Management Innovation And Technology: What Impact Did The Pandemic Have On Current Business Ideals and Practices?

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Abstract: Management innovation is an essential part for the sustainability of businesses and organizations, and integral in the transformation of activities and functions within an organization. Without implementation of new management practices, processes and structures, no new ideals will be realized, developed, or progressed causing a downfall in business practices. A heavy part of business survival lies within its management success and effective adaptation to external factors as well as inside the business. With the new uprising challenges the covid-19 pandemic has imposed on governments, organizations, and individuals – creating a new environment and attitude that was not yet anticipated. The unforeseen crisis had many implications, changing the structure of organizations, in some countries more dramatically than others. Governments, attempting survival from the aftershocks of the economic ramifications caused by the pandemic, and organizations, barely reviving from the event. However, in the long term there were some favorable outcomes that have shifted the perceptions of business practices into a new norm. As perceived, the pandemic is here for the long-run and organizations need to adapt and develop systems that can successfully guide its future rather than pause, stop, and wait for recovery.

Background: Management innovation is the implementation of new management practices, processes and structures that characterize a major departure from current norms".[1] Innovation in management principles and processes can create long-lasting advantage for organizations.[2] The Covid-19 pandemic has explored the strength and perseverance of organizations forcing a new norm to be embraced.[3] This study was established in the aims to explore the impacts of the Covid-19 pandemic on individuals and organizations as a whole, and to assess the effectiveness of management policies and innovation applications within Kuwait, in the workplace especially. The study seeks to evaluate the new changes and challenges that might arise in the future of management in the workplace, and provide key guidelines to effectively overcome obstacles that lead to unsuccessful approaches to new management practices.

Methods: The theoretical framework of the study followed a positivism approach with deductive reasoning and analysis of the data collected. The study follows the basic guidelines of reliability, validity, generalizability, and transferability. To ensure reliability of the data sample, consistency was carried throughout the survey and process of collecting and analyzing. Questions were clear and concise, with a general understanding of explanations and definitions provided where needed. The survey was structured combining closed ended questions and a number of statements with a Likert scale.

Results: Examining the research evidence on whether organizations use innovative management systems and provide their employees with the needed training to employ such systems, we can tell that the data is quite relevant. Although the level of adoption of such new innovations is almost split in half between organizations that initiated change and organizations that have not yet taken the next step. Findings suggest that though challenges were introduced with the shift of daily practices through introducing some technological advancements and innovations, eventually, employees have adapted to the 'new norm'; though the challenge remains in the maintenance of such work arrangement, in Kuwait especially, in the long term. The evidence of the study suggests that there is no correlation between facing challenges and struggling with working remotely or adaptability, with age or marital status.

Conclusion: Though Kuwait has suffered greatly from inflexibility in procedures and standard transactions, the drivers of the pandemic and the shift towards a more autonomous and decentralized nature, at least in certain transactions and processes. This transformation is likely to have an optimistic aftermath, however there are several precautionary measures to be presented.

Key Word: Covid-19, pandemic, management innovation, 'new norm'.

I. Introduction

Although at the beginning there were some negative implications to the pandemic. In the long run, Kuwait has developed dramatically in terms of innovation in management practices and technological implementations in the workplace. Being a rigid and bureaucratic government with organizations that follow the lead and are hugely impacted by such rigidness and opposition to transformation and change, there has been great development and progress which would not have been undertaken if not for the need to adapt to the crisis. Organizations became more lenient and flexible in regards to providing logistic support to employees in working remotely, and having more flexible work hours. The government provided financial support to individuals' loans, and especially small businesses where they were exempt of their financial liabilities and debts for over 6 months, as well as other actions that aimed to create financial ease on employees and the public in general. The current study aims to explore the impact of the Covid-19 pandemic on management innovation in organizations in Kuwait, and the efforts of maintaining a new normal on individuals and organizations as a whole. Determining the impacts of these new strategies and whether successful adaptation to the crisis was established, and identifying key factors for future changes based on the changed reality of today.

II. Material And Methods

This study was carried out on residents of Kuwait (both citizens and expats). A total of 330 adults participated in the survey, both male and female aged 20 years and above. The sample of participants included those working in the private sector as well as the public (government) sector.

Study Design: Exploratory, quantitative data collection (survey based, scalar data).

Study Location: The survey was carried out as an online based survey, where respondents answered at their convenience.

Study Duration: January 2022.

Sample size: 330 participants.

Sample size calculation: The target sample population was randomly selected covering all general aspects of criteria measured and demographics. Age groups were divided as follows: 20-29, 30-39, 40-49, 50-59, and 60+.

Subjects & selection method: The study population was drawn from a random selection process which covered all the major differentiating factors of data contributions, such as: age, gender, marital status, employment sector (private or public), and educational background.

Inclusion criteria:
1. Both government and private sector employees
2. Both genders.
3. Participants aged $\geq$ 20 years,
4. All educational degree levels included, with high school level as the minimum. Participants holding a Diploma, Bachelors, Masters, and Doctorate level also included.

Exclusion criteria:
1. Subjects with a degree lower than high school level.
2. Subjects working in Military.
3. Subjects who were not in the country during the pandemic.
4. Subjects below 20 years of age.

Procedure methodology

A well designed questionnaire was established to collect a random sampled data. The questionnaire included a combination of demographics to obtain more accurate and versatile data. The questionnaire included a consent agreement for data use and sharing of results in the purpose of research. Data was distributed and collected online, at the convenience of the participant. Sampling was established on a probability basis, with random selection of participants. Data was then quantified and analyzed according to research requirements and study proposal.

All questionnaires were carried out in the same way, and shared using the same means and software. The responses were then quantified and studied to determine the results. The language of the questionnaire was native (Arabic), so respondents are more aware of the questions and the purpose of the study since not all the population is proficient in English. Most of the population in Kuwait, are native Arabic speakers, however, an English language questionnaire was also available, to provide fair access to non-native participants who use English language. The aim is for the questionnaire to be available to all without any nationality or language preference.

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transferability. To ensure reliability of the data sample, consistency was carried throughout the survey and process of collecting and analyzing. Questions were clear and concise, with a general understanding of explanations and definitions provided where needed. The survey was structured combining closed ended questions and a number of statements on a Likert scale.

Statistical analysis

Data was gathered, quantified, and analyzed based on research requirements. The responses of the survey were collected through a software program which calculated the results and quantified them appropriately. The data was analyzed using an SPSS statistical analysis software, and further represented in graphic form for visual examination.

III. Result

Sample data was analyzed, and categorized as follows:

Section one:

This section determines the demographic factor contribution to the study. These demographic factors were initiated to understand their influence on the participants' perceptions to the new changes in management policies and procedures in the workplace during Covid-19, and to find a pattern for certain responses and determine causes and expectations. Table no. 1 Demonstrates the demographic segmentation of the survey participants based on gender, age, marital status, academic degree earned, and employment sector.

Table no. 1: Demonstrates the demographic segmentation of the survey participants based on gender, age, marital status, academic degree earned, and employment sector.

		Percentage
Gender	Male	26.97%
	Female	73.03%
Age	20-29	30.61%
	30-39	26.36%
	40-49	17.88%
	50-59	19.70%
	60+	5.45%
Marital Status	Single	40.00%
	Married	60.00%
Degree	High School	8.48%
	Diploma	13.64%
	Bachelors	66.36%
	Masters	8.18%
	PhD	3.33%
Employment Sector	Public	85.15%
	Private	14.85%

Graph no.1: Demonstrates the demographic segmentation of the survey participants based on gender, age, marital status, academic degree earned, and employment sector.
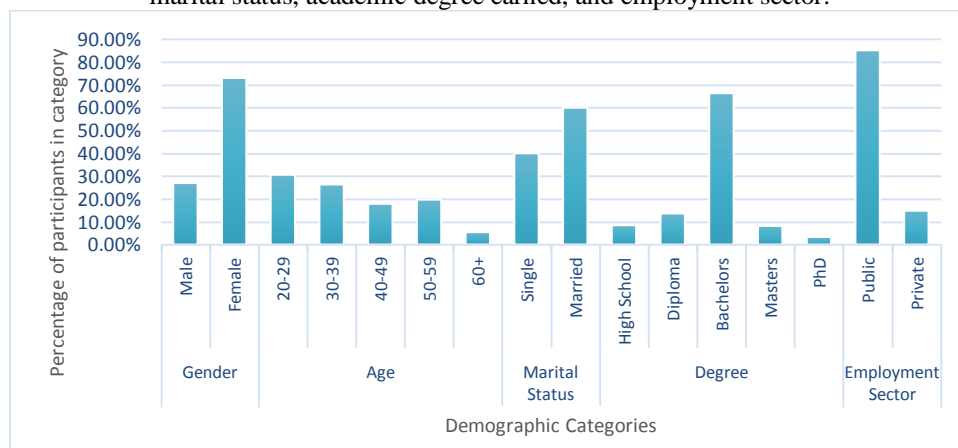
**Working remotely during the pandemic**
Section two:
This section covers the extent the pandemic had imposed challenges on employees' normal working activities pre-Covid. Table no. 2 displays the percentage of those who faced challenges in the transfer to remote working environment and those who easily adapted. This reveals the magnitude of challenges faced while working remotely, versus the ease of "virtually being at work". Results show that most of those working remotely have adapted, yet some have tackled challenges at some point during the transformation. Over 40% of the participants revealed that they have struggled in remote work, whereas almost the same percentage do not feel that there we challenges from working remotely. A higher percentage, over two thirds of the responses, revealed that they have, at some point, adapted to working remotely regardless of the challenges encountered.

Table no. 2: Displays the percentage of those who encountered challenges in the transfer to remote working environment and those who easily adapted.

		Percentage
Faced challenges	Strongly Agree	10.63%
	Agree	29.95%
	Neutral	23.19%
	Disagree	28.02%
	Strongly Disagree	8.21%
Adapted	Strongly Agree	20.29%
	Agree	44.44%
	Neutral	20.77%
	Disagree	11.11%
	Strongly Disagree	3.38%

Graph no.2 A: Demonstrates the level of employee acceptance to the changes to online working environment and the ease of adaptation to these change in work processes.
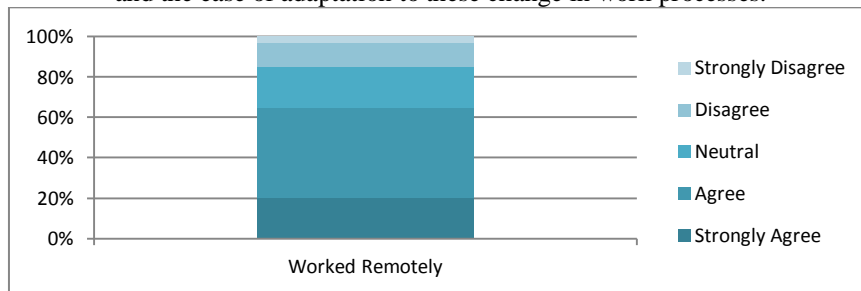
Graph no.2 B: Demonstrates the level of challenges and struggles employees faced when working remotely
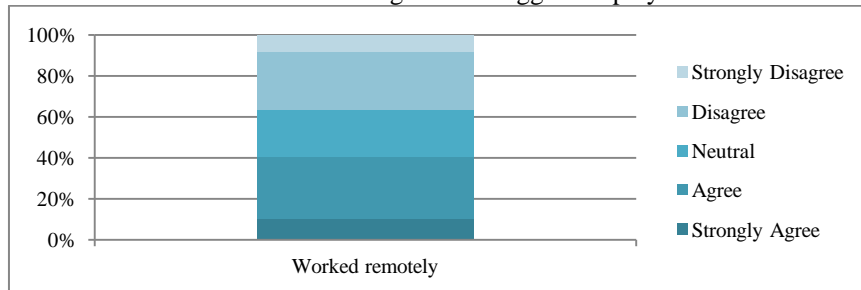
How accepting are employees of the new "norm"
Section three:
This section examines the level of acceptance employees have towards the new changes in regards to management policies and transferring to a virtual working environment. First, we need to understand the amount of engagement employees are off-work hours in using the available resources such as official organizational and governmental applications and online systems for their daily transactions. Table no. 3 displays employee preference (if any) in the use of official government applications and online government resources to facilitate transactions and appointments in contrast with working remotely. So, here we are measuring how many of those who have been working remotely during the pandemic utilize other official online resources and technological ease available to process transactions on the day-to-day basis, in comparison to those who have not worked

remotely. The results are almost identical between the preferences of those who have been working online during the pandemic and those who haven't. Graph no. 3 proves an accurate representation of the results, almost asymmetric. Therefore there seems to be no impact whatsoever on whether an individual has some experience in working remotely to how willing they are of using available technological advances in administrative process.

Table no. 3: Displays employee preference in the use of official government applications and online government resources to facilitate transactions and appointments.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Worked remotely	37.68%	39.61%	14.01%	5.80%	2.90%
Did not work remotely	38.21%	39.84%	14.63%	6.50%	0.81%

Graph no. 3: Displays employee preference in the use of official government applications and online government resources to facilitate transactions and appointments.
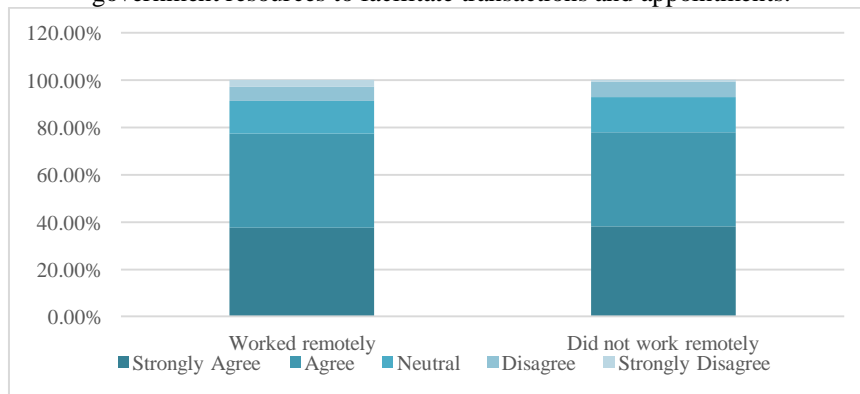

Next, we examine the desire and willingness of employees, whether they have any experience in working remotely or not, to continue with these new implemented concepts of remote work and virtual work environment, and anticipate a future demand of such policies and acceptance to change and development within the organization. Table no. 4 reveals that a significant value, of over two thirds of the respondents, favor that the government and their employers continue their electronic presence and government interconnection of systems to facilitate transactions for simple administrative procedures using these applications, even after the end of the pandemic. Additionally, over two thirds of the respondents feel that these new implemented changes and the presence of official applications for organizations (or online remote systems) and government interconnection of systems has made their work much easier. Therefore, it is determined that the level of acceptance of such innovations in a bureaucracy of rigid government policies is quite significant.

Table no. 4: Shows the extent of employee acceptance of recent innovative and technological advances within the workplace, and how positive or negative the impact was.

	Continue after pandemic	Made work easier
Strongly Agree	58.48%	25.45%
Agree	27.88%	39.39%
Neutral	10.61%	24.55%
Disagree	1.82%	7.88%
Strongly Disagree	1.21%	2.73%

Graph no. 4: Shows the extent of employee acceptance of recent innovative and technological advances within the workplace, and how positive or negative the impact was.
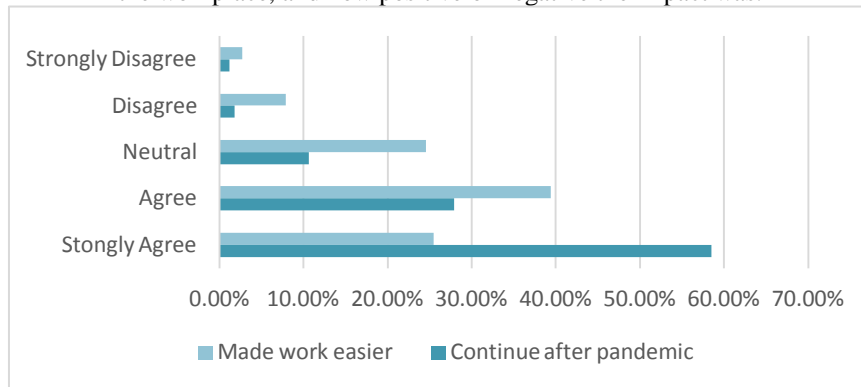
Are organizations adapting to the changes due to the pandemic, and developing internally with new management innovations and technology to keep up with the developing world?
Section Four:

This section covers the amount of organizational initiative and promotion of management innovation and advancement within the working environment, and navigating the improvement of the organization within the rapidly changing world, especially during this critical time. Table no. 5 shows whether organizations are using electronic government linking systems or electronic applications for administrative transactions and daily procedures, and whether they have provided their employees with the necessary training to utilize these new initiatives and electronic systems for remote work.

Table no. 5: Shows whether organizations use electronic linking systems and applications, and if they have provided their employees with necessary training for such developments.

	Organization uses new innovative systems	Organization provides training for innovative systems
Strongly Agree	20.30%	17.58%
Agree	35.76%	32.12%
Neutral	22.12%	25.76%
Disagree	15.76%	16.36%
Strongly Disagree	6.06%	8.18%

Graph no. 5: Shows whether organizations use electronic linking systems and applications, and if they have provided their employees with necessary training for such developments.
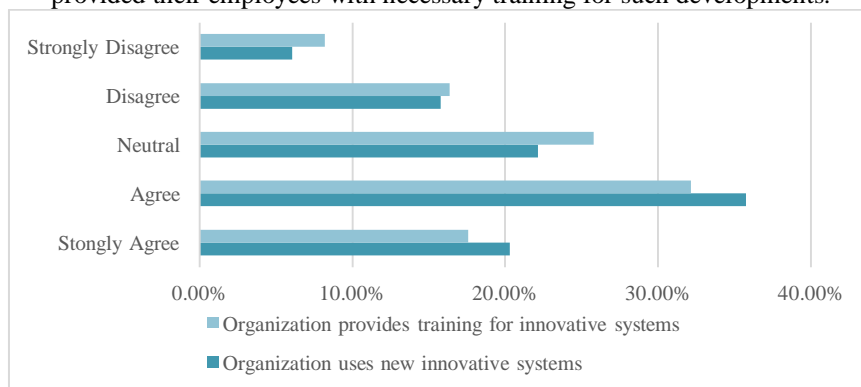

A demographical comparison in terms of challenges faced with the new implementations and developments versus adaptability to such changes.

Graph no. 6 A: Displays a comparison of challenges faced with the new implementations and developments in terms of age group.
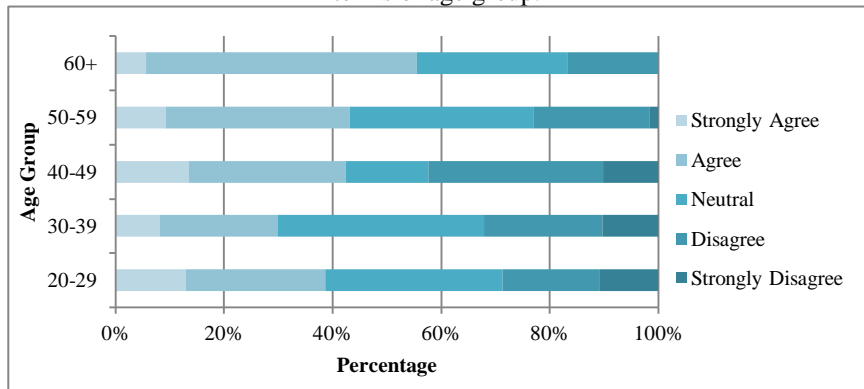

Graph no. 6 B: Displays a comparison of challenges faced with the new implementations and developments in terms of marital status.
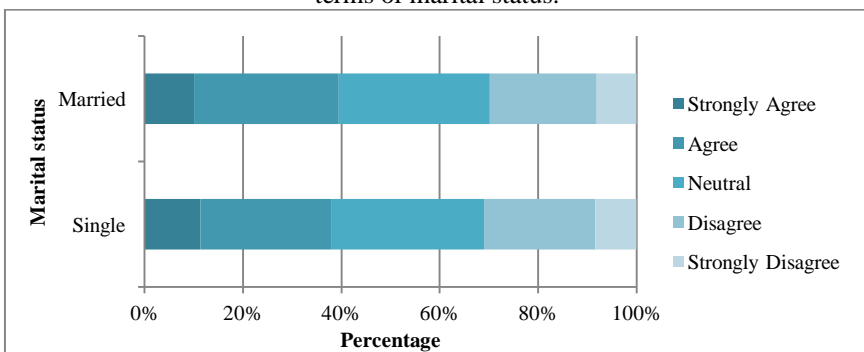
Graph no. 7 A: Displays a comparison of adaptability rate with the new implementations and developments in terms of age.
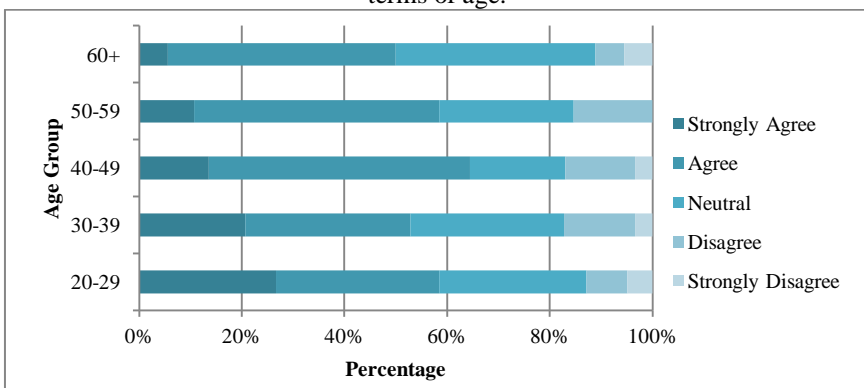
Graph no. 7 B: Displays a comparison of adaptability rate with the new implementations and developments in terms of marital status.
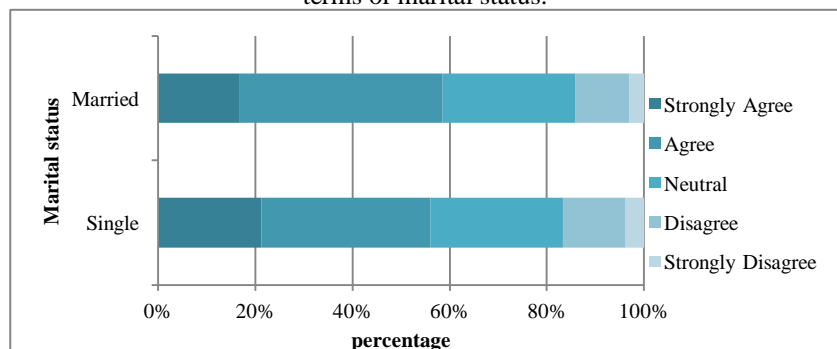
IV. Discussion

As it has been demonstrated, the pandemic has tested the resilience and perseverance of organizations driving changes that were unpredicted in the short run. Management innovation, development, and technology has risen greatly at this critical time. The resulting change shifting towards a remote working structure had several positive and negative impacts. Transformation in technology and developments of new remote functions of a typical work structure has changed the day-to-day process. Though there is evidence of negative complications in terms of employee work experience, and employee wellbeing despite the represented increase in productivity and convenience from working remotely.[4] Results also reflect the numerous struggles faced in adapting to a new work structure at such short time, with limited experience in working remotely. Though findings suggest that eventually, employees have adapted to the 'new norm', it is still challenging to maintain such work arrangement, in Kuwait especially, in the long term.

The level of convenience and productivity also depends on the type of organization and the scope of employee roles. Some job roles can be transferred easily into remote work, whilst others face some drawbacks. Though some organizations are considering the maintenance of a remote structure for certain employees due to the benefits and success it has been. However, considering Kuwait, a remote work environment is highly unexpected in the future, especially in the public sector. The bureaucracy of procedures and resistance to change and development is also reflected within organizational culture and employee's attitudes. Although facts suggest that there is a high acceptance rate towards the use of technological advancement and management innovation policies and processes, the ability to continue for the future is still unclear. Many organizations seem to be unable to progress with simple advances and are less encouraged to process innovation so hastily. Theories suggest that organizations, industries, and the macro-environment will eventually interact and shape one another forcing a gradual change and adaptation to the 'new norm'[5]. The majority of evidence reveals public aspiration for change in regards to governmental bureaucracies in transactional procedures and administrative processes for day-to-day activities. The overall attitude of acceptance level and adaptation to the innovations in management processes is positive. It has become more convenient and desirable to perform certain activities using official government applications, electronic linking systems, and online government resources to facilitate transactions and appointments rather than follow a long and never-ending process. The demand existed long before the pandemic, but only when there was a push and need for change were these systems developed and introduced. The Majority of the findings suggest that these new implemented changes and the presence of official applications for organizations (or online remote systems) and government interconnection of systems has made work much easier for employees navigating through the pandemic. It is accurate to propose that the level of acceptance of such innovations in a bureaucracy of rigid government policies is quite significant, and change is rather eminent. Considering the new organizational changes that progressed, an examination of the conceptual typology of degree of newness of management innovation, presented by Volberda et al., suggests that the introduction of these changes are not considered 'new to the world' but more or less, 'new to the organization'. Thus this "new norm" is expected to trigger further changes at other levels.

Examining the research evidence on whether organizations use innovative management systems and provide their employees with the needed training to employ such systems, we can tell that the data is quite relevant. This suggests that some organizations do not possess the capabilities of implementing such systems or training their employees, which means there exists a lack of innovative measures and intention for continuous development of its systems, even at a critical time during the pandemic. Most organizations have employed the impossible in order for work not to be disrupted at such sensitive times, yet others are taking smaller steps and holding their position, maintaining regularity rather than embracing change.

The evidence of the study suggests that there is no correlation between employees facing challenges and struggling with working remotely, and their marital status. As well as little to no connection between age and the extent of challenges faced in remote work, though a slightly higher percentage of those who struggled with the diffusion process belong to the age group above 60. Which might suggest some limited knowledge of technological advances and exposure to such resources on a regular basis. There is also insignificant effect of age, as well as marital status, on levels of adaptability to the novel practices and management changes and innovations in the workplace.

V. Conclusion

With every new challenge, comes change and opportunity, and this pandemic is no exception. In this critical time, there were many initiatives and contributions to navigate the crisis. Networking opportunities and innovation communities are on a rise. These changes have offered a valuable lesson to learn from and adapt. Preparedness and readiness for facing other unanticipated challenges that may arise require greater efforts and engagement in developing necessary organizational processes and innovative infrastructure[6]. Kuwait has suffered greatly from inflexibility in procedures and standard transactions, the drivers of the pandemic and the shift towards a more autonomous and decentralized nature, at least in certain transactions and processes. This

transformation is likely to have an optimistic aftermath, however there are several precautionary measures to be presented. Firstly, training and development for employees is crucially required prior to implementing new innovations in the workplace. Nonetheless, flexibility and leniency in regards to being mobile while working is rather disfavored due to the bureaucratic nature of the work environment and inflexibility. Rigid regimes are a setback to any chance of evolving, and these challenges need time and perseverance to overcome using continuous adjustments and developments on a regular basis. Identifying innovative and creative opportunities for the future is quite crucial in moving forward after the pandemic resides[7]. Further research is needed to expand our understanding of the impact of government structure and bureaucracy of management processes that limits the initiatives of management innovations and technology in Kuwait. The implementation of the new strategies and innovations, as an adaptation mechanism to the crisis, has successfully and positively changed the work environment, in some aspects more than others.

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