An Investigation Study of Challenges in the Transition from Traditional to Virtual Teamwork During COVID-19 in UAE Organisations

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In response to the COVID-19 pandemic, many organisations worldwide decided to transfer to remote working. This transition faced different challenges. This research investigates the most emergent challenging factors due to this transition in UAE organisations that affect productivity, motivation, and trust. A comprehensive literature review was conducted to identify the most challenging factors, followed by a questionnaire to achieve the objective. Respondents for the questionnaire were 92 participants from different institutions across the UAE. The questionnaire focused on five main challenges: lack of communication and knowledge sharing; network issues and technological challenges; lack of good leadership practices; lack of coordination and team monitoring; and lack of employee engagement and responsiveness. The questionnaire results were investigated using a t-test and the analysis of variance (ANOVA). The results show that productivity severely suffered. On the other hand, motivation was affected significantly due to a lack of good leadership practices and employee engagement. Trust was influenced by a lack of employee engagement and responsiveness, lack of communication and knowledge sharing, and lack of good leadership practices. The results show that gender does not affect the respondents' perception regarding the transition from traditional to virtual teamwork on three performance measures.

Keywords: *Virtual Team, COVID-19 Pandemic, Challenges, UAE*

1. Introduction

In all organisations, teams and teamwork are an essential aspect of having work done. Generally, a team is a group of people who collaborate interdependently and who are actively brought together or come together to accomplish certain outcomes or perform specific tasks (Berry, 2011). In traditional team individual members who usually have face-to-face interactions work under the same roof and in close physical proximity. Virtual teams are geographically distributed collaborations that depend on technology to communicate and support [Morrison-Smith and Ruiz, 2020, Webster and Wong, 2008]. Collaboration in virtual teams is synchronous and asynchronous interactions and tasks to achieve common goals and objectives (Smith and Ruiz, 2020). In comparison with traditional teams, virtual teams have inherent differences that may affect their performance due to various measures. This results in challenges that include communication and knowledge sharing, coordination, engagement, technology, intra-team relationships, leadership, and many others (Clark et al., 2019).

According to the International Labour Organisation (ILO), the impact of COVID-19 on employment is intense, long-term, and extraordinary. Full, or partial lockdowns are affecting 2.7 billion workers, of which 1.25 billion workers are working in fields that are now suffering a severe decline. UAE is not an exception, organisations has been extremely affected by the COVID-19 pandemic. As a result of this pandemic, the world has started to work virtually. It is expected that the effective use of virtual teams would increase by a 16.2% combined annual growth rate by 2023 (Hoda and Ahmad, 2020). In the UAE, organisations have limited the number of office-based workers to 30 percent or less of its workforce. UAE organisations are now forced to work from home. Consequently, firms, companies and organisations have adopted the strategy of virtual teams (Mysirlaki and Paraskeva, 2020). Co-workers need to connect and collaborate through virtual ways, like video conferencing and messaging platforms (Khoja et al., 2020, Ur Rehman et al., 2020). Technology is an enabling factor for virtual teams but also a way to overcome other challenges caused by virtual work (Montonen, 2010). The inability to set up a technology infrastructure that is required by virtual teams will have a severe effect on the team's success. The technological challenges include the expense of equipment required, support, and infrastructure necessary for virtual communication among team members. In addition, internet and connectivity challenges play a vital role in virtual communication (Lee, 2013). On the other hand, a successful virtual team is hard to accomplish since it requires three main pillars which are productivity, motivation, and trust.

Lack of having knowledge and good practices of the use of technology can be one of the main challenges for virtual teams as technology is considered to be the core part of communicating virtually. Nowadays, all employees or team members usually communicate with each other through the use of technologies such emails, shared workspaces, and shared databases. Although traditional and virtual teams use the same forms of communication, traditional team members will still communicate more frequently than virtual team members. Socialising helps

develop. Informal communication between traditional team members facilitates the development of trust among team members, fosters the feeling of being part of a cohesive team, and assists the provision of corrective feedback. As a result, social relationships between team members may increase team performance (Webster and Wong, 2008). Lack of informal communication diminishes the ability of a virtual team to share knowledge (Morrison-Smith and Ruiz, 2020) which is a critical construct, as a virtual team may fail to survive due to the lack of sharing information and knowledge among team members. Sharing knowledge may however succeed due to the intellectual power a virtual team attains in its diffused expertise and ability to blend various experiences. Communication difficulties might also arise from cultural differences and misinterpreted expectations (Mery, 2020).

Virtual teams are getting more popular nowadays supported by technology advances. As mentioned earlier, virtual teams face many challenges because of not being face to face (Lilian, 2014).

Important challenges that may face virtual teams are engagement and responsiveness (Shaik and Makhecha, 2019, Ur Rehman, Nawaz, & Abbas, 2020). Employee engagement can be described as an employee's behavioural, cognitive, and physical state directed towards organisational outcomes. Studies show that only 16% of all workers report feel connected and engaged at work, and this number is even lower for virtual teams. Engagement is an important factor that needs to be fulfilled in a virtual team since keeping your workforce engaged has many benefits such as productivity, higher quality of performance, and more trust (Mery, 2020). Due to virtual team development and lack of face-to-face interactions, important challenges such as low employee engagement has occurred, where each employee feels that their contributions will not be recognised. In addition, a virtual setting produces great challenges for giving feedback or responsiveness as communication is restricted only to electronic methods. The resulted decrease in the level of feedback and responsiveness creates a sense of distrust between employees or a breaking of psychological breach (Montonen, 2010). High levels of employee engagement in virtual teams aim to increase the organisational performance and employee productivity (Shaik and Makhecha, 2019). Thus, employees in the organisation should be updated regularly and kept involved and engaged in achieving the organisation's goals and objectives. Furthermore, one of the main functions of leaders and managers is to recognise each employee separately putting in mind each employee is important and communicate with all members of the organisation. This, as a result, will increase the productivity and performance of employees to achieve the organisation's goals and objectives (Ur Rehman, Nawaz, & Abbas, 2020).

In addition, coordination and team monitoring are also considered among the challenges that virtual teams might come across (Powell et al., 2004). Clear work coordination is critical for the success of any organisation; however, virtual teams face great problems with such function. Such issues may include team members not being aware or not having understood the

objectives of the team or their tasks explicitly, team members or management face difficulties in synchronising works among the virtual team members, or team members are not aware of who to collaborate with, and many others (Montonen, 2010). In addition, team monitoring - one of the main challenges faced by virtual teams - includes observing, evaluating, measuring, and assessing the work being done by team members. Consequently, a lot of time would be spent on integrative activities that involve communicating, measuring, specifying, reviewing, testing, and monitoring. As a result, this may cause delays in deadlines and a decrease in the performance of the team and work (Lee, 2013).

Group trust and identity can be counted as challenges for virtual teams. Group identity describes team members' sense of belonging and effectiveness between each other. It is a behavioural component of joint effort towards achieving a common goal or objective. Members who collaborate and identify more with their team members tend to perform effectively and to perceive higher trust, confidence, and personal satisfaction. Group trust is a very significant factor to achieve a common goal or objective. Trust is referred to as the belief or confidence in a person or organisation's integrity, reliability, and fairness. For example, team members of virtual groups who believe more in the trustworthiness of each other would collaborate more than those who lack this feeling. Trust leads employees to contribute time and attention to achieve goals and objectives, to share beneficial information, to assist each other, and performg extra-role behaviours.

However, the lack of face-to-face interactions and the reliance on computer-mediated communication in virtual teams creates big challenges to both team members and managers in comparison to co-located teams (Webster and Wong, 2008).

Table 1 summarises the main differences between traditional and virtual teams. However, without challenges, the rapid transition from traditional face-to-face teams to virtual collaboration would not continue (Winter, 2020). In general, it is possible to achieve a number of advantages by deploying virtual teams. In addition, improved efficiency can be combined with improved employee satisfaction by having the ability to work from home flexibly and to reach an ideal work life balance (Sundin et al., 2010).

Table 1: Differences between traditional teams and virtual teams.

Traditional Team	Virtual Team
Team members are co-located	Team members are in different locations
Team members communicate face-to-face	Team members communicate electronically
High opportunity to share work and non-work-related information (High informal communication)	The extent of informal exchange of information is minimal
Strong coordination among team members	Weak coordination among team members

High team members' engagement and commitment	Low team members' engagement and commitment
Effective collaboration and feedback	Low collaboration and feedback

Virtual team leaders experience challenges that may be unique to virtual teams (Berry, 2011). Virtual leadership depends on virtual communication, which causes some challenges as it affects the virtual leader's ability to cope with the lack of face-to-face interaction and recognise nonverbal signs such as facial expressions and body gestures. Consequently, leadership function may be impeded if managed incorrectly. Other difficulties that may face virtual leadership are conflicts, cultural and language variety, and technological failures. As a result, virtual teams need project managers with virtual experience and training in virtual skill sets such as communication techniques and management strategies and styles (Lee, 2013).

2. Research methodology

As stated before, the aim of this research is to investigate the most challenging problems that may occur due to the transition from traditional to virtual teams during the COVID-19 epidemic. These challenges are estimated based on their effect on the three performance measures which are productivity, motivation, and trust among employees.

A literature review was done to find the most important challenges of virtual teams. Then, a questionnaire was used to estimate these challenges based on their effects. Respondents to the questionnaire were 92 participants from different institutions across the UAE. The participants' ages were between 18 and above 46 years. The first part of the questionnaire was about collecting the participant's general information such as gender, age, and job title. The second part included three main rating scale questions that listed five main challenges the virtual team might face. Table 2 shows the most important challenges. The scale starts from 1 that represents the least affecting to 5 that is the most affecting challenge. The first rating scale was about investigating how this list of challenges might affect the productivity of the virtual team. The second and third rating scales investigate how these challenges can affect the motivation and trust of a virtual team, respectively. Two hypotheses are examined and tested, using one sample t-test, two sample t-test and ANOVA test. Microsoft excel was used to make the statistical analysis.

Table 2: main challenges/problems of virtual teams

1. Lack of communication and knowledge sharing
2. Network issues and technological challenges
3. Lack of good leadership practices
4. Lack in coordination and team monitoring
5. Lack of employee engagement and responsiveness

Hypotheses

This research is one of few, if any, that has studied how transferring to virtual team working has affected UAE organisations' productivity, trust and the motivation of employees during te COVID pandemic. For this study, the hypotheses therefore are:

H1: Challenges of virtual teams are found significant and they affect productivity, motivation and trust.

H2: Respondents perception for the effect of challenges are affected by gender and age.

One sample t-test was used to check if a challenge/problem was strong enough. This is repeated several times for each challenge and for each performance measure. The challenge is considered moderately strong if the average rating by respondents is greater than 3, which means the challenge is at least moderately affecting performance. Other studies compare the average rating with 3.5 instead of 3. In this study, however, all the average ratings were found to be less than 3.5. That means that the employees in the UAE adapt to some extent to the effect of the pandemic. For challenges that were affecting the performance more than the others, ANOVA can be used to check if there is any difference among them. Two sample t-test is used for the second hypothesis (one and two-tail). The effect of age might be interesting because it is expected that younger people are capable of adapting to the new situation since their digital knowledge is better. However, people who are relatively older have usually more experience and may be more capable to "absorb" the effect of the pandemic. Besides experience, people who are in their 30s and 40s have already worked enough with other colleagues so that they know each other and can use a virtual team's techniques without seeing each other face-to-face. The effect of gender is important since later it will be clear that the percentage of females who answered the questionnaire is higher than the percentage of males. It is better therefore that the results are not affected by different opinions of males and females. Two sample t-test (two tail) is needed here. Again, the test is repeated for each performance measure

3. Results and analysis

Table 3 shows the types of the respondents' jobs, where 33.7 % of them are engineers. It is necessary for the respondents to be from different backgrounds, and to work in different positions, so that the effect of the pandemic is measured with a reasonable degree of accuracy. Most of the respondents in this study are qualified enough to respond to the new challenges. Maybe the result of the study might be different in the case that other professions are studied. Figure 1 shows the ages of the respondents. The majority of them are still young. It is expected that younger people can better adapt to the use of needed technology in the virtual team environment. Because only 3 people are with ages above 46 years, this group can be merged

with the group from 36 to 46 years old. About 76.1% of the respondents are females, and the rest are males.

Table 3: Jobs of respondents

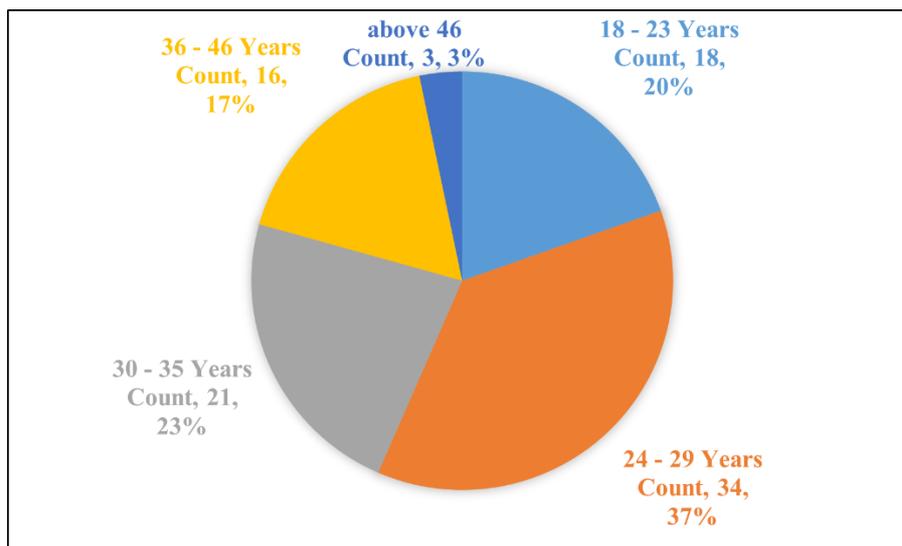| Job	Number of respondents	% of respondents
Accountant	2	2.2
Customer service	5	5.4
Engineer	31	33.7
GIS expert	5	5.4
Manger	10	10.9
Others	9	9.8
Pilot	7	7.6
Supervisor	8	8.7
Teacher	8	8.7
Technician	7	7.6

Figure 1: Age distribution of respondents

To test the first hypothesis, Table 4 shows the effect of transition to virtual team work on productivity. Results show that the effects of the first 4 problems are moderately significant. The effect is not so big because the averages are still lower than 3.5. That means that productivity did not severely suffer at the beginning of the pandemic. However, later on, better results are expected when more experience is gained by the employees on how to deal with the pandemic. As will be shown later, the effect of the transition on motivation and trust is even less than the effect on productivity.

Table 4: Effect of transition to virtual teams on productivity

Problem	Average rate	Variance	t-test (p-value)
Lack of communication and knowledge sharing	3.43	1.85	0.001*
Network issues and technological challenges	3.26	1.65	0.027*
Lack of good leadership practices	3.21	1.37	0.047*
Lack in coordination and team monitoring	3.25	1.53	0.028*
Lack of employee engagement and responsiveness	3.20	2.14	0.101

* Effect is significant

An ANOVA test was used to check if there is any difference between the first four challenges, because their p-values in Table 4 are lower than 0.05. Figure 2 shows that there is no difference between them since the p-value is greater than 0.05. However, we might rank them based on the average effect. In this case, the effect of lack of communication and knowledge sharing will be "higher" than the effect of lack of good leadership practices.

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.793	3	0.931	0.582	0.627	2.629
Within Groups	582.674	364	1.601			
Total	585.4674	367				

Figure 2: ANOVA test to check the difference between the first 4 problems

Table 5 and 6 show the effect of virtual work on motivation and trust respectively using one sample one tail t-test. In Table 5, only the third and fifth ones are significantly larger than 3. That means that most of the challenges of virtual work do not affect severely motivation to work. On the other hand, Table 6 shows that the effect of three challenges on trust is significant. Therefore, trust suffers more than motivation. Based on the results so far, it is obvious that motivation has the lowest effect, and productivity has the highest effect due to the pandemic. In other words, people are still motivated to work, in spite of lower productivity. This gives a good indication for future that with time, productivity will come back again to its usual level.

Table 5: Effect of transition to virtual teams on motivation

Problem	Average rate	Variance	t-test (p-value)
Lack of communication and knowledge sharing	3	2.02	0.5
Network issues and technological challenges	3.01	1.37	0.465
Lack of good leadership practices	3.42	1.57	0.001*
Lack in coordination and team monitoring	3.09	1.53	0.251
Lack of employee engagement and responsiveness	3.27	1.80	0.028*

* Effect is significant

Table 6: Effect of transition to virtual teams on trust

Problem	Average rate	Variance	t-test (p-value)
Lack of communication and knowledge sharing	3.34	1.96	0.012*
Network issues and technological challenges	2.77**	1.58	
Lack of good leadership practices	3.32	1.62	0.009*
Lack in coordination and team monitoring	3.03	1.68	0.404
Lack of employee engagement and responsiveness	3.49	1.59	0.000*

* Effect is significant

** Since the average is clearly less than 3, there is no need for t-test here

To test the second hypothesis, Figure 3 shows the general effect of the 5 challenges of different groups of ages. This is done by finding at first the averages for the estimations of the five challenges by each respondent and then grouping them according to age. Thanks to their experience, generally the "older" people are more immune against the change. This is since the "older" people are relatively still young and are capable of adaptation for technology. To test this claim, two sample t-test (one-tail) needs to be done.
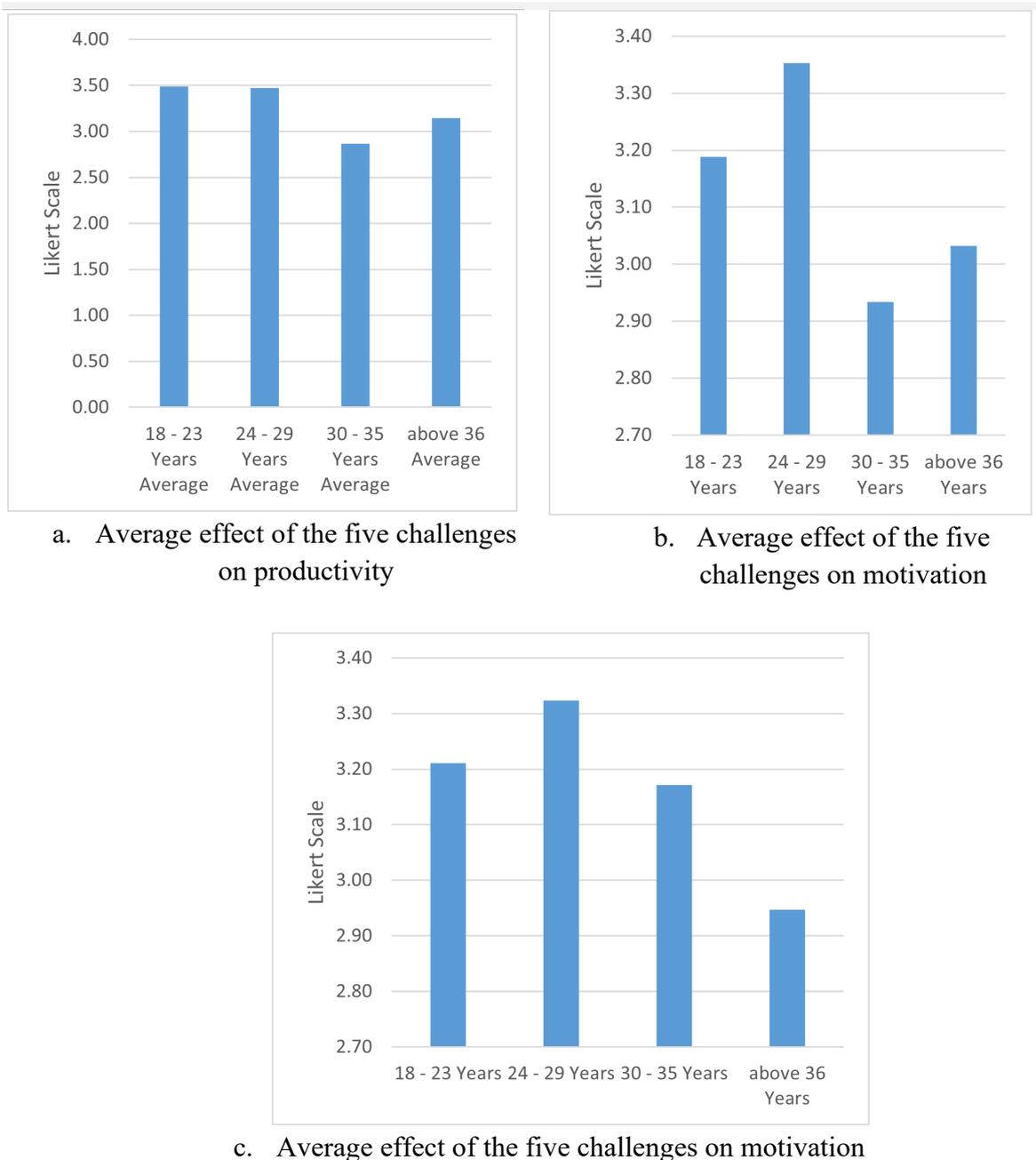
a. Average effect of the five challenges on productivity

b. Average effect of the five challenges on motivation

c. Average effect of the five challenges on motivation

Figure 3: comparison of the effect of the five challenges based on age groups

After grouping the 4 groups of ages into "younger" (from 18 to 29 years old) and "older" (30 years old and above), the results in Table 7 are given for two sample t-tests (one-tail). To do that, the performance is simply the average values for productivity, motivation and trust. It is clear in the table that the p-value is less than 0.05. This means that people with more experience better adapt to the new situation.

Table 7: The effect of age on estimating the effect of virtual work challenges on performance

	Younger	*Older*
Mean	3.353	3.015
Variance	0.955	0.851
Observations	52	40
Hypothesised Mean Difference	0	
df	86	
t Stat	1.696	
P(T<=t) one-tail	**0.047**	
t Critical one-tail	1.663	
P(T<=t) two-tail	0.094	
t Critical two-tail	1.988	

Since most of the respondents are females, a test of the effect of that on the results is needed. A two sample t-test (two-tail) is done. This is done after calculating the average values for the effect of challenges on each of the performance measures: productivity, motivation and trust. Table 8 shows the results for the t-test done three times. The results show that the gender has no effect at all on the perception of the respondents regarding the effect of transition from traditional to virtual teamwork on the three performance measures. The p-values are very large and the average values are almost the same. This is needed for better validity of the main conclusion.

Table 8: The effect of gender on respondents' perception of the effect of virtual teams on performance measures

Performance measure	Gender	Mean	Variance	Observations	p-value (two tail)
Productivity	Female	3.29	1.12	70	0.680
	Male	3.19	1.01	22	
Motivation	Female	3.16	1.07	70	0.980
	Male	3.16	1.07	22	
Trust	Female	3.25	1.06	70	0.299
	Male	3	0.89	22	

4. Conclusion

In this research, the effect of lack of communication and knowledge sharing, network issues and technological challenges, lack of good leadership practices, lack of coordination and team monitoring, and lack of employee engagement and responsiveness on the productivity, motivation, and trust are studied using a t-test and the analysis of variance (ANOVA). The research showed the following:

1. The effect of the transition to virtual teamwork on productivity did not severely suffer.
2. The lack of good leadership practices and employee engagement affects motivation significantly.
3. Trust is influenced considerably by a lack of employee engagement and responsiveness, lack of communication and knowledge sharing, and lack of good leadership practices.
4. People with more experience better adapted to the new situation.
5. Gender has no effect on the respondents' perception regarding the transition from traditional to virtual teamwork on the three performance measures.

Further research can focus on other types of jobs or try to differentiate the effect of pandemic based on the job's nature. For example, the impact on education can be less severe than the impact on the supply chain. Recently the costs of transportation from outside the UAE to inside it is raised. Many people lost their jobs in the private and public sectors, which might increase the employees' psychological stress with different degrees according to their positions. The main pressures might be for those working in the medical industry, at least at the beginning of the pandemic. The motivation to work in a dangerous workplace might be highly affected. Another chance for future research is to focus on older people. More challenges are expected for people more than 50 years old since their ability to work on new technology might be less than younger people's ability. Future research can make the same study in the year 2021 to compare the results of 2020 at the beginning of the pandemic period. It is expected that with time, people will adapt in a better way for this transition.

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