Assessing the Effects of Remote Working in the OR Tambo District Municipality

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Abstract

The COVID-19 pandemic necessitated a global shift to remote work, significantly altering public sector operations. This transition required the public sector to adapt from traditional manual working methods to a new normal of working from home. The shift to remote working posed significant challenges, particularly in service delivery within the public sector. Understanding these challenges and the overall impact of remote work is crucial for improving future operations. Investigating the transition in the OR Tambo District Municipality provides insights into the broader implications of remote working in the public sector. It helps to identify both the obstacles and benefits experienced during this shift. This study employed a qualitative research design, using unstructured interviews with fifteen respondents selected through purposive sampling. Data was analysed using a thematic approach to uncover patterns and themes related to the transition. The study revealed that the transition to remote working in the public sector faced significant hurdles, particularly affecting service delivery. Despite these challenges, remote working was found to be effective and efficient in certain areas, such as expediting administrative tasks within the OR Tambo district municipality where this study was conducted. The study concludes that remote working has both advantages and disadvantages in the public sector. It recommends addressing the challenges to smooth service delivery and administration while leveraging the efficiencies gained from remote working. This could involve investing in technology, training, and support systems to enhance the effectiveness of remote work in the public sector.

Keywords: Remote working, Manual working, Transition, Public sector

Introduction and Background

Remote working, also known as teleworking, telecommuting, distributed work, or flexible work arrangements, has grown in use as a new mode of work over the past few decades as information and communication technologies (ICTs) have improved in their capabilities, particularly with the greater availability of high-speed internet. The definition of remote working is a flexible work arrangement in which employees work in locations that are distant from their central offices or production facilities, without having direct contact with their coworkers but having access to technology to communicate with them (Soroui, 2021).

When COVID-19 was first detected in South Africa in early March 2020, the number of confirmed cases and deaths was relatively low. The situation escalated significantly in the following months. By the end of March 2020, South Africa had a few thousand confirmed cases and a relatively small number of deaths (Berhan, 2020). The country experienced multiple waves of infections, with the peaks often driven by new variants. A total of 3 791 925 cases, representing approximately 6.2% of South Africa's total population, were confirmed as of 30 April 2022. However, this total does not take into account recurrent infections nor foreigners and visitors; therefore, the confirmed cases likely represent an even lower proportion of South Africa's total population (Suliman, Ridhwaan, & Mtsweni, Jabu, 2022).

The incursion of the COVID-19 global pandemic has negatively affected the global outcomes, the majority of the global population had been affected by COVID-19 in 2020, and governments across the globe had to come up with measures to combat and curb the surge of the disease (Sahib, 2022). One of the many methods introduced by majority of governments across the globe include introducing lockdowns and declaring state of disasters, this meant that institutions had to forcefully migrate from manual working to explore new strategies for their work, and this includes remote working (Hilhorst and Mena, 2021).

The forced transition from the traditional 'manual' working method whereby workers normally go to their various workplaces physically to online or 'remote' working whereby workers do not necessarily go to work physically but use technology and electronic gadgets to do their work from home, was faced with multiple challenges (Zeavin, 2021). Dattani (2021) states that there are always hiccups and glitches when employees are introduced to a new working technique. Campbell (2019) supports this notion by stating that new working techniques are even harder for employees to adapt to especially when they are forced, urgent but necessary.

Institutions such as the OR Tambo district municipality which had to continue with their crucial work and at the same time be cautious and adhere to the lockdown restrictions

imposed by the national government, had to train their employees to adapt with transition (Fenech, Baguant, and Ivanov, 2019). Some institutions had to start from scratch by procuring electronical gadgets for their employees to equip them for remote working, hence the demand for electronic gadgets was high during the COVID-19 pandemic (Manimuthu, 2021).

Following the outbreak of the COVID-19 pandemic and the declaration of a national disaster, the municipality had established a district command council chaired by the Executive Mayor. The structure was supported by a technical team chaired by the Municipal Manager (MM) with all sectors. Under the technical support team, there were various work streams. The two structures convened weekly and produced the reports to the province enroute to the National Command Council. Each work stream developed sector-based plans that were aimed at mitigating the pandemic. There had been 6 702 reported Covid-19 cases, of which 3 423 were active. There have been 3 179 recoveries and 100 deaths (Parliamentary Monitoring Group, 2020).

Johnston (2020) states that the transition to remote working was slow for the majority of institutions in underdeveloped areas. This is primarily because these areas are under-resourced and located in remote, less developed regions. Setiawana (2021) argues that there were challenges related to miscommunication between workers and the community members because of remote working, with many people not understanding how to enquire services from the municipality. The purpose of this paper is to assess the effects of remote working in OR Tambo district municipality with the intention of understanding the future of work and remote working in public institutions.

Problem Statement

Before innovation informed by the digitalization of government, office work would be on the standstill if there were no employees in the offices (Amankwah-Amoah, 2021). The snail-paced adoption of technology in the public sector has been identified to be a problem, as many government departments are not technologically infused. The challenge of the inability of the public servants to discharge their office duties while not at work is also considered as a problem, therefore this study sought to investigate the effects of remote working in the OR Tambo District Municipality.

Theoretical Framework

Diffusion Innovation Theory

The Diffusion of innovation theory was founded by Everret Rogers in 1962 explaining how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system (Yurdagul, 2023). The concept of remote working is not a new

phenomenon in the public sector but is gradually implemented to complement traditional working methods and to adapt in the fourth industrial revolution. The diffusion of innovation theory explains how innovation is gradually adopted and the transition process from the old to the new method of working (Oke, & Fernandes, 2020).

Diffusion is a social process that occurs among people in response to learning about an innovation such as a new evidence-based approach for extending or improving the public sector. Diffusion, in its traditional sense, is the process by which an invention spreads over time among the participants in a social system by means of particular channels (Vargo, Akaka, & Wieland, 2020). Innovation is the application of concepts in a way that results in the creation of new products or services or enhances the provision of existing ones (Sabahi, & Parast, 2020). The transition from the traditional method of delivering services to remote working marks the diffusion of innovation in the public sector.

The public sector has been compelled to adapt in the introduction of new technologies due to the constantly shifting environment (Azamela, 2022). The fourth industrial revolution has led to the introduction of innovation in the public sphere (Rymarczyk, 2020). According to Koh (2019) the introduction of the steam engine marked the beginning of the first industrial revolution, the use of electricity marked the start of the second and the widespread adoption of electronics and information technology marked the beginning of the third. The gradual adoption of these phases of revolution is explained by the diffusion of innovation theory.

The diffusion of innovation theory was deemed suitable for this study as it outlines the gradual process of adopting new innovative ideas in the workplace. The theory states that new working techniques are not quickly introduced into the working systems but are affected over time to enable employees to adapt to the new method of working. This means that innovation is introduced in phases and not instantly. Remote working appears to be an innovative way of working. This study sought to scrutinize the effects of remote working in the public sector hence the theory is more aligned to the study.

Literature Review

The global society is actively embracing the Fourth Industrial Revolution (4IR) which is largely characterized by the use of Robotics, Artificial Intelligence (AI), Internet of Things (IoT) and Information Communication Technology (ICT) (Sigov, Ratkin, Ivanov, & Xu, 2022). The public sector has been gradually adapting to this new, exciting reality (Torous, Bucci, Bell, Kessing, Faurholt-Jepsen, Whelan, & Firth, 2021). However, Nhede, Mazenda, and Masiya (2022) state that the pace of the public sector in adopting and embracing the Fourth Industrial Revolution has been relatively slow. The advent of COVID-19 pandemic in December 2019 which emerged from China, forced the public sector to quickly adapt

and incept technology as part of working in order to fulfill its constitutional objectives (Matli, 2020).

The idea of introducing remote working began to be a reality for most public servants as the digitalization of government and service delivery was put into practice. Workers that were already equipped and familiar with the use of technology did not struggle to adapt to the introduction of remote working whereas those who were not familiar with technology struggled (Rudnicka, 2020). Training of workers and procuring of technological gadgets by the government enabled public servants to discharge their duties through remote working (Kafiabad, Zanjani, & Nourelfath, 2020).

Remote working seemed to be effective in terms of compiling administrative work, as the circulation of emails made communication among colleagues more efficient, confidential and professional. Irawanto, Novianti, and Roz (2021) states that the physical aspect of work remains at a stand-still when remote working is being practiced because people are working from home and are not in the office. Amidst the COVID-19 pandemic government eased the legislation and allowed essential workers to work and deal with the physical work, enabling local government to deliver basic services such as food parcels to the people with ease (Hartmann, Hegel, & Boampong, 2022).

Remote working is an alternative method of executing office duties. It assists in fast tracking office administrative duties (Mohammed, 2021). Remote working saves workers from the burden of attending back-to-back meetings. Savić (2020) argues that in as much as remote working has advantages in terms of making things easy for workers, it also has some disadvantages for people who seek service delivery from the government. Citizens in need of physical or tangible services from the public sector struggle to access them, while those who are not familiar with the use of electronic gadgets also struggle (Hodder, 2020).

The difficulties of working remotely are reflected in employees current psychological experiences with task completion, interpersonal collaborations, and social contacts with friends and family (Wang, Liu, Qian and Parker, 2021). Procrastination, inefficient communication, work-home interference and loneliness were highlighted as the four main difficulties faced by distant workers throughout the pandemic (Yang, Murad, Mirza, Chaudhary & Saeed, 2022). Wang, et al. (2021) added that, these four issues generally have a negative effect on people's ability to work effectively and their overall well-being, while Charalampous, Grant and Tramontano (2022) states that workers with higher autonomy might potentially be distracted by their family issues and unable to concentrate on their work at home.

The COVID-19 pandemic prompted a sudden shift toward the digital environment in the public sector, including changes in government and public services (Boin, 2020). While the

shift to such digital services was long and gradual before the pandemic, the COVID-19 hastened the speed of online services by various levels of government. As a result, such a drive exacerbated the obstacles to e-government services among the most disadvantaged parts of the population. Numerous factors, including a lack of constant access to ICTs and a lack of distinction between public and private settings were identified (McMullin and Caitlin, 2021).

Research Methodology

With less generalization, qualitative research sought to provide a specific understanding of an event based on those experiencing it. Additionally, qualitative research sought to develop a thorough knowledge of a particular case through extensive exploratory studies that made it possible to locate quality responses throughout the study (Stenfors, Kajamaa & Bennett, 2020). This paper adopted the qualitative research methodology, using unstructured interviews to get in-depth understanding of the knowledge and experiences of the fifteen (15) respondents which were public servants, on working using remote working. A non-probability sampling technique, specifically a purposive sampling strategy, was employed in this paper to narrow the study population. This approach was used to specifically select knowledgeable representatives of the population who have experience with remote working in the public sector (Pace, 2021). A thematic approach of data analysis was utilized in this paper to bring out information, understanding, interpretation and reflections of the data collected through unstructured interviews.

Findings and Discussion

The responses of municipal officials revealed that the OR Tambo District Municipality indeed adopted remote working (which is an aspect of fourth industrial revolution (4IR)) during the pandemic as the COVID-19 regulations restricted non-essential workers to go to work. Rymarczyk (2020) states that, "The fourth industrial revolution has led to the introduction of innovation in the public sphere." When asked whether aspects of 4IR must be adopted in government, one of the respondents stated that, *"I personally think the 4IR must be adopted by government, this is because I believe that it introduces innovative ways of working since we have a significant role to play as government officials in terms of service delivery and promoting local economic development (LED) and technological gadgets assist us to keep on working even remotely."* While others stated that, *"Yes 4IR should be adopted by government because it improves government efficiency, improves government system and prevents incompetency in the public sector."*

It appears that indeed the adoption of remote working was prompted by the advent of Covid-19 pandemic, however introduced technological advancement in the public sector in the use of digital gadgets while working remotely. Boin (2020) supports the idea that,

the COVID-19 pandemic prompted a sudden shift towards the digital environment in the public sector, including changes in government and public services.

When asked about the effectiveness of remote working, one of the respondents alluded that, *"Yes remote working was advantageous for us, because it prevented us from being infected with COVID-19, it also improves workers mental health as there is less stress working in the comfort of our own homes."* While others disagreed with this view and stated that, *"Not entirely, issues like inadequate networks from home, data depletion, laziness and loadshedding sabotage the remote working process, thus making it less effective in terms of work output."* This view is equally shared by Yang, et al. (2022) that procrastination, inefficient communication, work-home interference, and loneliness were highlighted as the four main difficulties faced by distant workers throughout the pandemic. This therefore suggests that remote working saved public servants from contracting Covid-19, however the issue of work productivity deteriorated due to destructions associated with working from home.

Mohammed (2021) believes that remote working assists in fast tracking office administrative duties and that remote working saves workers from the burden of attending back-to-back meetings. When asked about the merits and demerits of remote working in the public sector, some of the respondents outlined that, *"Remote working enables us as public servants to multitask, for an example work while traveling, now remote working allows us to work on the go, attend important meetings, whilst we are heading somewhere else, and this process is both effective and efficient for us."* With other respondents alluding to this and stating that, *"remote working is convenient for us because it enables us to work from home even when one is ill, they have both, time to recover while working from home."*

In relation to the context of this question, Savić (2020) claims that in as much as remote working has advantages in terms of making things easy for workers, it also has some disadvantages for people who seek service delivery from the government. In this regard, the respondents argued that, *"Remote working is disadvantageous because we end up overworking while we are being under compensated, because we have 24/7 access to work database and thus have no excuse of not completing our work whereas if it was physical work, we all know that at 16H30 we are knocking off at work, whether we finished working or not and when we are asked to remain we would be compensated for extra working hours, but now with online working that is not happening."*

Other respondents stated that, *"Remote working is disadvantageous as it leads to imbalance in work and social life, when at home one cannot distinguish whether they are at work or not."* Some respondents mentioned that *"Remote working leads to colleagues not knowing one another because they are never at work and thus are anti-social, secondary to that remote working leads to unproductivity in workers due to the*

disturbances at home which include loadshedding, network challenges, the noise and domestic chores such as cooking and cleaning."

It is clear that remote working is similar to other working systems, in a sense that it has its own advantages and disadvantages. Remote working appears to protect workers from contracting diseases or spreading them in the workplace, creating less work burden because of easy accessibility of the system. On the other hand, some of the disadvantages associated with remote working include disassociation with colleagues because workers are not always in the workplace and exploitation of workers because there is no defined time of clocking in or out.

When asked about the accessibility of government online services, some of the respondents replied that, *"Government services can be accessed through certain verified government websites (online) in order to be accessible to the public, whereby citizens go through security intensified walls for safety while making people's lives easier by avoiding long ques in government offices with no guarantee for proper service delivery."* This point is equally shared by Boin (2020) that the COVID-19 pandemic prompted a sudden shift toward the digital environment in the public sector, including changes in government and public services.

Some of the respondents extended their arguments and stated that, *"Some of government services are rendered online, for an example citizens complete payments of either water or electricity bills online and even bond payments and these are services which are offered by the municipality."* This therefore suggests that remote working in the public sector can be two-way centered, it can accommodate both public servants and the citizens. The use of online government services seems to be effective and efficient in terms of saving time because government services are offered online and thus can be accessed anytime and anywhere.

The capacity and effectiveness of remote working can be increased by training public servants in the use of technological gadgets (Kuziemski and Misuraca, 2020). When asked about ways of improving capacity of remote working, one of the participants mentioned that *"the enhancement of work trainings for workers must be conducted to improve technical skills."* Another respondent stated that, *"The provision of mobile data, supplying routers for staff and connection of wi-fi in municipal offices to enable staff to attend zoom or Microsoft teams remotely online, can improve the efficiency of remote working."* While one of the participants further stated that, *"Monitoring the productivity, set of deadlines and tracking of the operation or functioning of the online system whether is working or done is easy when using online systems and these are some of the ways in which remote working can be enhanced to promote productivity."*

Therefore, it is evident that making resources available for public servants (staff) to work with is one of the methods that can be used to improve the use of remote working in the public sector. This paper equally revealed that provision of workshops or training for public servants to equip them on the use of technological gadgets can be used to improve the use of remote working in the public sector.

Conclusion and Recommendations

This paper equally provides possible remedies for the afore-mentioned problems in this study by suggesting the proper training of public servants on the use of technological gadgets. The study suggests that workshops should be conducted to equip staff for the reality of remote working. A work integration project which will enable remote working to complement manual working methods to blend is also recommended by this paper, this would ensure smooth operations or working relations in the public sector.

The study recommends that there should be joint training programs that will familiarize both the staff (public servants) and communities with digital or (online working), to complement the notion of remote working with public service delivery. This article suggests the dual practice of remote working and manual work to balance service delivery and work productivity (output) by the staff. This approach would familiarize both parties with the absence of staff in offices, while avoiding long unnecessary queues in government offices. The paper further recommends that the e-recruitment systems used by the municipality should be maintained as means of mitigating paperwork and costs associated with application for posts within the municipality.

The slow-paced adoption of the remote working technique is recommended by the paper, to enable all affected parties to fully adapt. The study believes that the adoption of remote working reflects the acceptance of the inevitable reality of 4IR, which people must be prepared for. Mechanisms of complementing remote working with manual working are recommended by the study to ensure that there are no hiccups on service delivery in the public sector. Improvement of the current remote working mechanisms are recommended by the paper to prevent future failures while promoting efficiency.

In conclusion, this study showed that the COVID-19 pandemic pushed the public sector into adopting remote working. The public sector was highlighted to be slow in adopting fourth industrial revolution components such as remote working. Struggles in public servants on the use of technological gadgets were identified in this paper, while the consequences of remote working in the OR Tambo district municipality in order to comprehend the future of work and distant working in public entities were explored. The theory of the diffusion of innovation was underpinned in this study to outline the benefits of acknowledging remote working and fourth industrial revolution at large.

The merits and demerits of remote working were also examined in the literature of this study, highlighting the successes and challenges faced by both public servants and residents during the adoption of remote working, mostly associated with the advent of covid-19. For the realization of the findings of the paper, qualitative research methodology was adopted in this study, using purposive sampling of fifteen respondents to acquire in-depth unstructured interviews. As a result, the study determined that remote working has both benefits and drawbacks in the public sector in terms of streamlining administration and providing people with services.

References

Amankwah-Amoah, J. (2021). COVID-19 and digitalization: The great acceleration. *Journal of Business Research, 163*(6), 602-611.

Azamela, J.C. (2022). The Impact of Institutional Creativity and Innovation Capability on Innovation Performance of Public Sector Organizations in Ghana. *Sustainability, 14*(3), 1378.

Berhan, Y. (2020). Will Africa be devastated by Covid-19 as many predicted? Perspective and Prospective. *Ethiopian Journal of Health Sciences, 30*(3).

Boin, A. (2020). Beyond COVID-19: Five commentaries on expert Knowldge, executive auction, and accountabilityin governance and public administration . *Canadian Public Administration, 63*(1), 339-68.

Campbell, I. (2019). Harvest labour markets in Australia: Alleged labour shortages and employer demand for temporary migrant workers. *TheJOURNAL OF AUSTRALIAN POLITICAL ECONOMY, 84*(1), 46-88.

Charalampous, M., Grant, C.A., and Tramontano. C. (2022). "It needs to be the right blend": A qualitative exploration of remote e-workers' experience and well-being at work. *Employee Relations: The International Journal, 44*(2), 335-355.

Dattani, K. (2021). Platform 'glitch as surprise' The on-demand domestic work sector in Delhi's National Capital Region. *City, 25*(3-4), 376-395.

Fenech, R. Baguant, P. and Ivanov. D. (2019). The changing role of human resource management in an era of digital transformation. *Journal of Management Information & Decision Sciences, 22*(2).

Hartmann, C. Hegel, C. and Boampong. O. (2022). The forgotten essential workers in the circular economy? Waste picker precarity and resilience amidst the COVID-19 pandemic. *Local Environment, 27*(10-11), 1272-1286.

Hilhorst, D. and Mena. R. (2021). When Covid-19 meets conflict: politics of the pandemic response in fragile and conflict-affected states. *Disasters, 45*, 174-194.

Hodder, A. (2020). New Technology, Work and Employment in the era of COVID-19: reflecting on legacies of research. *New technology, work and employment, 35*(3), 262-275.

Irawanto, D.W. Novianti, K. and Roz. R. (2021). Work from home: Measuring satisfaction between work–life balance and work stress during the COVID-19 pandemic in Indonesia. *Economies, 9*(3), 96.

Johnston, K., Guingona, M., Elsanousi, S., Mbokazi, J., Labarda, C., Cristobal, F.L., Upadhyay, S., Othman, A.B., Woolley, T., Acharya, B. and Hogenbirk, J.C. (2020). Training a fit-for-purpose rural health workforce for low-and middle-income countries (LMICs): how do drivers and enablers of rural practice intention differ between learners from LMICs and high income countries? *Frontiers in public health, 8*(1), 582464.

Kafiabad, S. T., Zanjani, M. K., & Nourelfath, M. (2020). Integrated planning of operations and on-job training in maintenance logistics networks. Reliability Engineering & System Safety, 199, 106922.

Koh, L. (2019). The fourth industrial revolution (Industry 4.0): technologies disruption on operations and supply chain management. *International Journal of Operations & Production Management, 39*(6/7/8), 817-828.

Kuziemski, M. and Misuraca, G. (2020). AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings. *Telecommunications policy, 44*(6), 101976.

Manimuthu, A. (2021). Contactless technologies for smart cities: big data, IoT, and cloud infrastructures. *SN computer science, 2*(4), 334.

Matli, W. (2020). The changing work landscape as a result of the Covid-19 pandemic: insights from remote workers life situations in South Africa. *International Journal of Sociology and Social Policy, 40*(9/10), 1237-1256.

McMullin, C. (2021). Migrant integration services and coping with degital devide: Challenges and opportunities of the COVID-19 pandemic. *Voluntary Sector Review, 12*(1), 29-36.

Mohammed, I.A. (2021). The interaction between artificial intelligence and identity and access management: an empirical study. *International Journal of Creative Research Thoughts (IJCRT), 2320*(2882), 668-671.

Nhede, N. T., Mazenda, A., and Masiya, T. (2022). The South African public service and the Fourth Industrial Revolution. *Africa's Public Service Delivery and Performance Review*, *10*(1), 420.

Oke, A. and Fernandes, F.A.P. (2020). Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR). *Journal of Open Innovation: Technology, Market, and Complexity, 6*(2), 31.

Pace, D.C. (2021). Probability and non-probability sampling-an entry point for undergraduate researchers. *International Journal of Quantitative and Qualitative Research Methods, 9*(2), 1-5.

Parliamentary Monitoring Group. (2020). OR Tambo District Municipality on response plan to COVID-19; Suspension of municipal manager. Cooperative Governance and Traditional Affairs 10 July 2020. Available at: https://pmg.org.za/page/ORTamboDistrictMunicipalityonresponseplantoCOVID19 {Accessed 08 September 2022}.

Rudnicka, A. (2020). Eworklife: Developing effective strategies for remote working during the COVID-19 pandemic. *In Eworklife: developing effective strategies for remote working during the COVID-19 pandemic*, pp. 1-13.

Rymarczyk, J. (2020). Technologies, opportunities and challenges of the industrial revolution 4.0: theoretical considerations. *Entrepreneurial business and economics review, 8*(1), 185-198.

Sabahi, S. and Parast, M.M. (2020). Firm innovation and supply chain resilience: a dynamic capability perspective. *International Journal of Logistics Research and Applications, 23*(3), 254-269.

Sahib, M.S., 2022. The Implications of the COVID-19 pandemic on the global supply chains. AL-Qadisiyah Journal For Administrative and Economic sciences, 24(3).

Savić, D. (2020). COVID-19 and work from home: Digital transformation of the workforce. *Grey Journal (TGJ), 16*(2), 101-104.

Setiawana, A., Nurmandi, A., Purnomo, E.P. and Muhammad, A. (2021). Disinformation and Miscommunication in Government Communication in Handling COVID-19 Pandemic. *Webology, 18*(1).

Sigov, A., Ratkin, L., Ivanov, L.A. and Xu, L.D., 2022. Emerging enabling technologies for industry 4.0 and beyond. Information Systems Frontiers, pp.1-11.

Soroui, S.T. (2021). Understanding the drivers and implications of remote work from the local perspective: An exploratory study into the dis/reembedding dynamics. *Technology in Society, 64*, 101328.

Stenfors,T. Kajamaa, A. and Bennett, D. (2020). How to… assess the quality of qualitative research. *he clinical teacher, 17*(6), 596-599.

Suliman, R. and Mtsweni, J. (2022). Adding up the numbers: COVID-19 in South Africa. South African Journal of Science, 118(5-6), 1-5. https://dx.doi.org/10.17159/sajs.2022/13874

Torous, J., Bucci, S., Bell, I. H., Kessing, L. V., Faurholt-Jepsen, M., Whelan, P., ... & Firth, J. (2021). The growing field of digital psychiatry: current evidence and the future of apps, social media, chatbots, and virtual reality. World Psychiatry, 20(3), 318-335.

Vargo, S. L., Akaka, M. A., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. Journal of business research, 116, 526-534.

Wang, B., Liu, Y., Qian, J., & Parker, S. K. (2021). Achieving effective remote working during the COVID-19 pandemic: A work design perspective. Applied psychology, 70(1), 16-59.

Yang, L., Murad, M., Mirza, F., Chaudhary, N. I., & Saeed, M. (2022). Shadow of cyber ostracism over remote environment: Implication on remote work challenges, virtual work environment and employee mental well-being during a Covid-19 pandemic. Acta psychologica, 225, 103552.

Yurdagul, E. (2023). MATHEMATİCAL APPROACH TO THE ROLE OF INWARD AND OUTWARD FOREIGN DIRECT INVESTORS-LED DIFFUSION OF INNOVATION IN SINO ECONOMIC CONVERGENCE-DIVERGENCE IN LIGHT OF ROGERS'DIFFUSION OF INNOVATION THEORY AND ECONOMİC CONVERGENCE-DİVERGENCE THEORY. *WILAYAH: The International Journal of East Asian Studies, 12*(1), 36-75.

Zeavin, H. (2021). MANAGING BOUNDARIES WHILE WORKING FROM HOME, 1960-PRESENT. *AoIR Selected Papers of Internet Research*, pp. 1-17.