

## **Office Management and Information Communication Technology (ICT) in the COVID-19 Era**

**Adeolu-Akande, Modupeola Atoke<sup>1</sup> and Oyedokun, Godwin Emmanuel<sup>2</sup>**

<sup>1</sup>School of Business, Charisma University,  
TCI, United Kingdom;  
atoke22@yahoo.com; +234-803 6271 990

<sup>2</sup>Department of Management & Accounting;  
Faculty of Management and Social Sciences;  
Lead City University, Ibadan, Nigeria;  
godwinoye@yahoo.com; +234-803 3737 184

### **Abstract**

A well-organized and managed office is a necessary component of a successful business. In the early 2020, the world was struck by a health disaster: the CoronaVirus pandemic, better known as COVID-19. This epidemic had an influence on everyone on the planet. In nearly every country, lockdown and other social distancing measures were proclaimed, effectively shutting down the globe. Every country's economic, financial, and physical health suffered due to these policies. It also ushered in a paradigm shift in office management culture in businesses. The rising ICT role in office administration in the COVID-19 period was investigated in this study. ICTs have continued playing an increasingly important and crucial role in modern office management systems. To work from home has become the norm, thanks to advances in information technology. To comply with all relevant safety regulations, some firms have turned to working remotely while also being lucrative and viable. Even without lockdown, the workplace atmosphere has altered. Working from home is here to stay. As a result, ICTs importance for corporate survival cannot be overstated. To achieve defined objectives successfully and efficiently, office management in organizations must take this into account and build their structures appropriately

**Keywords:** ICT, COVID-19, Office management, Office operations, Operations management

### **Introduction**

The focus of office management is on the effective and successful completion of office responsibilities. It is defined as a distinct process of planning, organizing, staffing, directing, coordinating, and regulating an office in order to promote the achievement of a corporate organization's specified goals. An office is a crucial and required part of every business, no matter how big or small. A company's office's efficiency and effectiveness are vital to its success.

The office is where a company organization's various functions are carried out. It is the organization's central nervous system (Upadhyay, Ladhe, Bhatkar Rai, & Upadhyay, 2015).

Administrative duties include planning, policy development and execution, coordinating, organization, and directing, as well as clerical functions such as information gathering, record analysis, and information dissemination and distribution. As a result, it serves as the nervous system for all corporate operations. ICT may be described as the electronic methods of creating, storing, managing, and disseminating information. These are the technologies that enable data to be processed and various sorts of communication to be facilitated. ICT is critical to every organization's existence since it promotes performance, capacity, learning processes, process connectivity, and communication. Coronavirus Illness (COVID-19) is an infectious illness caused by the SARS-CoV-2 virus. COVID-19 was a global and international health risk. By June 2020, the epidemic had spread to over 200 nations, infecting over seven million individuals and resulting in a worldwide health disaster with catastrophic consequences (Shengnan Yang et al, 2020), Not just did the crisis put each country's public health system to the test, but it also threw the social order into disarray.

The COVID-19 pandemic had a significant influence on health, the economy, and society, bringing hardship and uncertainty for many individuals in many parts of the world. Keeping a safe distance, washing or sanitizing hands, wearing masks, and being vaccinated against the virus were among the security measures put in place by governments to control the spread of the virus and protect the health of their citizens as much as possible. People were bombarded with both accurate and false information, and their daily lives were drastically affected as a result of these policies. The stay-at-home mandate and encouragement to maintain social distance in order to prevent the COVID-19 epidemic had a profound influence on how work is done in both private and public enterprises. As firms fought to stay afloat and accomplish their objectives, it had an influence on office management principles. Office management must seek other options for personnel to achieve their job obligations and commitments. They didn't have an option but to rely on ICT for telework and remote work (Diane Jackson, et al, 2020; Ragu-Nathan, et al, 2008). The number of people who had to work from home increased considerably, as did their reliance on information and communication technology to fulfill duties.

Furthermore, communication, engagement, and employee help methods have all changed significantly. This research investigates the influence of ICT on office administration in businesses and governments throughout the world in response to the COVID-19 outbreak.

## **Review of Related Literature**

### **Conceptual Clarification**

#### **Office and Office Management**

Any organization's focal point is its office. It is a necessary component of every organization or institution, and it is equally important in the public and private sectors. Any organization's ability to function efficiently, an office is important. Office management is concerned with the efficient and successful execution of office work and encompasses the skill of planning, organizing, coordinating, and directing office operations to fulfill company objectives. A company's office effectiveness determines its success. This involves creating a focused work atmosphere, as well as organizing and leading staff actions to meet organizational objectives. Work activities are examined and altered to keep employees happy while also increasing effectiveness, efficiency, and productivity. Control over office activities, cost savings, happy workers, and synchronization of organizational activities are all benefits of good management (Katherine Boyarsky, 2022). Office management is significant because it aids in the attainment of organizational goals, the most efficient use of resources, the reduction of operational expenses, the smooth flow of work, talent retention and loyalty instillation, enhanced profit and survival, efficiency, and growth.

#### **Key Office Management Functions**

Planning. This is about taking care of the things that need to be done ahead of time. It's the first and most crucial step toward more efficient operations and simpler management. It is the process of building a framework of responsibilities that will enable the company to achieve its goals and objectives. Short and long-term organizational goals are determined, and plans are developed to achieve them.

**Organizing.** It is the process of integrating the efforts of individuals or groups of people in order to accomplish the desired results. Organizing and planning go hand in hand in accomplishing organizational objectives. It entails organizing and allocating work for suitable staff and keep these resources on track so as to meet their objectives.

**Staffing.** The process of hiring qualified people for various work roles using their credentials, abilities and skills as yardsticks. Employee selection, recruiting, salary, training, development, promotion, compensation, and retirement are all aspects of staffing.

**Directing.** This is the styles and techniques in which employers give direction to the employees. Their aim is to guide employees in the proper direction. Leadership, supervision, and communication are all part of it.

**ICT and Communication:** Effective communication is essential in every well-functioning company. Communication is the process of passing information from one person to another. There are options for oral, written, and technical communication. Communication includes speaking, listening, and reacting. The organization's needs must be effectively articulated, conveyed, and understood by its employees in order to achieve optimal efficiency. In business, ICTs are being more frequently used. In day-to-day tasks, software is used, and other technologies are used to guarantee that workers' daily activities go well.

**Motivating:** This is the act of inspiring someone to perform, work, and act in order to attain a certain objective. Employee motivation is a challenging part of office administration that can take two forms: extrinsic incentive and self-motivation. Employees that are not self-motivated require external motivation. Employee motivation should meet their requirements while also being thorough, productive and competitive. It will boost staff morale and most likely increase performance.

**Coordinating:** It comprises ensuring the right assignment of responsibilities and labor to various members depending on their abilities and competencies in order to keep the team together. In this profession, it's also vital to make sure that duties are accomplished with the members' involvement. Employees should be able to communicate with one another within a company.

### **Information and Communication Technology (ICT)**

ICT is described as information technology that includes the generation, manipulation, storage, and exchange of data, as well as related methodologies, management, and applications (Amaewhule & Appah, 2019). ICT refers to the use of technological tools to record, store, process, retrieve, and transfer data (Dambo & Wokocha, 2020). The collecting, processing, storage, and transmission of audio, visual, textual, and numerical data utilizing a microelectronics-based computing and telecommunications system is also known as data collection (Shaibu, Oshioigwe & Mbaegbu, 2014). As a result, information and communication technology (ICT) is a phrase that refers to technologies that are used to collect, store, change, and transfer data in a variety of formats. The above notion divides distinct ICT fields while simultaneously linking them to work as a single unit (Kundishora, 2017).

ICT is generally described as the networks, internet, platforms, phones, applications and databases, and their underlying infrastructures, and is seen as a critical component of the society, which became even more essential to maintain during the global pandemic of COVID19 (Wilson & Jumbert, 2018). ICT may also refer to any electronic system that is used for broadcasting, telecommunications, or any other type of computer-mediated communication. Its components are the elements or sections of information technology that, when combined, comprise the system's functioning or efficacy. That is, they are components that make up the whole system. Computer gear, software, telecommunications, databases and data warehouses, processes and human resources, are among these components (Gregersen, 2021).

### **Coronavirus Disease (COVID-19)**

Coronavirus disease (COVID-19) is an infectious illness caused by the severe acute respiratory syndrome coronavirus 2, a recently identified coronavirus (SARS-CoV-2). According to the World Health Organization, Corona Viruses are a large family of viruses that are common in animals and can cause illness in them, including humans (WHO, 2020). Human respiratory infections have been related to a number of corona viruses, ranging from the common cold to more serious disorders such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (SARS). COVID-19 has a large and unequal economic impact on some parts

of a community, leading in a sense of inequality among society members (International Labour Organization, 2020). Employees with underlying medical conditions, young adults who are already facing higher levels of unemployment, older employees who may be at a higher risk of having significant health issues, women who are over in occupations have been on the front lines of having dealt with the pandemic, unprotected workers, and migrant workers are among some of the groups of the labor force that the ILO economically promotes.

Individuals should maintain good hygiene practices, practice physical/social distancing, use personal protective equipment (PPE), regularly clean surfaces, and take vaccinations, in respect to WHO and ILO recommendations to COVID-19 prevention. This has had a significant influence on people's daily lives throughout the world. The COVID-19 outbreak not only put each country's public health system to the test, but it also threw the social order into disarray, affecting nearly every element of human life and activity.

## **Theoretical Review**

### **Structuration Theory of Information Technology**

According to Structuration Theory, social phenomena are shaped by both human activities and social structure (Veenstra, Melin, & Axelsson, 2014). Giddens (1976) proposed the first theory of organizational structuration, which said that structures that serve as the fabric of society organize people's daily behaviors. These structures, which are embodied by rules, are formed and perpetuated by entities who operate within them, since actors' inclination for conforming to norms typically leads to rule-based conduct (Giddens, 1976). It claims that interaction patterns inside organizations generate a duality of structure in which individuals who follow organizational standards transmit significance and authority to other members of the organization through their interactions. This notion underpins the current research. Making decisions gets simpler when an organization implements an information technology system because the decision support system is based on the competency of the office management and the important information technology infrastructure that is available and used efficiently (Jackson, Young, and Sander, 2020).

## **Empirical Review**

The Integration of New Office Technologies in Rivers State Public Service Administration was researched by Dambo and Wokocha (2020). The study looked at how contemporary office technology was integrated into the Rivers State Public Service's administration. A descriptive survey research technique was used to perform the study. The findings revealed a moderate level of Senior Administrators' comprehension of new office technologies and a low level of Senior Administrators' use of new office technologies in the Rivers State Public Service administration. According to the research, the government should ensure that staff from Ministries and Agencies are taught and retrained on cutting-edge office technology to improve service delivery and raise their knowledge on how to utilize it effectively.

Békés and Katie Aafjes-van Doorn (2020) researched psychotherapists' perceptions about internet treatment during the COVID-19 epidemic. During the pandemic's dramatic change from face-to-face to online psychotherapy, the study looked at how psychotherapists' attitudes towards online psychotherapy are influenced by their personal and professional attributes. According to the study, psychotherapists' opinions regarding online psychotherapy are impacted by their past experiences, such as psychotherapy modality, clinical experience, and previous online psychotherapy experience, as well as their pandemic transition experience and geographic location. The researchers discovered that the forced transition to online therapy caused by the COVID-19 outbreak may have certain advantages.

During the Coronavirus and COVID-19 epidemics, Farkas and Romaniuk (2020) looked at ethics, social work, and vulnerable groups. The study analyzed the difficulties and innovations for each essential value of social work and provided current-day solutions for innovation and adaptation. The study uncovered the challenges and innovations by looking at two community organisations that give help to homeless and addicted people. According to the findings, social workers must continue to advocate for policies and programs that will meet growing needs and help society prepare for the next natural disaster or pandemic that affects vulnerable people.

Olwill, Nally, and Douglas (2020) investigated psychiatrists' experiences using remote consultations via phone in an outpatient psychiatric department during the COVID-19 outbreak.

The research investigated the experiences of a group of Irish psychiatrists who had remote consultations. A survey research technique was employed in this study. Many psychiatrists reported more difficulty completing assessments and less faith in diagnosis, according to the study, which has implications for the expansion of our clinical site's services. According to the study, a unique combination of face-to-face and telephone consultation will be necessary to prevent the spread of COVID-19 while providing proper patient treatment and evaluation.

Yang, Fichman, Zhu, Sanfilippo, Li, and Fleischmann (2020) studied the use of ICT at COVID-19. The study looked at how ICTs were utilized by a variety of parties throughout the world to respond to the COVID scenario, including individuals, non-profit organizations, and governments. The report addressed three major issues about ICTs and the global crisis. First and foremost, what role do ICTs play in times of global crisis? Second, how may ICTs affect social order when tensions between control, autonomy, and power change? Third, what are the theoretical and practical implications of utilizing ICTs in the face of a global health crisis? The study analyzed recent research in social informatics or health informatics as it applies to the panel subject and core issues in order to give a comprehensive assessment of the role of ICTs during this time period.

Amaewhule and Appah (2019) studied the use of ICT for job delivery by business instructors at tertiary institutions in Rivers State. The study looked into how a business educator in Rivers State used ICT to give job training. In this study, a descriptive survey design was adopted. According to the report, business school teachers have yet to fully integrate ICT into all aspects of business education delivery due to distinct obstacles. As a consequence of the study, a number of recommendations were made to improve lecturers' use of ICT in providing business education in Rivers State's tertiary institutions.

The development of 21st-century abilities in business school programs was explored by Omidiji and Ogwu (2019). The study looked at the main factors influencing the development of required practical skills in business school in order to reduce the number of jobless graduates roaming the streets searching for white-collar jobs. The research presented the concept of skill acquisition, which said that the number of repetitions was the most influential aspect in the learning process. According to the paper, skill acquisition in business education may be a mirage until the

aforementioned issues are addressed, and business school students should adopt vocational mindsets to improve labor dignity via the application of previously taught information and abilities.

Wilson and Jumbert (2018) looked into the new informatics of pandemic response, including humanitarian technology, efficiency, and the covert withdrawal of a national agency. The study looked at how the introduction of new communication technologies in pandemic response is typically accompanied by the entry of new participants and the fusion of previously separate activities inside single technology platforms or institutional procedures. The study looked at how digital technology has been utilized to respond to pandemics. According to the study, prominent humanitarian coordination bodies with extensive experience interacting with novel actors introduced by digital communication technologies should support structured interaction between these actors and members of national authorities so as to identify industry standards for strengthening national agencies in digitally-driven informatics.

Upadhyay, Ladhe, Rai, Bhatkar, and Upadhyay (2015) investigated the Office Management System of an Educational Institute, using Shri Dadaji Institute of Technology & Science, Khandwa (MP) as a case study. The study's goal was to automate an educational institute's office management system in order to improve staff productivity and workflow in an ineffective manner. The study discovered that by using an education institution management information system, an office's job will be automated, and all of the office's data will be organized properly. The study indicated that the firm will be able to identify the qualitative benefits of using an office management system.

The Conceptual Development and Empirical Validation of the Consequences of Technostress for End Users in Organizations was investigated by Ragu-Nathan, Tarafdar, Ragu-Nathan, and Tu (2008). The study looked at the idea of technostress, or stress experienced by end-users of information and communication technologies, and how it affects job satisfaction, organizational commitment, and willingness to stay. According to the study, technostress generators reduce work satisfaction, which leads to reduced organizational and continuance commitment, whereas technostress inhibitors increase job satisfaction, organizational, and continuance commitment.

Technostress is a significant side consequence of ICTs' inescapable acceptance in enterprises, according to the study, revealing the dual nature of their organizational influence.

## **Methodology**

This study takes a conceptual research approach, focusing on examining existing data accumulated by experienced scholars on the subject. The documents assessed include books, journals, papers, articles, and websites from both Nigeria and elsewhere. The documents review technique is used to evaluate the use of books, journals, papers, and websites in Nigeria and abroad. This allows for the gathering of relevant information on the subject area based on current literature.

## **Discussion of Findings**

### **Office Management and ICT in the COVID-19 Era**

COVID-19 epidemic, at the early stage, governments were compelled to take drastic steps to stop the COVID-19 transmission and preserve their inhabitants' health. These tactics included absolute lockdown and social isolation. Washing hands, wearing masks, and using sanitizers were among the other steps announced. These limits and controls necessitated major adjustments in how most businesses operate (Galea et al. 2020). It ordinarily impacted the 9-5 pm work culture that is widely practiced across the world. To tackle the spread of COVID-19, the government of Ontario, Canada, announced the forced shutdown of all non-essential workplaces on March 24, 2020. (Office of the Premier, 2020).

All organizations, including government parastatals, regulatory agencies and licensing boards, and private firms, have had to devise new ways for their employees to carry out their duties while keeping the company afloat. They had to rely on ICTs in conjunction with office cooperation to keep operations running, accomplish organizational objectives, and withstand the pandemic's challenges (Wallace et al. 2020). Members of the Ontario College of Social Workers and Social Service Workers (OCSWSSW, 2020) were instructed to consider giving services through any electronic device (e.g., a computer, tablet, smartphone, or landline) or electronic format (e.g., social media, Internet, email, chat, video, text).

Employees were pushed to convert from face-to-face services to utilizing ICT in all customer conversations with little warning (Békés & Doorn, 2020; Olwill, McNally & Douglas, 2020; Razai et al., 2020; Walter-McCabe, 2020). Employers have expressed concerns about how they will be able to properly employ these technologies to bridge the gap created by COVID-19 restrictions if they do not receive adequate training or help (Békés & Doorn, 2020; Wright and Caudill, 2020). Every organization's office management had to rise to the challenge, offer the required support, such as training, hardware, and software, and rethink their core tasks in order to continue managing their businesses efficiently and effectively toward attaining defined objectives. Employees have also demonstrated a high degree of inventiveness in their use of ICTs to provide services and maintain client relationships, as well as to ensure the company's profitability and survival (Boahen, 2020; Farkas & Romaniuk, 2020; Galea et al. 2020).

Because its apparatuses were relied upon throughout the epidemic, ICT became increasingly vital for the continuing delivery of services and the survival of organizations. The importance of information and communication technology (ICT) was later recognized to extend beyond identifying, tracking, analyzing, managing, treating, and perceiving pandemics (Wilson & Jumbert, 2018). As the pandemic advanced, it gave groups the best hope of sustaining societal order and survival. Office administration has evolved to accommodate the fact that work must still be completed, albeit mostly from home. To do this, new strategies and designs were devised. In order to better remote working, ICT professionals were engaged and assigned the task of doing research, developing new software and applications, and upgrading current ones. The concept of office administration changed to accommodate remote working and collaboration via the phone and the internet for the effective and profitable running of commercial enterprises. To increase these organizational performances, laptops, internet, meeting platforms and subscriptions, high-quality mobile phones, and other essential apps, software, and hardware were acquired.

On the bright side, as a consequence of widespread acceptance and use of ICTs, office administration practices improved, allowing for greater flexibility and creativity in the workplace. According to a study of over 15,000 professionals from 80 countries conducted by International Workplace Group (IPG), a flexible workspace provider, companies recognize the value of workplace flexibility for employees. Simultaneously, ICT adoption facilitated larger-scale

partnerships and engagement across state and national borders, allowing for faster responses. Including new entities in existing humanitarian collaboration networks (e.g., volunteer and technical groups that assist during disasters, including pandemics); enabling diversified civic participation (e.g., digital archives of deleted postings to challenge censorship, initiatives to counter disinformation campaigns); and facilitating new types of disaster assistance (e.g., digital humanitarians, online self-support groups).

Employees, employers, and organizations all profited in the long term from growing reliance on ICTs. Simply said, it gives both sides a win-win situation. Employees were able to save travel time and expenditures while also spending more time with their families, resulting in a better work-life balance. Businesses benefited from the flexibility to work around the clock, the ease with which skilled people could be hired, and the inexpensive cost of infrastructure, among other factors. On the negative side, there is a lack of understanding for sound decision-making, an inability to appropriately supervise and manage workers, and the incapacity to continue providing some services that need physical interactions.

### **Conclusion and Recommendations**

It may be stated that during the COVID-19 worldwide pandemic, dependency on ICT expanded rapidly. ICT has influenced the future of office administration in organizations and played a crucial role in sustaining social order. During the COVID-19 epidemic, the architecture and direction of office administration in every organization altered dramatically. There was a paradigm change in how organizations functioned all throughout the world. The office has to start thinking about its surroundings and grasp new trends like working remotely and from home. Office management must now be adaptable and willing to handle change effectively and efficiently in order for their company to survive the impending crisis and continue to operate as a thriving, lucrative business.

Additionally, office management will have to design new employment standards to match the new norm, which is a higher reliance on ICT to fulfill activities. These laws would have an influence on things like a new letter of intent with new terms and conditions, modified vacations and travel allowances, working hours policy, data protection, employee engagement and motivation, and, finally, incentive and bonus distribution. Businesses must establish and embrace new norms and

processes to make this paradigm shift a success. The office administration of any company must be knowledgeable of the company's critical operations and commercial activities. They must plan and coordinate the execution of processes and plans. Inside the office, all jobs, operations, and activities should be carried out in line with the organization's goals and the workforce's demands..

## References

- Amaewhule, W. & Appah, C. N. (2019). Utilization of information and communication technology for job delivery by business educators in tertiary institutions in Rivers State. *International Journal of Innovative Information Systems & Technology Research*, 7(2):34-40. [www.seahipaj.org](http://www.seahipaj.org) ISSN: 2467-8562
- Békés, V., & Aafjes-van Doorn, K. (2020). Psychotherapists' attitudes toward online therapy during the COVID-19 pandemic. *Journal of Psychotherapy Integration*, 30(2), 238–247. <https://doi.org/10.1037/int0000214>
- Boahen Martin I. Godfred and Fran Wiles, (2020). Professionalism and self-management. *Journal of Social Work*.;20(6):859-861. doi:[10.1177/1468017320918770](https://doi.org/10.1177/1468017320918770)
- Boyarsky Katherine <https://resources.owllabs.com/blog/office-management>) (Assessed on Feb 2, 2022
- Dambo, B. I., & Wokocha, K. D. (2020). Assessing the integration of new office technologies in Rivers State public service administration. *Nigerian Journal of Business Education*, 7(2), 375-386.
- Farkas K. J. & Romaniuk J. R. (2020) Social work, ethics and vulnerable groups in the time of coronavirus and covid-19. *Society Register* 4(2): 67-82 Issn 2544–5502 Doi: 10.14746/Sr.2020.4.2.05
- Galea S, Merchant RM, Lurie N. (2020) The Mental Health Consequences of COVID-19 and Physical Distancing: The Need for Prevention and Early Intervention. *JAMA Intern Med*. 2020;180(6):817–818. doi:10.1001/jamainternmed..1562
- Gregersen, E. (2021). 5 Components of Information Systems. Retrieved from [www.britannica.com](http://www.britannica.com).
- Isabella, D. B. & Da-Kaladokubo, W. K. (2020). Assessing the integration of new office technologies in rivers state public service administration. *Nigerian Journal of Business Education (NIGJBED)*, 7 (2), 375-386.
- Jackson, D., Young, V., & Sander, A. (2020). Information and Communication Technologies and Work-Life Balance: Practical Recommendations for Employers and Individuals. In (Ed.),

- Interpersonal Relationships [Working Title]. IntechOpen.  
<https://doi.org/10.5772/intechopen.94429>
- Kundishora, S. M. (2017). The role of information and communication technology (ICT) in enhancing local economic development and poverty reduction. Retrieved from [https://www.ict\\_economic\\_development\\_and\\_poverty\\_reduction](https://www.ict_economic_development_and_poverty_reduction).
- Olwill, C., Mc Nally D. & Douglas L. (2020) Psychiatrist experience of remote consultations by telephone in an outpatient psychiatric department during the COVID-19 pandemic. *Irish Journal of Psychological Medicine*, 1 of 8. Cambridge University Press on behalf of The College of Psychiatrists of Ireland. doi:10.1017/ipm.2020.51
- Omidiji, S. A. & Ogwu, O. C. (2019). 21<sup>st</sup> century skill acquisition in business education programs. *Nigerian Journal of Business Education (NIGJBED)*, 6 (2), 294-303.
- Ragu-Nathan, T. S., Tarafdar, M. & Ragu-Nathan, B. S. (2008). The consequences of techno stress for end users in organizations: Conceptual development and empirical validation. *Information Systems Research*, 19(4), 417–433.
- Razai MS, Oakeshott P, Kankam H, Galea S, Stokes-Lampard H., (2020) Mitigating the psychological effects of social isolation during the covid-19 pandemic. *BMJ*. 2020 May 21;369:m1904. doi: 10.1136/bmj.m1904. PMID: 32439691.
- Shaibu, O. G., Oshiogwe, J. A. & Mbaegbu, R. E. V. (2014). Business education curriculum and the information and communication technology. *Nigerian Journal of Business Education*, 2(1), 80-91.
- Upadhyay, R., Ladhe, Y. P., Rai, R. K., Bhatkar, C. B. & Upadhyay, R. (2015). Office management system of an educational institute: A case study on Shri Dadaji institute of technology & science, khandwa (MP). *International Journal of Mechanical Engineering and Robotics Research*, 4(2), 72-85.
- Veenstra, Anne Fleur van, Melin, Ulf, and Axelsson, Karin. Theoretical and Practical Implications From The Use Of Structuration Theory In Public Sector Information Systems ResearCH. Twenty Second European Conference on Information Systems, Tel Aviv 2014
- Walter-McCabe H. A. (2020) Coronavirus Pandemic Calls for an Immediate Social Work Response, *Social Work in Public Health*, 35(3), 69-72. DOI: [10.1080/19371918.2020.1751533](https://doi.org/10.1080/19371918.2020.1751533)
- Wilson, C. & Jumbert, M. G. (2018). The new informatics of pandemic response: Humanitarian technology, efficiency, and the subtle retreat of national agency. *Journal of International Humanitarian Action*, 3(8), 1-13.

World Health Organisation (WHO) (2020). Laboratory biosafety guidance related to coronavirus disease (COVID-19). Interim Guidance. Retrieved from <https://apps.who.int/iris/bitstream/> on Feb 3<sup>rd</sup> 2022.

Wright J, H, Caudill R, (2020) Remote Treatment Delivery in Response to the COVID-19 Pandemic. *Psychother Psychosom* 2020;89:130-132. doi: 10.1159/000507376

Yang, S., Fichman, P., Zhu, X., Sanfilippo, M., Li, S., & Fleischmann, K. R. (2020). The use of ICT during COVID-19. *Proceedings of the Association for Information Science and Technology*. *Association for Information Science and Technology*, 57(1), e297. <https://doi.org/10.1002/pra2.297>