

Challenges of Working From Home in Persistent Covid-19 Environment

Chinnaiah P.M¹, Smt. Chytra P²

1, DO&R in Management Karnataka State Open University, Mukthagangothri, Mysuru, Karnataka State-570006, India.

2, Department of Commerce Government First Grade College Jagalur, Davanagere(Dist), Karnataka State-577528, India.

ARTICLE INFO	ABSTRACT
<p><i>JEL Code:</i> M10, M50, M51, Y10</p> <p><i>Keywords:</i> covid-19, working from home, challenges, IT sector</p> <p><i>Kata Kunci:</i> <i>Covid-19,</i> <i>Bekerja dari rumah,</i> <i>tantangan-tantangan,</i> <i>Sektor TI</i></p>	<p>The IT sector is one of the important sectors that contribute to the growth of Indian economy. The Industry adopted many measures to achieve a higher level of performance and to sustain their higher market share; one of such measures is working from Home (WFH). The Covid-19 pandemic badly affected the world economy. Therefore, to sustain the work progress the IT firms across the globe have adopted WFH method. Though there are many studies conducted to identify the challenges of working from home in the early stage of the covid-19. But, there are scant studies those who made attempt to identify the challenges of working from home and changes in these challenges in the persistent covid-19 environment. In the present study it is found that, there are seven challenges remain same as in the early stage of pandemic and eight previously identified challenges have changed into moderate challenges.</p>
<p>Corresponding author: m.chinnaiah3@gmail.com</p>	<p>SARI PATI</p> <p><i>Sektor IT merupakan salah satu sektor penting yang berkontribusi terhadap pertumbuhan ekonomi India. Industri mengadopsi banyak langkah untuk mencapai tingkat kinerja yang lebih tinggi dan untuk mempertahankan pangsa pasar mereka yang lebih tinggi; Salah satunya adalah bekerja dari rumah (WFH). Pandemi Covid-19 berdampak buruk pada perekonomian dunia. Oleh karena itu, untuk menopang kemajuan pekerjaan, perusahaan IT di seluruh dunia telah mengadopsi metode WFH. Padahal sudah banyak penelitian yang dilakukan untuk mengidentifikasi tantangan bekerja dari rumah di tahap awal covid-19. Namun, ada sedikit penelitian yang mencoba mengidentifikasi tantangan bekerja dari rumah dan perubahan dalam tantangan ini di lingkungan covid-19 yang persisten. Dalam kajian ini ditemukan bahwa, ada tujuh tantangan yang tetap sama seperti pada tahap awal pandemi dan delapan tantangan yang diidentifikasi sebelumnya telah berubah menjadi tantangan sedang.</i></p> <p>© 2021 IRJBS, All rights reserved.</p>

INTRODUCTION

The Covid-19 pandemic posed unprecedented challenges to the global economy. It initially started in Wuhan China in December 2019 and later it has spread across the globe. Large numbers of industrial sectors of many countries have been badly hit by the pandemic. The Indian economy is also affected by the Covid-19. It was inevitable for the governments across the globe to adopt various measures to control the Covid-19 impact. Curfew, social distancing, lockdown and other measures have been adopted by many countries to control the spread of Coronavirus. Many countries across the globe have taken lockdown as a measure to avoid the spread of pandemic. India had announced nationwide lockdown in March, 2020 for 21 days later it was extended till May 17. Later the lockdown took different forms like lock down 1.0 and 2.0 which were extended till July 31, 2021 in the containment zones. Even though both central and state governments have initiated such measures to avoid the spread of Covid-19 they were not able to mitigate the spreads. It has been spreading again in the form of a second wave of infections. As on 19 May, 2021 total number of confirmed cases were 2, 54, 96,330 with an active case of 31, 27, 640 and total deceased are 283,248 in India (WHO, 2021). During the second wave it has witnessed that a large number of the young population got affected by the pandemic.

Even though the governments have brought many actions to avoid the spread of Covid-19. But, the nation was not able to avoid a second wave of infections. However, the firms have many challenges to adapt themselves to home-based work (Ralph p et al, 2020), as a large number of these companies had not prepared for it during the first wave. To adhere to the government's instructions and follow the norms of social distancing, many IT firms have asked their employees to work from home (Duffy, 2020). Among the jobs which can be performed through computers have occupied top position in ease of work from home((Dingel and Neiman, 2020). Hence, large numbers of IT firms have asked

their employees to work from home. This work from home is not like previous work from home (Ralph.P et al.2020). This is a sudden and unexpected assignment during this unprecedented crisis. It has posed many challenges, where everyone is asked to stay at home which is associated with many new and unique challenges. The usual advantages of working from home may not apply in pandemic time working from home (Donnelly and Proctor-Thomson, 2015). Unlike working in well-equipped home-office workers are 'working in bedrooms, at kitchen tables and on sofas while partners, children, siblings, parents, roommates, and pets distract them and also schools are closed which is also an important factor that affects' (Ralph.P et al.2020).

The Indian IT sector is one of the great success stories that have seen tremendous growth over the past decade. The Indian IT sector has both native reputed IT firms such as TCS, Infosys, Wipro and others, in addition to these firms there are a large number of foreign IT firms also operating in India. The IT sector has emerged as a significant contributor to sustained the growth, national competitiveness of India(Malik and Velan, 2016).

The NASSCOM survey (2020) entitled 'CEO Pulse Review: Covid-19 Impact on Indian Tech Sector' indicates as on June 2020, 80 percent of CEOs agreed to create more formalized work from home. Thus, the present study made an attempt to examine the challenges of working from home in a persistent covid-19 environment.

Covid-19 and Indian IT Industry

In India IT industry has emerged as one of the significant contributors to the economic growth of the country. The IT sector has been significantly contributing to India's GDP. In the Financial year (FY) 1998 it had contributed nearly 1.2 percent of GDP and in the FY 2019-2020 it has contributed over 8 percent of India's GDP. The Indian IT sector has a huge global presence with more than 80 countries, with more than 4 million employments in the year 2019-20.

The Indian IT firms' delivery centres operating in China had faced the challenges of covid-19 and learnt a lesson that working from home is inevitable. Hence, 50 percent of IT firms had preparedness (NASSCOM, 2020) prior to announcement of lock down in India in March 2020. These firms provided laptops to their employees and they were using remote collaboration tools. For example, the Indian IT firm Mindtree in advance had anticipated the challenges connected to the operations during covid-19. Therefore, the firm conducted a pilot study for Working from home before lockdown. On March 3, 2020 – Two-tier war room was activated with central command at their Bangalore Head Quarter and local ground teams in each region.

The IT sector had adopted a four point response to counter the COVID-19 led challenges. These include- they set-up a war room with centralized commands and local teams; use of Apps for regular communication, COVID-19 awareness, and provide support for health and work related challenges; upgraded IT infrastructure and ensured network security, data privacy, and continual monitoring by deploying VPNs, requisite tools, and hardware; securing stakeholder approvals, with service continuity assurance to clients, and extended support and flexibility in addressing sudden requirements in this time of crisis (NASSCOM, 2020).

With over 90% productivity achieved in the first four weeks of lockdown in the year 2020, the companies started to bring few of their staff after Unlock 1.0 while simultaneously strengthening remote working capabilities as the NASSCOM had expected a second wave of infections. Thus, the NASSCOM had recommended a staggered approach for getting employees back to the workplace in a phased manner. Since the second wave of infections affected the country the IT companies asked their employees to work from home.

Review of Literature

Working from home and pandemic

Work performed from different places for e.g. home

which allows the workers to perform their duties with the help of information and communication technologies is referred as telework or working from home (Nilles, 1997; Perez Perez et al., 2003). Working from home is treated as an alternative to the traditional way of organizing work. Since it allows the worker to work from home or the place they prefer (usually home) which attracted the attention of academicians and practitioners. As identified in the previous studies (for e.g., Davenport & Pearlson, 1998; Cascio, 2000) working from home improves productivity and workers those who work from home have higher perceived improvement in productivity (Baruch 2000). Further, it helps to sustain business operations and maintain operational capacity during disasters (Black et al, 2010). But, during covid-19 lockdowns the workers working from home felt higher stress, due closure of schools, fitness centres, travel restrictions etc., (Ralph P. et al, 2020). The severity of pandemic which is associated with uncertainty and isolation increased the frustration, anxiety and fear (Taha et al. 2014). Hence, workers may feel demotivated while working from home during disasters (Dennelly and Proctor –Thomas, 2015). Thus, the usual advantages of working from home may not present during persistent pandemic environment.

Time management

Planning the work as per the employees convenience is one of the important advantages of working from home (Gurstein, 2001; Morgan, 2004); particularly it helps those who have younger kids. This may not be the case in a persistent covid-19 environment, as all the members of the family present at home, it is challenging to manage the time for work and family (Chung et al., 2020; Ford et al., 2020; Raišienė et al., 2020). When the employees are not able to manage time and take more time to finish the work. Thus, it leads to higher mental pressure of employees.

Supervisory support and trust

As Lapiere et al., (2015), mentioned in their study higher the employees work from home less likely they get the superiors support. This may be due to

lower visibility (Cooper and Kurland, 2002). The success of the worker while working from home depends on the employees' self confidence and trust they build with their co-workers and with their superiors. The employees who work from home feel they get less support from their superiors during covid-19 (Chung et al., 2020; Raišienė et al., 2020).

Lack of interaction

Working from home leads to social isolation, which is treated as one of the important disadvantages of working from home (Wilson and Greenhill, 2004). As the employees need to work in their home and they can't have regular communication which they would have had while they are working in the office. Thus the workers who work from home feel isolation from their co-workers at the workplace (Bailey and Kurland, 2002). Prasad et al., (2020) in their study found that, in India during the first covid-19 lockdown due to lack of good network connectivity employees' feel poor interaction with higher authority. As employees continued their work from home due to covid-19 the issue of poor connectivity is resolved by organizations (Butler and Jaffe, 2021).

Further, workers who work from home may not feel a decrease in their social life during the pandemic. As most of the family members present at home due to the pandemic the employees may not feel isolation, since they can be able to interact with the family members and in case of working couples they can help each other for the work (Chung et al., 2020; Ford et al., 2020; Raišienė et al., 2020). Thus, the possibility of feeling of isolation may not be there while working from home during the pandemic.

Pressure of family members and pets

In the previous studies it is mentioned that working from home helps the worker to take care of their family members (Ammons and Markham, 2004; Johnson et al., 2007). This may not be the case during the persistent covid-19 environment. In general, during earlier types of working from home the family members (for.e.g.spouse and kids) used

to go out of the home for various activities, like schooling and offices. But, during the covid-19 all the members of the family stay at home, it may be children, spouse etc., this may negatively affect the work. Hence, they may feel pressure (Chung et al., 2020; Ford et al., 2020; Prasad et al., 2020; Raišienė et al., 2020). Thus, in the present study variables related to family such as children, spouse and family type are included. Further, those who have pets get disturbed.

Physical infrastructure

Physical infrastructure is one of the important determinants of the success of working from home. As indicated by Bailey and Kurland, (2002) in their study, the inappropriate working place negatively influences employee productivity. During the covid-19 pandemic working from home is a sudden change, where most of the employees of the IT sector had no preparation for working from home and they did not have appropriate working ergonomics (Chung et al., 2020; Ford et al., 2020; Raišienė et al., 2020). Prasad et al., (2020) found that 'there were communication problems due to internet glitches' which indicate poor infrastructure.

But, in the persistent pandemic environment the organizations might have provided certain basic facilities to work at home and the employees might have created their own physical working environment. Thus, the challenge of physical infrastructure might have changed as the pandemic continued.

Increased mental stress

The employees working from home during the pandemic probably experience a higher level of pressure. It may be due to inefficient allocation of time for work and family, more time taken to finish the work, poor physical infrastructure and such other problems. It is found in the Prasad et al., (2020) and Butler and Jaffe, (2021) study that IT sector employees working from home during covid -19 are experiencing increased levels of mental stress.

Organizational support and communication channels

Equipment like computer, reassurance (for e.g. accepting lower productivity during pandemic), assurance of job security and no-salary cuts, connectedness through virtual socialization, self-care to employees, materials of exercise and technical infrastructure(VPNs) are important to boost the employee motivation and productivity. If these facilities are not provided then they become the challenges of working from home (Ford et al., 2020; Raišienė et al., 2020).

Problem statement and Objectives

The challenges faced by the IT employees while working from home during the pandemic are different from earlier type of working from home. Therefore, in the earlier studies (Butler and Jaffe, 2021; Prasad et al., 2020; Ralph.P et al.2020) it is found that, there is difference in the challenges faced by the IT sector employees while working from home during pandemic. As the covid-19 environment continued and the second wave of infections affected India, the challenges faced by the IT sector employees may not be the same which they had faced at the early stage of the pandemic. The study particularly has two research questions: (i) what are the challenges faced by the IT employees during persistent covid-19 environment?; (ii) are there any changes in the challenges faced by IT employees in the persistent covid-19 environment?.

Specifically the study has the following objectives:

1. To identify and analyze the challenges faced by IT employees in Karnataka while working from home in a persistent covid-19 environment.
2. To examine whether there are any changes in the challenges faced by the IT employees while working from home in a persistent covid-19 environment.

Hypotheses

By considering the implications of the challenges

of working from home as indicated in the literature survey, we set the following hypothesis.

H1: There is a significant difference between challenges faced by male and female IT employees while working from home.

H2: There is a significant difference between married and unmarried IT employees in the challenges faced while working from home.

H3: There is a significant difference between different age group IT employees in the challenges they faced while working from home.

H4: There is a significant difference between the challenges faced by different education background IT employees while working from home.

METHODS

To achieve the objectives of the study and to examine the different aspects of challenges of working from home in a persistent Covid-19 environment, an exploratory study has been conducted. The primary data for the study has been collected from a well-structured questionnaire. The secondary data for the study has been collected from published sources such as books, journals and magazines.

The questionnaire has been prepared by taking inputs from the literature and experts' views. The questionnaire has two sections, section A related to the demographic factors of IT employees in Karnataka; section-B is related to challenges of working from home in persistent Covid-19 environment, fifteen statements related to challenges of working from home are prepared, which are based on a five-point likert scale (1-strongly disagree to 5-Strongly agree). The content validity of these questions has been carried out through the discussion with three academicians and four IT professionals who are well aware of the issue. Both the academicians and IT professionals

have been provided the inputs for both sections of the questionnaire. According to the inputs the questionnaire has been modified.

After modification the questionnaire has been administered to the IT professionals in Karnataka through Google form online circulation.

Scope of the Study

Since the objectives of the study are to analyze the challenges faced by the IT employees during the persistent covid-19 environment and to identify changes in the challenges of working from home due to persistent covid-19 environment. As Karnataka state is treated as the IT hub of India, thus the researchers have collected samples from IT employees working in Karnataka. The sample is collected irrespective of the designation of the employees.

Selection of the samples

To achieve the objectives of the study convenient sampling technique is followed. The questionnaire had been administered through Google form by using contacts. Initially we had received 112 responses; our final sample reached 107 responses after eliminating incomplete responses and responses from non-IT professionals'. The reference period is from 15 April to 15 May, 2021.

Tools of analysis

At the very outset the reliability of the questionnaire has been tested through Cronbach's Alpha. Then the normality of the data has been checked to apply whether parametric tests or nonparametric tests to conduct. The descriptive statistics and the mean

scores of the Likert scale responses are calculated. It is found that, the data is not normally distributed. Therefore, non-parametric tests Mann –Whitney U test and Krusal Wallis test are conducted to test the hypothesis. SPSS 21.0 version is used in the present study.

Reliability Test

Reliability of the questionnaire has been tested by Cronbach's Alpha. Cronbach's Alpha has been calculated for the second part of the questionnaire. The Cronbach's Alpha's value is 0.853(table-1). According to George and Mallery (2003), an alpha that is closer to 1.00 indicates a greater internal consistency of items. The value of the Cronbach's is more than 0.70 can be acceptable (Cornita, 1993). Thus, based on Cronbach's alpha it can be concluded that the questionnaire is reliable.

Test of Normality

To decide whether to apply parametric tests or with non-parametric tests to conduct. It is important to check the normality of the data. The normality of the data has been checked by Kolmogorov-Smirnov test and Shapiro-Wilk tests. The results of both the tests indicate all the statements are statistically significant (<0.05). This shows the data is not normally distributed. Therefore we have to proceed with the non-parametric test to analyze the data.

RESULTS AND DISCUSSIONS

Descriptive Statistics

The descriptive statistics on the demographic profile and the statements representing the challenges of working from home are presented in table-3 and table-4.

Tabel 1. Reliability Analysis

		N	Percent	Cronbach's Alpha	No. of Items
Cases	Valid	107	100.0	.853	15
	Excluded	0	0		
	Total	107	100.0		

Sl. No.	Statements	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
1	I don't have all infrastructure to work at home	.267	50	.000	.800	50	.000
2	I am finding difficulty in scheduling my time to family and work	.289	50	.000	.755	50	.000
3	I am Finding difficulty in choosing my outfits for the day	.213	50	.000	.862	50	.000
4	I am Facing Low Internet speed	.276	50	.000	.820	50	.000
5	I am finding difficulty in working with pets	.204	50	.000	.894	50	.000
6	I have Pressure of kids	.220	50	.000	.844	50	.000
7	I have Pressure of Spouse	.310	50	.000	.814	50	.000
8	I don't get all supervisory support from higher authority	.324	50	.000	.761	50	.000
9	I am feeling lack of face to face interaction	.251	50	.000	.866	50	.000
10	It takes more time to finish my work	.336	50	.000	.665	50	.000
11	Now my mental stress increased	.266	50	.000	.770	50	.000
12	I feel working from home decreased my social life	.256	50	.000	.852	50	.000
13	I feel loneliness	.273	50	.000	.833	50	.000
14	I have fear of salary cut	.296	50	.000	.848	50	.000
15	I have Fear of Job Loss	.325	50	.000	.746	50	.000

Demographic Profile

Tabel 3. Demographic Profile

		Frequency	Percentage
Gender	Male	69	64.5
	Female	38	35.5
Marital Status	Married	50	46.7
	Unmarried	57	53.3
Age	Bello 25 years	38	35.5
	25-35 years	52	48.6
	36- 45 years	15	14.0
	Above 46 years	2	1.9
Qualification	Below graduation	4	3.7
	Graduation	64	59.8
	Post-Graduation	34	31.8
	Above Post graduation	5	4.7
Number of experience	Below 5 years	58	54.2
	5-10 years	33	30.8
	11-15 years	9	8.4
	16-20 years	4	3.7
	above 20 years	3	2.8
Type of family	Joint family	34	31.8
	Nuclear family	73	68.2

The descriptive statistics of the demographic profile of respondents has been presented in table-3. On the overall sample of 107, there are 69 male (64.5 percent) and 38 females (35.5 percent). Furthermore, the table-3 also reveals that 50 respondents are (46.7 percent) married and 57 are unmarried (53.3 percent). The results shows that, 38(35.5 percent) respondents are below 25 years of age, 52(48.6 percent) are between 25-35 years of age group, 15 (14 percent) respondents are between the age group of 36-45 years of age and 2 (1.9 percent) of respondents are in the age group of above 45 years. In terms of level of education, there are 4(3.7 percent) respondents below graduation, 64 (58.9 percent) respondents have graduation level of education, 34 (31.8 percent) are post – graduation qualified and there are 5 (4.7 percent) of respondents who are above post-graduation.

In terms of experience, 58 (54.2 percent) respondents have below 5 years of experience, 33(30.8 percent) of them have 5-10 years of experience, 9(8.4 percent) have 11-15 years of experience, 4(3.7 percent) have 16-20 years of experience. And there are 3(2.8 percent) respondents who have above 20 years of experience.

Further, as the type of family is one of the important factors which influences on the performance and the perceived challenge of are examined. In the overall sample there are 34(31.8 percent) respondents from joint families and 73(68.2 percent) representing nuclear families.

Descriptive Statistics: Challenges of working from home during persistent Covid-19 environment

The challenges faced by the IT employees while working from home during the persistent covid-19 environment (statements) are presented in the table-4.

The level of challenges faced by the respondents is interpreted as below:

1. High (overall mean score between 3.4 to 5)
2. Moderate (overall mean score between 1.68 to 3.33)

3. Low (overall mean score between 1.00 to 1.67)

Table 4 reveals that there are 7 statements that have higher mean scores, indicating higher level of challenges. They are- scheduling time to work and family (4.271), more time taken to finish the work (4.271), lack of all infrastructure at home (4.14), increased mental stress (4.009), fear of job loss (3.972), lack of supervisory support from higher authority(3.963) and lack of face to face interaction(3.766) are the statements the IT employees considered as more challenging.

Remaining all other statements is considered as moderate challenges facing by the respondents. Thus, all the statements in the questionnaire are moderate and/ higher end challenges as considered by the IT professionals in Karnataka.

Hypotheses Testing

Mann-Whitney U and Kruskal-Wallis Tests

Mann-Whitney U test is conducted to examine whether there is any significant difference between two samples and Kruskal-Wallis Test is conducted to examine the significant difference between more than two samples.

Table 5 presents the Mann-Whitney U test results on 'examination difference between challenges faced by male and female respondents while working from home'. The table-5 shows that the p-value is 0.496, which is greater than 0.05. Thus, we do not reject the null hypothesis 'There is a significant difference between challenges faced by male and female IT employees while working from home'. Thus, it can be interpreted that there is no difference between challenges faced by the male and female IT employees while working from home.

Table 6 represents the results of Mann-Whitney U test on the hypothesis 'There is a significant difference between married and unmarried IT employees in the challenges faced while working from home'. The table-6 shows that the p-value is 0.038 which is lesser than 0.05. Thus, we do not

Tabel 4. Descriptive Statistics-Challenges of Working from Home during persistent Covid-19 environment

SI No.	Statement	N	Mean	Std. Deviation
1	I don't have all infrastructure to work at home	107	4.140	1.0136
2	I am finding difficulty in scheduling my time to family and work	107	4.271	.8856
3	I am Finding difficulty in choosing my outfits for the day	107	2.112	.9042
4	I am Facing Low Internet speed	107	1.935	.7432
5	I am finding difficulty in working with pets	107	2.495	1.0404
6	I have Pressure of kids	50	2.000	.9258
7	I have Pressure of Spouse	50	2.120	.9613
8	I don't get all supervisory support from higher authority	107	3.963	.8347
9	I am feeling lack of face to face interaction	107	3.766	1.1208
10	It takes more time to finish my work	107	4.271	1.0240
11	Now my mental stress increased	107	4.009	1.1116
12	I feel working from home decreased my social life	107	2.533	1.0668
13	I feel loneliness	107	2.112	.9248
14	I have fear of salary cut	107	3.206	1.1553
15	I have Fear of Job Loss	107	3.972	.9562

Tabel 5. Mann-Whitney U Test to examine differences between challenges faced by male and female employees while WFH

	Gender	N	Mean Rank	Sum of Ranks		
Challenges	Male	69	52.49	3621.50	Mann-Whitney U	1206.500
	Female	38	56.75	2156.50	Wilcoxon W	3621.500
	Total	107			Z	-.681
					Asymp. Sig. (2-tailed)	.496

Note: Level of significance is tested at 5 percent

Tabel 6. Mann-Whitney to examine the difference between challenges faced by Married and Unmarried respondents

	Gender	N	Mean Rank	Sum of Ranks		
Challenges	Male	50	47.36	2368.00	Mann-Whitney U	1093.000
	Female	57	59.82	3410.00	Wilcoxon W	2368.000
	Total	107			Z	-2.076
					Asymp. Sig. (2-tailed)	.038

Note: Level of significance is tested at 5 percent

accept the null hypothesis. That indicates, there is a significant difference between the challenges faced by married and unmarried IT employees in Karnataka. The probable reason for such difference may be due to the fact that married IT professionals have higher pressure from kids, spouse, which

resulted in the inefficiency to schedule the time between work and family, which also resulted in increased mental stress. Thus, there is a significant difference between the married and unmarried groups.

Tabel 7. Kruskal-Wallis Test to examine difference between the challenges faced by different age group respondents while WFH

	Age	N	Mean Rank		
Challenges	Bello 25 years	38	49.47	Chi-Square	2.046
	25-35 years	52	55.47	Df	3
	36- 45 years	15	57.57	Asymp. Sig.	.563
	46-55 years	2	75.00		
	Total	107			

Note: Level of significance is tested at 5 percent

Tabel 7. Kruskal-Wallis Test to examine difference between the challenges faced by different age group respondents while WFH

	Qualification	N	Mean Rank		
Challenges	Below graduation	4	2.75	Chi-Square	11.592
	Graduation	64	55.50	df	3
	Post-Graduation	34	57.60	Asymp. Sig.	.009
	Above Post graduation	5	51.30		
	Total	107			

Note: Level of significance is tested at 5 percent

Table 7 presents the results of Kruskal-Wallis Test on the hypothesis 'There is a significant difference between different age groups and the challenges faced by IT employees while working from home'. The test results show that the p-value is 0.563 which is greater than 0.05. Thus, we do not reject the null hypothesis, which indicates there is no significant difference between the challenges' faced by the different age groups. The probable reason for such results may be due the fact that, at all levels of age the responsibilities and the external pressure in the persistent covid-19 environment are the same. Therefore, there is no significant difference between the challenges faced by different age groups

Table 8 presents the test results of the hypothesis 'There is a significant difference between the challenges faced by different education background IT employees'. The above table-8 shows that the P-value is 0.09, which is lesser than 0.05. Therefore, we do not accept the null hypothesis. Thus, it can be concluded that, there is a significant difference between the challenges faced by different educational background IT employees. The probable reason for such difference may be,

those who have higher educational qualifications might have assumed higher positions and they might have taken more responsibility. Therefore, the challenges faced by them also are more.

Summary of Findings

The study made an attempt to identify the challenges faced by IT employees while working from home. It is found that, of the 15 statements indicating challenges of IT employees while working from home there are 7 statements have higher mean score, indicating higher level of perceived challenges. They are- scheduling time to work and family, more time taken to finish the work, lack of all infrastructure at home, increased mental stress, fear of job loss, lack of supervisory support from higher authority and lack of face to face interaction are the statements the IT employees considered as more challenging.

In the previous studies those are found as challenges of working from home during covid-19 such as choosing outfits for the day, low internet speed, challenge of working with pets, pressure of kids, pressure of spouse, fear of salary cuts, decreased

social life and feeling of loneliness are changed. The reason for such change in challenges may be the organizations have addressed the issues, for example, the issue of internet connectivity might have been addressed by the concerned organizations; fear of salary cuts have decreased as over past one year of the covid-19 environment organizations are constantly paying salary without any cuts. Thus, it might have changed. The pressure of kids, pressure of spouse and pressure of pets have been addressed properly or the employee might have got adjusted to the environment or they might have learnt to manage them. Hence these challenges are also addressed. As the employees are staying at home thus they may feel that their social life has not decreased and further, while researchers interact with employees it is noticed that, due to the advancement in ICT the employees are able to stay connected to their colleagues, hence they do not feel loneliness. The employees who were feeling difficulty in arranging outfits for the day don't have the same feeling. The reason may be employees arranged their outfits or they might have learnt to manage.

MANAGERIAL IMPLICATIONS

The IT sector plays a major role in the Indian economy. Working from home is one of the important approaches the industry adopted to attain its goals. As the covid-19 pandemic affected all the industries across the globe. It has become unavoidable to adopt the working from home method. Though there are large numbers of studies have been conducted to identify the challenges faced by the IT sector employees while working from home during the covid-19. But, they have not made an attempt to identify the challenges of working from home in the persistent covid-19 environment. The present research has many managerial implications, they are- the study helps the managers to identify challenges of working from home during persistent pandemic environments,

thus they can take decisions to overcome these challenges, hence that in turn helps the firms to sustain their growth. The study also help the managers to identify as the pandemic continue whether there are any changes in these challenges faced by IT employees over the time, which helps the managers to see whether the initial challenges are only short term nature and the employees get adapted to this environment and be able to perform their duties?; whether the challenges faced earlier are solved or not. Thus, the implications of the research help the IT sector to overcome the challenges of working in the persistent pandemic environment like covid-19.

CONCLUSION

The study made an attempt to identify and analyze the challenges of working from home in the persistent covid-19 environment; and changes in these challenges in the persistent pandemic environment. Based on the finding of the study can be concluded that, of all the statements indicating the challenges only 7 statement are considered as higher level of challenges such as- scheduling time to work and family, more time taken to finish the work, lack of all infrastructure at home, increased mental stress, fear of job loss, lack of supervisory support from higher authority and lack of face to face interaction. Other statements indicating the challenge of working from home are changed to moderate level of challenges such as- Choosing outfits for the day, low internet speed, challenge of working with pets, pressure of kids, pressure of spouse, fear of salary cuts, decreased social life and feeling of loneliness are changed over.

Further, it is also concluded that, there is a significant difference between married and unmarried employees in the challenges they faced; and there is also significant difference challenges faced by different educational background IT employees. ■

REFERENCES

- Ammons, S. K., & Markham, W. T. (2004). Working at home: Experiences of skilled white collar workers. *Sociological Spectrum*, 24(2), 191–238.
- Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 23(4), 383–400.
- Baruch, Y. (2000). Teleworking: Benefits and pitfalls as perceived by professionals and managers. *New Technology, Work and Employment*, 15(1), 34–49.
- Blake, K. D., Blendon, R. J., & Viswanath, K. (2010). Employment and compliance with pandemic influenza mitigation recommendations. *Emerging Infectious Diseases*, 16(2), 212.
- Butler, J., & Jaffe, S. (2021). Challenges and gratitude: A diary study of software engineers working from home during covid-19 pandemic. *2021 IEEE/ACM 43rd International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)*, 362–363.
- Cascio, W. F. (2000). Managing a virtual workplace. *Academy of Management Perspectives*, 14(3), 81–90.
- Chung, H., Seo, H., Forbes, S., & Birkett, H. (2020). *Working from home during the COVID-19 lockdown: Changing preferences and the future of work*.
- Cooper, C. D., & Kurland, N. B. (2002). Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 23(4), 511–532.
- Cortina J M (1993), "What is Coefficient Alpha? An Examination of Theory and Applications", *Journal of Applied Psychology*, Vol. 78, No. 1, pp. 98-104.
- Davenport, T. H., & Pearlson, K. (1998). Two cheers for the virtual office. *MIT Sloan Management Review*, 39(4), 51.
- Donnelly, N., & Proctor-Thomson, S. B. (2015). Disrupted work: Home-based teleworking (HbTW) in the aftermath of a natural disaster. *New Technology, Work and Employment*, 30(1), 47–61.
- Dingel, J., & Neiman, B. (2020). *How Many Jobs Can Be Done at Home?: NBER Working Paper No. 26948*.
- Duffy, C. (2020). Big tech firms ramp up remote working orders to prevent coronavirus spread. URL <https://www.cnn.com/2020/03/10/Tech/Google-Work-from-Home-Coronavirus/Index.html>.
- Feng, Y., & Zhou, W. (2020). Is working from home the new norm? An observational study based on a large geo-tagged covid-19 twitter dataset. *ArXiv Preprint ArXiv:2006.08581*.
- Ford, D., Storey, M.-A., Zimmermann, T., Bird, C., Jaffe, S., Maddila, C., Butler, J. L., Houck, B., & Nagappan, N. (2020). A tale of two cities: Software developers working from home during the covid-19 pandemic. *ArXiv Preprint ArXiv:2008.11147*.
- Gorlick, A. (2020). The productivity pitfalls of working from home in the age of COVID-19. *Stanford News*. March, 30, 2020.
- Gottlieb, C., Grobovšek, J., & Poschke, M. (2020). Working from home across countries. *Covid Economics*, 1(8), 71–91.
- George, D., & Mallery, P (2003), 'SPSS for Windows step by step: A simple guide and reference', (4th ed.), Boston: Allyn & Bacon.
- Gurstein, P. (2001). *Wired to the world, chained to the home: Telework in daily life*. UBC Press.
- Hern, A. (2020). Covid-19 could cause permanent shift towards home working. *The Guardian*, 13.
- Johnson, L. C., Andrey, J., & Shaw, S. M. (2007). Mr. Dithers comes to dinner: Telework and the merging of women's work and home domains in Canada. *Gender, Place & Culture*, 14(2), 141–161.
- Lapierre, L. M., Van Steenberg, E. F., Peeters, M. C., & Kluwer, E. S. (2016). Juggling work and family responsibilities when involuntarily working more from home: A multiwave study of financial sales professionals. *Journal of Organizational Behavior*, 37(6), 804–822.
- Malik, M. H., & Velan, N. (2016). Trends and determinants of IT-BPM exports in India. *Journal of Science and Technology Policy Management*.
- Morgan, R. E. (2004). Teleworking: An assessment of the benefits and challenges. *European Business Review*.
- NASSCOM (2020), Navigating Covid, Retrieved from the NASSCOM website <https://nasscom.in/knowledge-center/publications/navigating-covid-indian-tech-sector-benchmarks-and-way-forward>
- NASSCOM (2020), CEO pulse review. Retrieved from the NASSCOM website <https://nasscom.in/knowledge-center/publications/ceo-pulse-review-covid-19-impact-indian-tech-sector-june-2020>
- NASSCOM(2019),AnnualReport. Retrieved from NASSCOM website https://nasscom.in/sites/default/files/Annual_Report_2019.pdf
- Nilles, J. M. (1997). Telework: Enabling distributed organizations: implications for IT managers. *Information Systems Management*, 14(4), 7–14.

- Pérez, M. P., Sánchez, A. M., de Luis Carnicer, P., & Jiménez, M. J. V. (2004). A technology acceptance model of innovation adoption: The case of teleworking. *European Journal of Innovation Management*.
- Prasad, D. K., Rao, M., Vaidya, D. R., & Muralidhar, B. (2020). Organizational climate, opportunities, challenges and psychological wellbeing of the remote working employees during COVID-19 pandemic: A general linear model approach with reference to information technology industry in hyderabad. *International Journal of Advanced Research in Engineering and Technology (IJARET)*, 11(4).
- Raišienė, A. G., Rapuano, V., Varkulevičiūtė, K., & Stachová, K. (2020). Working from Home—Who is Happy? A Survey of Lithuania's employees during the COVID-19 quarantine period. *Sustainability*, 12(13), 5332.
- Ralph, P., Baltes, S., Adisaputri, G., Torkar, R., Kovalenko, V., Kalinowski, M., Novielli, N., Yoo, S., Devroey, X., & Tan, X. (2020). Pandemic programming. *Empirical Software Engineering*, 25(6), 4927–4961.
- Ralph, P., & Tempero, E. (2018). Construct validity in software engineering research and software metrics. *Proceedings of the 22nd International Conference on Evaluation and Assessment in Software Engineering 2018*, 13–23.
- Taha, S., Matheson, K., Cronin, T., & Anisman, H. (2014). Intolerance of uncertainty, appraisals, coping, and anxiety: The case of the 2009 H1N1 pandemic. *British Journal of Health Psychology*, 19(3), 592–605.
- WHO Coronavirus (Covid-19) Dashboard(2021). Retrieved from <https://covid-19.who.int>
- Wilson, M., & Greenhill, A. (2004). Gender and teleworking identities in the risk society: A research agenda. *New Technology, Work and Employment*, 19(3), 207–221.