. This sometimes took too much time and triggered a lot of delayed jobs. From a gender viewpoint, the lack of distraction experienced by male employees was very less compared to the female employees. This results in male employees having comparatively higher work productivity.

An explanation was the multitasking position that they are put in. In other words, men do not play dual roles in their households, while females have to be on top of the smaller distractions they experience. Even though they sometimes share duties among partners, it is not their primary responsibility. Also, male employees generally convey that if they work from home, their family values it and tries not to disturb them. What has been noted in a previous study is that WFH does not necessarily have an improvement in workplace efficiency, and this is a significant point for further research.

4.5 Measurement model

Table 3 shows the factor loadings of the statements. Factors identified that could influence their decision was analyzed to determine the relationship between the different dimensions of work culture. For this purpose, factor analysis was applied to the responses provided by respondents. Factor analysis was used for data reduction to reduce many variables into a few factors. Further, to examine sample adequacy, Smart PLS was used. Table 4 provides the Smart PLS output. Reliability tests were performed to verify the instrument's accuracy with identical performance using Cronbach's Alpha (α). The composite reliability and α for all the constructs should be greater than 0.7. However, it can be noted that the majority of them have more than 0.7, as provided in the table. Thus, the considered factors prove significant in starting a business enterprise. The average variance extracted (AVE) > 0.5 confirms convergence validity. For all the variables, the AVE of constructs was higher than 0.5. It means more than half of the variances in constructs are explained by their corresponding measures. Therefore, the data set is valid.

4.6 Structural model

The structural model analyzes the correlation between endogenous and exogenous variables. PLS-SEM provides a structural model calculation of the path coefficients for evaluating the importance and validity of the relationship of the structural model, R², to determine the statistical accurateness of the model and the relevant effect of the exogenous variable on the endogenous variable. The relationship between the influencing factors and the work culture path model was structured to determine the relationship between the influencing factors. The structural model specifies the relations between constructs allowing testing of the study's hypotheses. Figure 2 indicates the path coefficient for the correlation between the user interface measurements. The path model explains how the contingent and independent variables contribute favorably to the path function. Figure 2 shows the value of t-statistics analyzed using bootstrapping in the SmartPLS3 version to test the hypothesis. Table 5 shows the standard deviation error and the value of t statistics to determine the hypothesis's results. Figure 3 shows the value of t-statistics analyzed using bootstrapping in the Smart PLS3 version to test the hypothesis. Table 5 shows the standard deviation error and the value of t-statistics to find out the results regarding the supporting or not supporting the hypothesis. The path coefficient between the variables communication and work culture is -0.0261, which is not significant at 0.01 ($t = 0.242$ not significant at 0.01). Hence the hypothesis that communication has a significant impact on the work culture has been rejected. The coefficient between coworker bonding and work culture is -0.0517, which is significant at 0.01 ($t = 0.574$ significant at 0.01). Hence the hypothesis that coworker bonding has a significant impact on the work culture has been accepted. The path coefficient between the variables infrastructure and work culture is -0.0542, which is not significant at 0.01 ($t = 0.461$ not significant at 0.01). Hence, the hypothesis that infrastructure significantly impacts the work culture has been rejected.

Table 3: Table 3. Factor Loadings.

Questionnaire Components	Communication	Co-worker bonding	Flexibility in timing	Infrastructure	Policies of WFH and travel	Work culture	Work-life balance
COM1	0.7789	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
COM2	0.8869	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
COM3	0.4943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
COW1	0.0000	0.4265	0.0000	0.0000	0.0000	0.0000	0.0000
COW2	0.0000	0.9978	0.0000	0.0000	0.0000	0.0000	0.0000
SHI1	0.0000	0.0000	0.9083	0.0000	0.0000	0.0000	0.0000
SHI2	0.0000	0.0000	0.8315	0.0000	0.0000	0.0000	0.0000
INF2	0.0000	0.0000	0.0000	0.9483	0.0000	0.0000	0.0000
INF1	0.0000	0.0000	0.0000	0.7447	0.0000	0.0000	0.0000
POL1	0.0000	0.0000	0.0000	0.0000	0.8134	0.0000	0.0000
POL2	0.0000	0.0000	0.0000	0.0000	0.7504	0.0000	0.0000
POL3	0.0000	0.0000	0.0000	0.0000	0.5776	0.0000	0.0000
WC1	0.0000	0.0000	0.0000	0.0000	0.0000	0.7222	0.0000
WC2	0.0000	0.0000	0.0000	0.0000	0.0000	0.7692	0.0000
WC3	0.0000	0.0000	0.0000	0.0000	0.0000	0.6494	0.0000
WC4	0.0000	0.0000	0.0000	0.0000	0.0000	0.8475	0.0000
WLB1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7272
WLB2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6331
WLB3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9028

Table 4: Quality Criterion and Composite Model.

Factors	AVE	Composite Reliability	Cronbach's Alpha	Communality
Communication	0.5459	0.7740	0.6163	0.5459
Coworker bonding	0.5888	0.7115	0.5359	0.5888
Flexibility in timing	0.7582	0.8622	0.6867	0.7582
Infrastructure	0.7270	0.8400	0.6618	0.7270
Policies of work-from-home	0.5194	0.7608	0.5370	0.5194
Work culture	0.5633	0.8364	0.7413	0.5633
Work-life balance	0.5816	0.8032	0.6464	0.5816

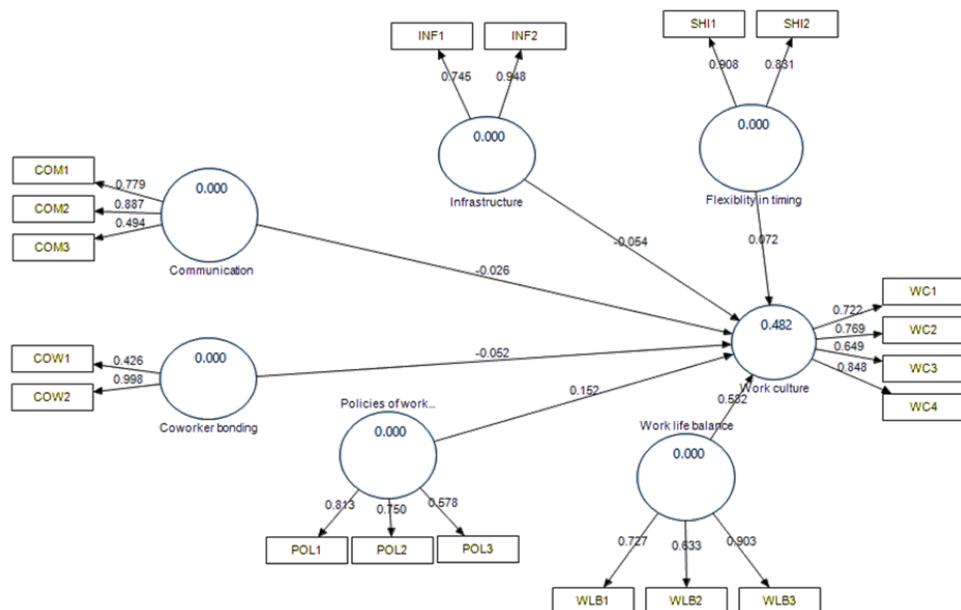


Figure 2: Path Model.

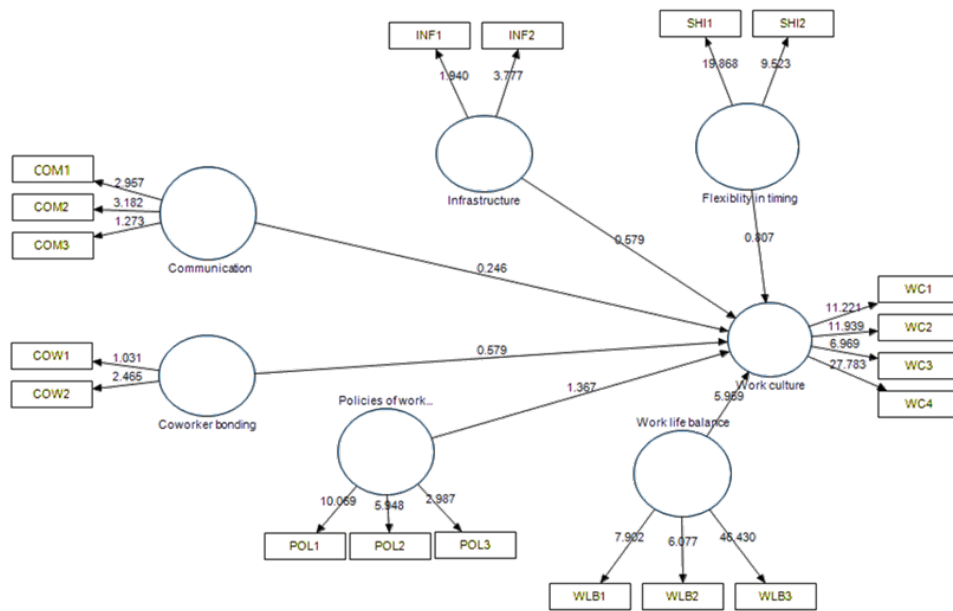


Figure 3: t-statistics model.

The path coefficient between the variable's flexibility in timings and work culture is 0.0723, which is not significant at 0.01 level ($t = 0.727$ not significant at 0.01 level). Hence, the hypothesis that flexibility in timings does not significantly impact the work culture has been rejected. The path coefficient between the variables work-life balance and work culture is 0.5822, which is significant at 0.01 level ($t = 6.6003$ is significant at 0.01 level). Hence the hypothesis that work-life balance has a significant impact on the work culture has not been accepted.

Table 5: Hypothesis testing.

H	Variables	Original Sample	Sample Mean	Standard Deviation	Standard Error	t-Statistics)	P Values	Support
H1	Communication & Work culture	-0.0261	-0.0466	0.1077	0.1077	0.2421	0.439	Not supported
H2	Coworker bonding & Work culture	-0.0517	-0.042	0.0898	0.0898	0.5753	0.004	Supported
H3	Infrastructure & Work culture	-0.0542	-0.0522	0.1173	0.1173	0.461	0.493	Not supported
H4	Flexibility in timing & Work culture	0.0723	0.0787	0.0994	0.0994	0.7273	0.857	Not supported
H5	Work-life balance & Work culture	0.5822	0.5763	0.0882	0.0882	6.6003	0.000	Supported
H6	Policies of work-from-home and travel & Work culture	0.1518	0.1535	0.1115	0.1115	1.3616	0.039	Supported

The path coefficient between work-from-home policies and travel and uncertainty avoidance is -0.0542, which is significant at 0.01 level ($t = 1.361$ significant at 0.01 level). Hence the hypothesis that policies of work-from-home and travel as a significant impact on the work culture has been accepted. Communication is an important factor influencing work culture, and organizations should pay attention to employers' mental well-being by maintaining regular communication and providing the necessary assistance. But the findings of the present work indicate that communication does not affect the organizational work culture. This finding contradicts many previous studies and research on the subject [17, 18, 21, 22, 24]. As stated in the study, coworker bonding is a deciding factor in determining whether the work culture has been affected by the COVID-19 pandemic. This finding is consistent with previous findings in similar contexts and situations [6, 17, 29]. Chainey [29] describes a company that gives each employee a virtual tour of their home office and then talks about various mementos they have at their homes, thereby creating a personal connection between the employees. Thus, employers should increase coworker bonding among employees by organizing various events or at the very least, some online bonding exercises. According to the findings, infrastructure does not affect organizational work culture. This finding contradicts many other studies on the subject [17, 20, 26, 41]. As a result, employers must understand the benefits of WFH and try to adapt. They should also know how to divide their time between household chores and work. According to the findings, timing flexibility does not affect organizational work culture. This finding contradicts the findings of several other studies for similar purposes [6, 17, 26]. Thus, employers should determine the optimal amount of flexibility to provide employees while WFH or even when working from the organization's office complexes. The study analysis supports the hypothesis that Work-Life Balance is a

deciding factor in determining whether or not the COVID-19 pandemic has affected work culture. This finding is consistent with many previous findings in a similar context and situation [17, 18, 26]. They concluded that employees who work-from-home could balance their personal and professional lives. They can also spend more time with their families without worrying about work. The study analysis supports the hypothesis that policies adopted by companies for WFH have a relationship with the organization's work culture. This result is consistent with previous studies in similar situations. [31, 33]. Employers should carefully consider their policies regarding working from home and travel for business as this will impact the company's overall productivity.

5 Conclusion

This study provides enlightening information on how employees have utilized telework during the COVID-19 pandemic and under typical working conditions. In addition, it highlights how employees' perspectives on teleworking and digital conferencing have shifted over time. The management and effectiveness of business operations have been significantly improved thanks to WFH. WFH can still be used by organizations even if their members do not require direct contact. It is impossible to use WFH for direct contact services such as those provided by health professionals, manufacturers, and transportation companies. According to the findings of the analysis, WFH is beneficial for female employees who need to multitask to maintain their careers and personal lives in a number of different ways from the point of view of gender difference. During COVID-19, the path model, t-statistics values, and independent variables coworkers show that a sense of community, work-life balance and policies allowing for work-from-home and travel all impacted the dependent variable work culture. The results of testing the hypothesis indicated that the values of significant factors, along with the path coefficient, t-statistics, and p-value, highlighted the work-life balance as an independent factor that significantly impacted work culture during COVID-19. It is possible to conclude that the new policies regarding travel, working from home, and relationships with coworkers have negatively affected the workplace culture during COVID-19.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Author Contribution

Sneh Bhiwaniwala: Conceptualization, Methodology; **Vishwanath Bansal:** Data curation, Writing- Original draft preparation; **Babita Singla:** Conceptualization, Methodology, Visualization; Investigation; **Namesh Malarout:** Conceptualization, investigation, writing—review and editing; **Sonia Vaz:** Conceptualization, Methodology, writing—review and editing; **Prithvi Hegde:** Software, writing—original draft preparation; **Nisha S Tatkhar:** Conceptualization, Writing- Reviewing and Editing; **Anshika Sharma:** data curation, writing—original draft preparation.

References

- [1] R. Bhat, V. K. Singh, N. Naik, C. R. Kamath, P. Mulimani, and N. Kulkarni, "COVID 2019 outbreak: The disappointment in Indian teachers," *Asian Journal of Psychiatry*, vol. 50, p. 102047, apr 2020.
- [2] W. De Preter, "High demand for teleworking among employees," apr 2020.
- [3] T. Knutson, "Telecommuting Surge Likely To Last Past COVID-19 Crisis, Predicts Brookings Report.," *Forbes*, apr 2020.
- [4] N. Krasulja, M. Vasiljevic-Blogojevic, and I. Radojevic, "Working from home as alternative for acheving work-life balance," *Ekonomika*, vol. 61, no. 2, pp. 131–142, 2015.
- [5] S. Lewis and C. L. Cooper, "Balancing the work/home interface: A European perspective," *Human Resource Management Review*, vol. 5, pp. 289–305, dec 1995.
- [6] S. Mann, R. Varey, and W. Button, "An exploration of the emotional impact of tele-working via computer-mediated communication," *Journal of Managerial Psychology*, vol. 15, pp. 668–690, nov 2000.
- [7] S. Montreuil and K. Lippel, "Telework and occupational health: A Quebec empirical study and regulatory implications," *Safety Science*, vol. 41, no. 4, pp. 339–358, 2003.

- [8] R. Davis, "Home alone.," *Revolution (Oakland, Calif.)*, vol. 1, no. 6, pp. 22–7, 2000.
- [9] J. D. Andrew, "Comparison of the job satisfaction and productivity of telecommuters versus in-house employees: A research note on work in progress," *Psychological Reports*, vol. 68, no. 3c, pp. 1223–1234, 1991.
- [10] D. M. Vitorio and W. Linda, "Telework: A New Way of Working and Living," *International Labour Review*, vol. 129, no. 5, pp. 529–544, 1990.
- [11] A. Nandi, D. Jahagirdar, M. C. Dimitris, J. A. Labrecque, E. C. Strumpf, J. S. Kaufman, I. Vincent, E. Atabay, S. Harper, A. Earle, and S. J. Heymann, "The Impact of Parental and Medical Leave Policies on Socioeconomic and Health Outcomes in OECD Countries: A Systematic Review of the Empirical Literature," *The Milbank Quarterly*, vol. 96, pp. 434–471, sep 2018.
- [12] S. Clark, "Presentees: New Slaves of the Office Who Run on Fear," oct 1994.
- [13] M. J. Gray, "Supporting teleworking with multimedia," *British Telecom technology journal*, vol. 13, no. 4, pp. 105–112, 1995.
- [14] P. M. Leonardi, "Social Media, Knowledge Sharing, and Innovation: Toward a Theory of Communication Visibility," *Information Systems Research*, vol. 25, pp. 796–816, dec 2014.
- [15] N. B. Ellison, "Social Impacts," *Social Science Computer Review*, vol. 17, pp. 338–356, aug 1999.
- [16] A. Bibby, "Telework: Are Journalists Heading for Honeysuckle Cottage?," *The Journalist*, sep 1993.
- [17] D. Mustajab, A. Bauw, A. Irawan, A. Rasyid, A. M. Aldrin, and H. M. Amin, "Covid-19 Pandemic: What are the Challenges and Opportunities for e-Leadership?," *Fiscaoeconomia*, vol. 4, no. 2, pp. 483–497, 2020.
- [18] M. Groth, Y. Wu, H. Nguyen, and A. Johnson, "The Moment of Truth: A Review, Synthesis, and Research Agenda for the Customer Service Experience," *Annual Review of Organizational Psychology and Organizational Behavior*, vol. 6, pp. 89–113, jan 2019.
- [19] H. Bouziri, D. R. M. Smith, A. Descatha, W. Dab, and K. Jean, "Working from home in the time of COVID-19: how to best preserve occupational health?," *Occupational and Environmental Medicine*, vol. 77, pp. 509–510, jul 2020.
- [20] S. Baert, L. Lippens, E. Moens, P. Sterkens, and J. Weytjens, "How Do We Think the Covid-19 Crisis Will Affect Our Careers (If Any Remain)?," *GLO Discussion Paper*, 2020.
- [21] B. B. Baltes, T. E. Briggs, J. W. Huff, J. A. Wright, and G. A. Neuman, "Flexible and compressed workweek schedules: A meta-analysis of their effects on work-related criteria.," *Journal of Applied Psychology*, vol. 84, pp. 496–513, aug 1999.
- [22] T. D. Allen and K. M. Shockley, "Flexible Work Arrangements: Help or Hype?," in *Handbook of Families and Work: Interdisciplinary Perspectives*, p. 265, 2009.
- [23] L. K. Barber and J. S. Jenkins, "Creating technological boundaries to protect bedtime: Examining work-home boundary management, psychological detachment and sleep," *Stress and Health*, vol. 30, pp. 259–264, aug 2014.
- [24] S. Carolan, P. R. Harris, and K. Cavanagh, "Improving Employee Well-Being and Effectiveness: Systematic Review and Meta-Analysis of Web-Based Psychological Interventions Delivered in the Workplace," *Journal of Medical Internet Research*, vol. 19, p. e271, jul 2017.
- [25] J. M. Berg, A. M. Grant, and V. Johnson, "When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings," *Organization Science*, vol. 21, no. 5, pp. 973–994, 2010.
- [26] D. W. McCloskey, "An Examination of the Boundary Between Work and Home for Knowledge Workers," *International Journal of Human Capital and Information Technology Professionals*, vol. 9, pp. 25–41, jul 2018.
- [27] S. Joyce, L. Tan, F. Shand, R. A. Bryant, and S. B. Harvey, "Can Resilience be Measured and Used to Predict Mental Health Symptomology Among First Responders Exposed to Repeated Trauma?," *Journal of Occupational & Environmental Medicine*, vol. 61, pp. 285–292, apr 2019.
- [28] E. E. Kossek and R. J. Thompson, "Workplace Flexibility: Integrating Employer and Employee Perspectives to Close the Research-Practice Implementation Gap," in *The Oxford Handbook of Work and Family*, pp. 255–271, 2016.
- [29] R. Chainey, "This is how COVID-19 could change the world of work for good," *World Economic Forum*, p. 1, 2020.
- [30] A. D. Dubey and S. Tripathi, "Analysing the sentiments towards work-from-home experience during COVID-19 pandemic," *Journal of Innovation Management*, vol. 8, pp. 13–19, apr 2020.
- [31] S. L. D. Restubog, A. C. G. Ocampo, and L. Wang, "Taking control amidst the chaos: Emotion regulation during the COVID-19 pandemic," *Journal of Vocational Behavior*, vol. 119, p. 103440, jun 2020.
- [32] C. Hanson, "Indigenous Research Methodologies," vol. 5, no. 1, pp. 93–95, 2012.
- [33] S. Chadha, M. Ennen, R. Parekh, and G. Pellumbi, "Reimagining medtech for a COVID-19 world," 2020.

- [34] W. C. Clapp, M. T. Rubens, J. Sabharwal, and A. Gazzaley, "Deficit in switching between functional brain networks underlies the impact of multitasking on working memory in older adults," *Proceedings of the National Academy of Sciences of the United States of America*, vol. 108, pp. 7212–7217, apr 2011.
- [35] M. İmren and H. G. Tekman, "the Relationship Between Media Multitasking, Working Memory and Sustained Attention," *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi*, vol. 20, pp. 1075–1100, jul 2019.
- [36] R. L. Jacobs, "Knowledge Work and Human Resource Development," *Human Resource Development Review*, vol. 16, no. 2, pp. 176–202, 2017.
- [37] T. D. Weerasinghe and A. K. L. Jayawardana, "Flex-Work and Work-Life Balance: Effects of Role Conflicts and Work-Life Support Organizational Culture," *Sri Lankan Journal of Management*, pp. 49–76, dec 2019.
- [38] X. Ma, "The effect mechanism of work flexibility on employee job satisfaction," *Journal of Physics: Conference Series*, vol. 1053, p. 012105, jul 2018.
- [39] C. Magnusson, "Flexible time—but is the time owned? Family friendly and family unfriendly work arrangements, occupational gender composition and wages: a test of the mother-friendly job hypothesis in Sweden," *Community, Work and Family*, vol. 24, pp. 291–314, may 2021.
- [40] D. J. Maume, "Can men make time for family? Paid work, care work, work-family reconciliation policies, and gender equality," *Social Currents*, vol. 3, pp. 43–63, mar 2016.
- [41] J. Ferdous, "SWOT Analysis of CodersTrust Bangladesh," tech. rep., Dhaka, 2019.