European Journal of Management and Marketing Studies
ISSN: 2501 - 9988
ISSN-L: 2501 - 9988
Available on-line at: http://www.oapub.org/soc

DOI: 10.46827/ejmms.v7i2.1252 Volume 7 | Issue 2 | 2022

THE COVID-19 CRISIS AND REGULAR TELEWORK: THE EFFECT OF STRESS ON THE NIGERIAN OIL AND GAS EMPLOYEES' WORK PERCEPTION

Imoh Uford[1i],
Imaeka Charles[2],
Justina Ekom Ekong[3]
[1]Dr., Department of Marketing,
Faculty of Management Sciences,
Akwa Ibom State University (AKSU),
Obio Akpa Campus,
Nigeria
[2]Engr, MBA, School of Business and Society,
University of South Wales,
Cardiff, Wales,
United Kingdom
[3]Department of Marketing,
Faculty of Management Sciences,
Akwa Ibom State University (AKSU),
Obio Akpa Campus,
Nigeria

Abstract:
Regular telework and COVID-19 pandemic are emerging subjects in business literature. However, there are limited studies relating both variables to employees' stress. This study adopted the ex-post facto research design with a sample size of 400 to investigate the relationships between regular telework during the COVID-19 pandemic and the stress factor among Nigeria oil and gas employees. The demographic data were analyzed using Power BI, while MS Excel was used to test the three hypotheses. The empirical analysis revealed a significant change in the work culture towards mandatory telework as opposed to flexible working practiced by International Oil Companies prior to the pandemic. There was also a significant and positive relationship between regular teleworking and the stress factor of the sampled employees. It was evident that 66% of the sampled employees were not willing to continue telework beyond the Pandemic. However, if employers are able to provide appropriate work tools and a manageable workload more employees may be willing to continue with telework. An area recommended for further studies is gender-based telework and its effect on employees' performance.

[i] Correspondence: email praisebill2@yahoo.com

JEL: L10; L71; M10

Keywords: COVID-19; telework; stress; oil and gas employees; Nigeria

1. Introduction

More organizations have recognized the need to allow their staff to telework. This teleworking means that the employees use technology such as their phones and computers to work while they are off the office location (Bailey and Kurland, 2002). This mode of work which originated in the 1970s has drawn significant academic research interests in recent times particularly with its marked increase during the COVID 19 pandemic (Uford, 2021).

In Nigeria, as in some other countries of the world, the government enforced a total lockdown in all states of the federation to prevent the spread of COVID-19 (CDC, 2020). Following the lockdown, the oil and gas companies were driven by its impact to re-strategize their work and allow non-essential workers to telework while essential workers; such as health workers and field operators had to continue to work on their worksites (Belzunegui-Eraso, et al., 2020; Hatayama, et al. 2020; ILO, 2020; Surabhi & Gustafsson, 2020).

Even though there are perceived benefits of working from home such as job satisfaction, the autonomy of work and time, and mobility, there has been significant evidence that teleworking also has negative impacts on employees. One such possible negative impact is stress (Boell et al., 2013).

Furthermore, Weinert, et al. (2013), mention that since teleworkers execute their work under conditions different from the office, the causes of stress are likely to vary. Given the broadness of both contexts of stress and teleworking and its sheer importance today within the oil and gas industry in Nigeria, the researcher's interest has been aroused to study the Nigerian oil and gas employees and the time frame considered is the COVID 19 pandemic lockdown period in Nigeria.

Consequently, this study is aimed at investigating the relationship between dimensions of telework and telework-enabled stressors and the subsequent effect on the teleworker's willingness to continue teleworking.

2. Research Objectives

The objectives of this study are categorized into primary and secondary.

2.1 Primary Objectives

The following are the primary objectives of the study.

1) To investigate the relationship between the dimensions of telework and the resulting telework-enabled stress factors among employees in the Nigerian oil and gas industry.

2) To examine the willingness of employees in the Nigerian oil and gas industry to continue teleworking even after the COVID-19 pandemic lockdown.

2.2 Secondary Objectives

In order to achieve the primary objectives, the following theoretical and empirical secondary objectives are set.

1) To review all possible sources of related literature on telework and COVID-19 pandemic.
2) To develop a conceptual model that will demonstrate how the dimensions of telework during the COVID-19 pandemic affected employees in the Nigerian oil and gas industry and their willingness to continue regular teleworking even after the pandemic lockdown.

2.3 Research Questions

The following are considered the research questions:

1) Has the COVID 19 pandemic lockdown had any significant effect on the stress level experienced by the employees in the oil and gas industry in Nigeria?
2) Is there any relationship between the dimensions of regular teleworking during the COVID-19 pandemic lockdown and the work culture of the employees in Nigeria the oil and gas employees in Nigeria?
3) Which dimension of telework mostly influenced the willingness of the Nigerian oil and gas employees to continue regular teleworking beyond the COVID 19 pandemic lockdown?

2.4 Research Hypotheses

To answer these research questions, the following research hypotheses were formulated in a null form;

1) There is no significant effect of telework during the COVID-19 pandemic lockdown on the work culture of the oil and gas employees in Nigeria.
2) There is no significant relationship between telework during the COVID-19 pandemic lockdown and the stress factor experienced by the employees in the oil and gas industry in Nigeria,
3) There is no willingness by the employees in the oil and gas industry in Nigeria to continue with regular telework after the COVID-19 pandemic lockdown

Consequent to the theoretical background, the researcher first developed the hypotheses and later described the methodology of the article, then subsequently present the research results. Finally, the contributions of this article have been presented in the concluding remark as well as the research implications and area(s) for future research.

3. Literature Review

The relationship between COVID 19 pandemic lockdown and the changes in the work culture of Oil and Gas Workers in Nigeria is being studied. A key difference when considering research on telework prior to the pandemic and during COVID 19 pandemic is that previously telework was often responsive to employee preferences, but COVID-19 forced many into Mandatory Telework. Gartner (2020) surveyed 229 Human Resources (HR) departments and observed that approximately one-half of the companies had more than 80% of their staff teleworking during the pandemic mandatorily versus the voluntary teleworking that was previously practiced. This culture shift has not been explored extensively in academic research.

While there is no universally accepted definition for telework, the International Labor Organization (ILO), has defined it as the use of information and communications technologies (ICT) in order to work outside of the normal work location of the employer. On the other hand, Konradt et al. (2000) opined that it involves using computers to work away from the main organization. Also, Olszewski and Mokhtaria (1994), viewed teleworking in connection with the regular work hours and defined it as a mode of working that allows employees to work from their homes during the regular work hours while communicating with the main office using ICT. However, this definition by Olszewski and Mokhtaria (1994) can be faulted on the basis that it assumes there must be communication with the physical office.

Therefore, for this work teleworking has been defined as a mode of work that allows the employee to work outside of the employer's work premises using ICT to complete their tasks and communicate with other members of the organization. This definition defiles other works by authors who posit that it is restricted to working from home but rather expands it to other locations as agreed by (Konradt, et al., 2000; Uford, 2021).

The works of various authors have shown that teleworking has the advantage of helping employees achieve both work and family-related tasks, create autonomy during their work hours, save time and money on transportation and connect better with their families. On the other hand, this type of work can cause a strain on the quality of life and work of employees (Konradt et al., 2000)

Broman-Fulks and Kelso (2012) and Michie (2002) both agree that stress is an inherent part of some people's life. While Broman-Fulks and Kelso (2012) defined stress as people's psychological response to external threats or demands; Michie (2002) sees it as the result of not having enough resources to cope with external demands or pressure in the environment. are not enough to cope with the demands and pressures of the situation. Also, Uford (2021) gave a more generic definition to stress as the manner people react to events, situations and stimulus in their lives. The common theme in these definitions is that stress is an internal negative reaction to an external stimulus.

Diverse research works show that teleworking stimulates stress due to social isolation, presenteeism, insufficient support, career progression, and blurring of

boundaries between work and family are some of the disadvantages that pose psychological stress to the teleworker (Uford, 2021). These assertions are to be proven in this work using a sample population of the oil and gas workers in Nigeria.

3.1 Conceptual Framework: Theory/Model

Person-environment fit theory by Caplan (1987) postulates that there is a balance between people and their environment. This balance is maintained when their values and the capabilities of people meet the supplies and demands for such capabilities in the environment. Otherwise, the balance is disrupted, and this disruption leads to stress (Ayyagari, 2011). Maier (2014) developed a Characteristic-stressor-strain framework as shown in Figure 1 below. Characteristics are independent situational factors that cause stress. As Parasuraman (1981) puts it, situations in themselves are not stressed sources but the context in which they occur can create a perceived stimulus factor. For example, teleworking may not be considered stressful, when employees are well-informed about the value created by their company's strategic decision (Duh & Uford, 2019), but when it becomes mandatory and exists during a lockdown, this presents a characteristic.

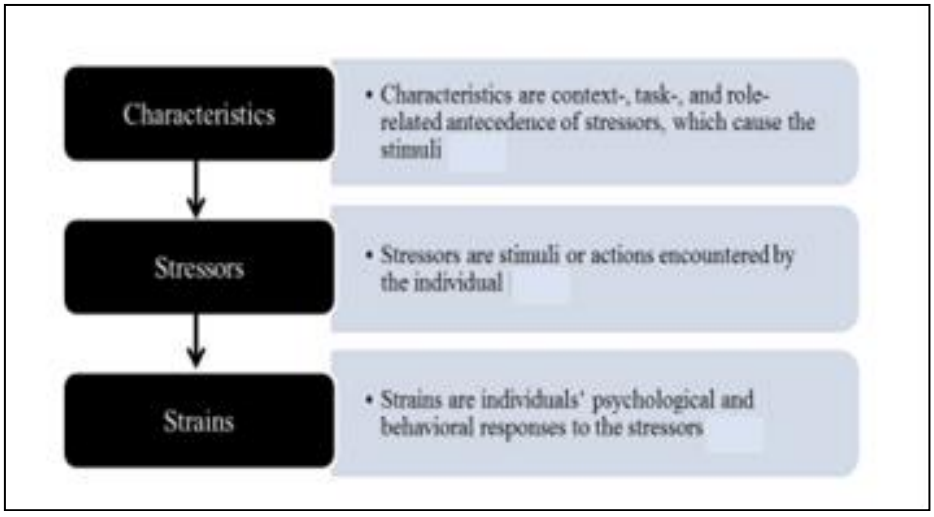

Figure 1: Characteristics-Stressor-Strain Framework by Maier (2014)

Characteristics such as teleworking during the COVID 19 pandemic lockdown lead to stressors. These stressors are stimuli met by the individual. This stress leads to strain which is the response of the individual to the stress. Ayyagari (2011) defined psychological strain as an emotional response to the encountered stimuli such as exhaustion while Tarafdar (2010) posits that behavioural is the negative behavioural response to the stressor such as the intention to stop teleworking.

Based on the Characteristics-Stressor-Strain Framework by Maier (2014), the conceptual framework for this present study has been developed as presented in figure 2 below:

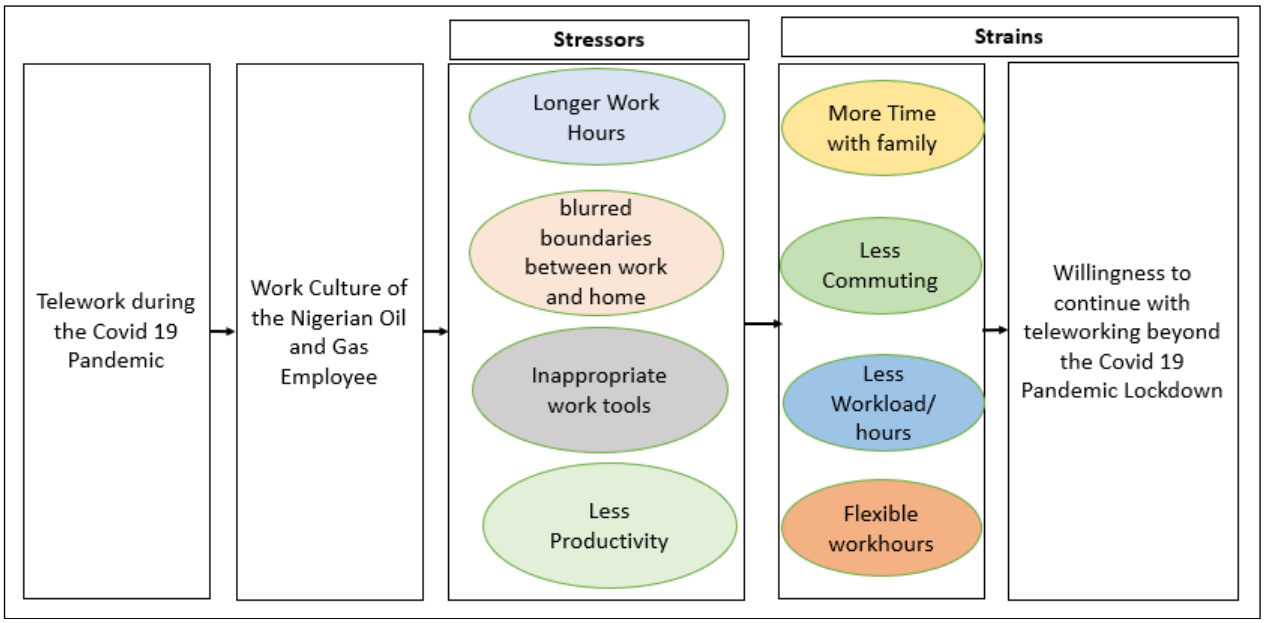

Figure 1: Characteristics-Stressor-Strain Framework for COVID 19 pandemic Teleworking induced stress and the effect on Nigerian oil and gas worker's willingness to continue teleworking

This framework integrates prior theorizing on the topic. Additional conceptual support for our framework, especially for such a central role of Longer work hours; blurred boundaries between work and home; inappropriate work equipment and less productivity comes from models developed by Uford (2021).

Our choice of the outcomes of stress was also based on the previous studies on the ways of coping with stress and the outcome of stress as also applied in Uford (2021).

4. Research Methodology

This section discusses the research philosophy, research design, data collection and analysis methods, sample size determination, procedure as well as the sampling technique and how the data collection instruments (questionnaires) were validated and tests of reliability were also conducted.

4.1 Research Design

Zikmund and Babin (2010) define research design as a master plan that specifies the methods and procedures for collecting and analysing the information needed. Based on the nature of this study, the researcher adopted the Ex-post facto research design as a guide for this study.

4.2 Population of the Study

Bryman and Bell (2011) define the study population as the population of interest and refers it to the universe of units from which a sample is selected for the study. Similarly, (Churchill Jr. 2001:448 as cited in Uford, 2017:99) defines the study population as the

totality of cases that conform to some designated specifications. Based on the above definitions, the population of study could be considered as the aggregate of all potential elements within the research interest. For the purpose of this study, the population was 65,000 which is the total employees in the Nigerian oil and gas industry. This figure is obtained from Fajana (2005) on the website of the International Labour Organization (ILO) and supported Nigerian Union of Petroleum and Natural Gas Workers (NUPENG) and Petroleum and Natural Gas Senior Staff Association of Nigeria (PENGASSAN).

4.3 Sampling Design

According to Polit and Hungler (1999), sampling refers to the process of selecting a portion of the population to represent the entire population. Considering the different strata of the employees within the Nigerian Oil and Gas Industry (for example, technical/administrative, field/office-based, and local/international etc.), it was rather necessary to use the stratified sampling of the probability sampling design in order to have a fair representation of the targeted respondents.

4.4 Sample Size Determination and Procedure

This study adopts Taro Yamene's formula for determining sample size with the procedure below. According to Yamene's formula, the sample size is denoted by a letter.

$$n = \frac{N}{1+N\,(e)^2}$$

where;
n = sample size =?
N = population size = 65,000
e = error level of significance = 5% (i.e.) 0.05

Hence:

$$n = \frac{N}{1+N\,(e)^2} = \frac{65000}{1+65000(0.05)^2} = \frac{65000}{1+65000(0.0025)} = \frac{65000}{1+162.5} = \frac{65000}{163.5} = 397.55 \approx 400.$$

4.5 Construction of Data Collection Instrument

A self-constructed questionnaire was the instrument used in collecting primary data for the study. It was structured in two parts. The first part solicited for personal data of the respondents while the second part sought responses relating to the statements presented on the various proxies used as variables for the study. In order to answer the three research questions and test the corresponding hypotheses, three sets of items (survey questions) were submitted to the respondents; the sample questionnaire could not be attached due to the required word limit of the publisher.

4.6 Survey Instrument Administration

Non-differentiation (respondents giving random responses due to fatigue) was offset by contracting the number of items and stating the average time to complete the survey which was an average of four minutes based on the pilot study. Also, the researcher made use of simple wording to reduce non-differentiation (Lietz, 2010; McPherson & Mohr, 2005). Even though Weijters et al. (2010) and Baert (2020) argue about the superiority of the fully labelled five-point Likert scales, the researcher adopted the 2-point Likert scale which is the simplest Likert which is typically used to measure agreement. The reason for the choice of a two-point Likert scale was used in order to further reduce the none of responses. Also, to induce qualitative responses, the researcher deliberately excluded the 'Neutral' option (Bethlehem & Biffignandi, 2012).

Secondly, following the ideals of first-rate surveying, the questionnaire underwent a pilot test among 33 respondents to ensure clarity of expectations, simplicity and exhaustiveness.

Finally, the summarized responses were summarized in Microsoft Excel. This was cleaned and sensitivity analyses were applied to improve the quality of the response sets. The outputs obtained were still robust even after these analyses.

To further analyze the telework dimensions in the research questions, data from the broader survey that addressed the socio-demographic of the respondents were used. This enabled us to more concretely assess the heterogeneity regarding the respondents' gender, age, education level, marital status, and residence at the time of the COVID 19 Pandemic, as well as whether their employers were National or International Oil Companies (IOC).

4.7 Validity/Reliability of the Instrument

The validity and reliability of the test instrument are very important in ensuring that the instrument measures what it is intended to measure and is consistent in this measurement over time in order to guarantee the quality of the study.

The face validity of the instrument was tested by subjecting it to the assessment in Test and Measurement by two Lecturers at the Akwa Ibom State University. The relevance of each item in relation to the objectives of the study was examined by the experts who ensured that the instrument was valid. For reliability, ten respondents completed the questionnaire online at their convenience. This was done to ensure their comfort and relaxation while filling out the copies of the questionnaire to prevent errors. Their responses were subjected to a pre-test using the standardized Cronbach's coefficient alpha to measure the internal reliability of each construct. The results were all far above the recommended benchmark of 0.70 (Chinomona, 2011).

5. Data Analysis and Interpretation

Data was collected using questionnaires and these data were analyzed using MS Excel and Power BI. The findings from the research are presented in tables. For ease of

understanding this chapter has been subdivided into two segments as follows: analysis of results obtained from the questionnaire using MS Excel and Power BI and discussion and interpretation of results linking them to the earlier presented literature.

5.1 Questionnaire Administration

In October 2020, 440 employees of various oil and gas producing companies were requested to answer a Microsoft Forms online questionnaire. The choice of 440 versus the calculated sample size of 400 was in order to provide a safety margin for no response. The link was disseminated through WhatsApp and email. The questionnaire was administered via the Microsoft Forms platform and took an average of 6 mins to be complete. Of the 440 participants, 40 persons did not complete the form or started but did not submit it. Hence, 400 participants were included in this research and have formed the sample size. Most of the participants were between 36-45 years which accounted for 56% of the respondents. This was followed by the 25–35 age group (31%), while 10% were in the 46–55 age range and 4% were above 55 years.

Men accounted for 52% of the respondents and women accounted for 48%; 76% of the respondents were married, 18% were single and 6% were separated and divorced. Also, most of the respondents were master's degree holders representing 48% of the sample size. Followed by bachelor's degree holders at 43%, 3% were PhD holders and the remaining 6% had other certifications.

The respondents were drawn from international oil companies in Nigeria including Total Energies, Shell, Chevron, Agip, Belema Oil, Seplat and ExxonMobil. However, for confidentiality, the name of the companies was not included in the questionnaire's responses.

5.2 Presentation of Data

5.2.1 Connection between Teleworking during the Covid-19 Pandemic Lockdown and Change in Work Practices and Culture of Oil and Gas Companies' Employees

A comparison of employees who worked regularly from home before and after the lockdown shows a remarkable increase of 91%. As can be seen in Table 1, about 66% of the sample size had been enjoying flexible working hours which allows them to start working a bit later and close later on some occasions before the COVID-19 lockdown happened. Since the lockdown, most employees have been working from home. Also, from the responses, 71% of respondents agree that their work colleagues were also teleworking which shows a significant increase in the number of persons teleworking during the COVID-19 lockdown.

Table 4.1: Determine the relationship between teleworking during the COVID-19 pandemic lockdown and change in work practices and culture of oil and gas companies' employees

STATEMENTS	Agree	Disagree	Sum	Agree %	Disagree	Sum%
My working from home was strictly due to the pandemic	266	134	400	67%	34%	100%
I used to work from home regularly before the Covid-19 Pandemic lockdown	0	400	400	0%	100%	100%
My work colleagues also work from home during the Covid-19 Pandemic lockdown	282	118	400	71%	30%	100%
I had flexible working hours prior to the Covid-19 Pandemic lockdown	262	138	400	66%	35%	100%
I worked regularly from home during the Covid-19 Pandemic lockdown	363	37	400	91%	9%	100%

Source: Field survey, 2020.

5.2.2 Investigate the Relationship between Teleworking during the COVID-19 Pandemic Lockdown and Stress of Employees of Oil & Gas Companies

69% of respondents agreed that it was very stressful; with the leading cause of stress being reduced break time at 68%, followed by less productivity at 67%, blurred boundaries between work and home time and inappropriate work tools at 66%.

Table 4.2: Determine the relationship between teleworking during the COVID-19 pandemic lockdown and stress of employees of oil & gas companies

STATEMENTS	Agree	Disagree	Sum	Agree %	Disagree %	Sum%
It was very stressful to telework regularly	275	125	**400**	69%	31%	**100%**
The stress was as a result longer work hours than normal	263	137	**400**	66%	34%	**100%**
The stress was due to reduced break time during the lockdown	270	130	**400**	68%	33%	**100%**
The stress was due to blurred boundaries between work and home	265	135	**400**	66%	34%	**100%**
The stress was as a result of inaapropriate work equipment	262	138	**400**	66%	35%	**100%**
The stress was due to less productivity	267	133	**400**	67%	33%	**100%**

Source: Field survey, 2020.

5.2.3 Determine whether there is a Willingness by the Employees in the Oil and Gas Industry in Nigeria to Continue with Regular Telework after the COVID-19 Pandemic Lockdown

In the table below, the extent to which teleworking contributes significantly to the stress of the sampled employees during the COVID-19 pandemic lockdown was assessed. The result shows that 64% of the respondents coped with stress during the lockdown. However, a whopping 64% of this population agreed that they did not want to telework as the new normal. Furthermore, the major factor that reduced stress on the respondents was reduced time spent in traffic during the period of working from home due to the COVID-19 pandemic lockdown at 69%, followed by 66% of the sampled staff who suggested that, fewer work hours helped reduced their stress, finally 66% of the

population stated that time spent with their family and flexible work hours helped reduce their stress.

Table 4.3: Determine whether there is a willingness by the employees in the oil and gas industry in Nigeria to continue with regular telework after the COVID-19 pandemic lockdown

STATEMENTS	Agree	Disagree	Sum	Agree	Disagree	Sum%
Time spent with family reduced teleworking stress during the Covid-19 Pandemic lockdown	259	141	**400**	65%	35%	**100%**
The reduction in stress was due to no commuting time to the office	274	126	**400**	69%	32%	**100%**
I attest to the fact that the Covid-19 Pandemic lockdown made working very stressful	257	143	**400**	64%	36%	**100%**
I coped effectively with the stress of working during the Covid-19 pandemic lockdown	257	143	**400**	64%	36%	**100%**
The reduction in stress was due to less workload/hours	263	137	**400**	66%	34%	**100%**
The reduction in stress was as a flexible work hours	261	139	**400**	65%	35%	**100%**
Although, I coped effectively with the stress of working during the Covid-19 pandemic lockdown but I don't it as the new normal	265	135	**400**	66%	34%	**100%**

5.3 Test of Hypothesis

5.3.1 Test of Hypothesis 1

H0$_1$: The COVID 19 lockdown had no significant impact on the work culture of oil and gas employees in Nigeria.

The analysis of the variable of regular teleworking against other variables affecting the hypothesis that the COVID 19 lockdown had no significant impact on the work culture of oil and gas employees in Nigeria, threw up two significant correlations as follows:

Firstly, most oil and gas employees working from home also had colleagues who were working from home, the correlation being positive.

Secondly, there was a strong correlation between educational qualification and teleworking with those with PhD showing the greatest tendency to telework.

As can be seen in Table 1 and Figure 1, none of the panel members was working from home frequently, prior to the COVID 19 pandemic while 65% of them agreed to flexible working arrangements prior to the lockdown. Almost 91% of respondents indicate that they were teleworking during the pandemic and 71% of the respondents agreed that their colleagues were also teleworking during the lockdown. This shows an overall uptick in the number of Nigerian oil and gas teleworkers. It was observed that there was a positive correlation between educational qualification and telework with PhD holders showing 10% more likely than any other educational qualification. This effect of education level on the probability and frequency of teleworking was postulated in prior studies by Walls et al. (2007) and Sarbu (2015).

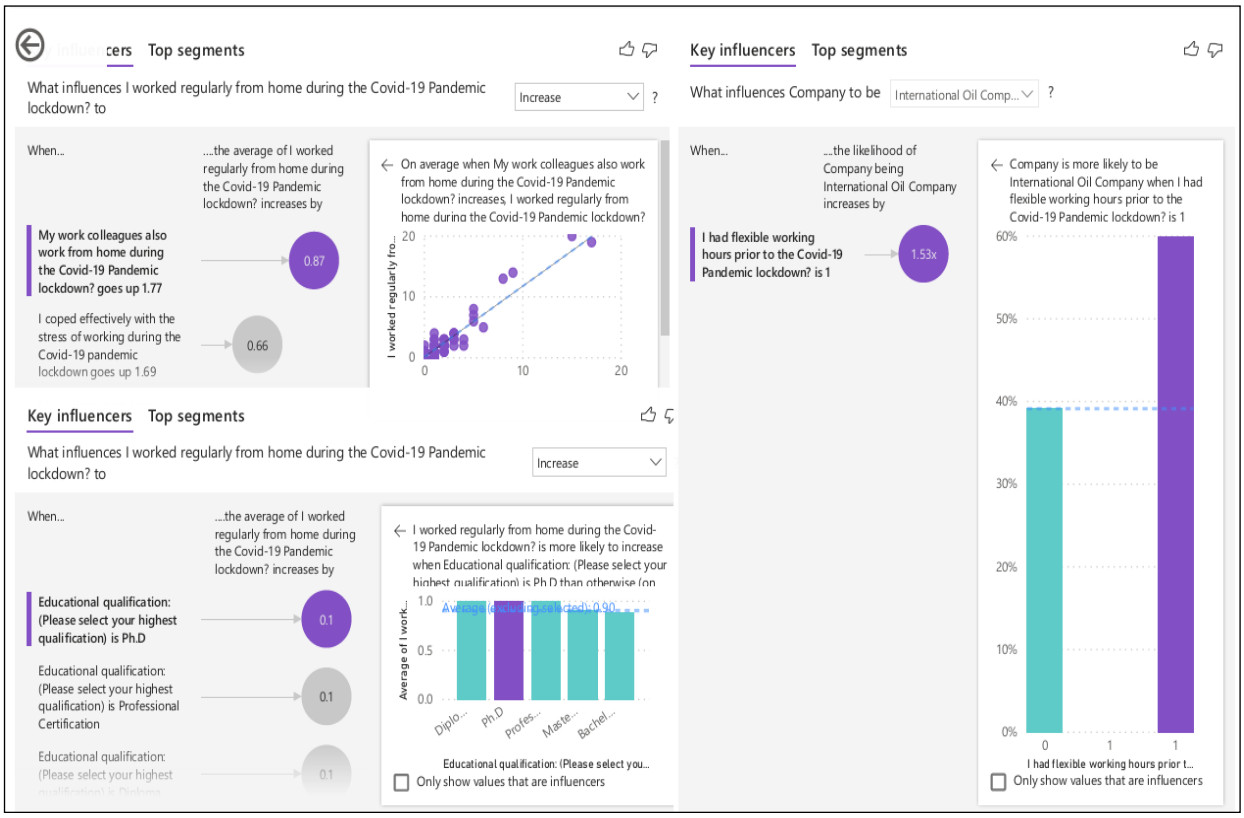

Figure 4.1: The Power BI Analysis of Effect of COVID 19 pandemic lockdown on the stress level experienced by the employees in the oil and gas industry in Nigeria

Thirdly, the international oil companies had already implemented flexible working prior to the lockdown versus the national oil companies. Hence the culture shock of teleworking would likely be less with the IOC's. These findings aligned with the finding of Uford (2021), who studied teleworking by Total Nigeria employees (An International Oil and Gas Company operating in Nigeria) during the COVID-19 crisis and his result indicated that the international oil and gas company employees were able to cope well with these changes because they had already been teleworking occasionally prior to the COVID 19 pandemic lockdown.

Hence, the null hypothesis has been rejected and the alternative hypothesis accepted that the COVID 19 lockdown had a significant impact on the work culture of oil and gas employees in Nigeria.

5.3.2 Test of Hypothesis 2

$H0_2$: There is no relationship between teleworking during the COVID-19 pandemic lockdown and the stress of employees of oil & gas companies.

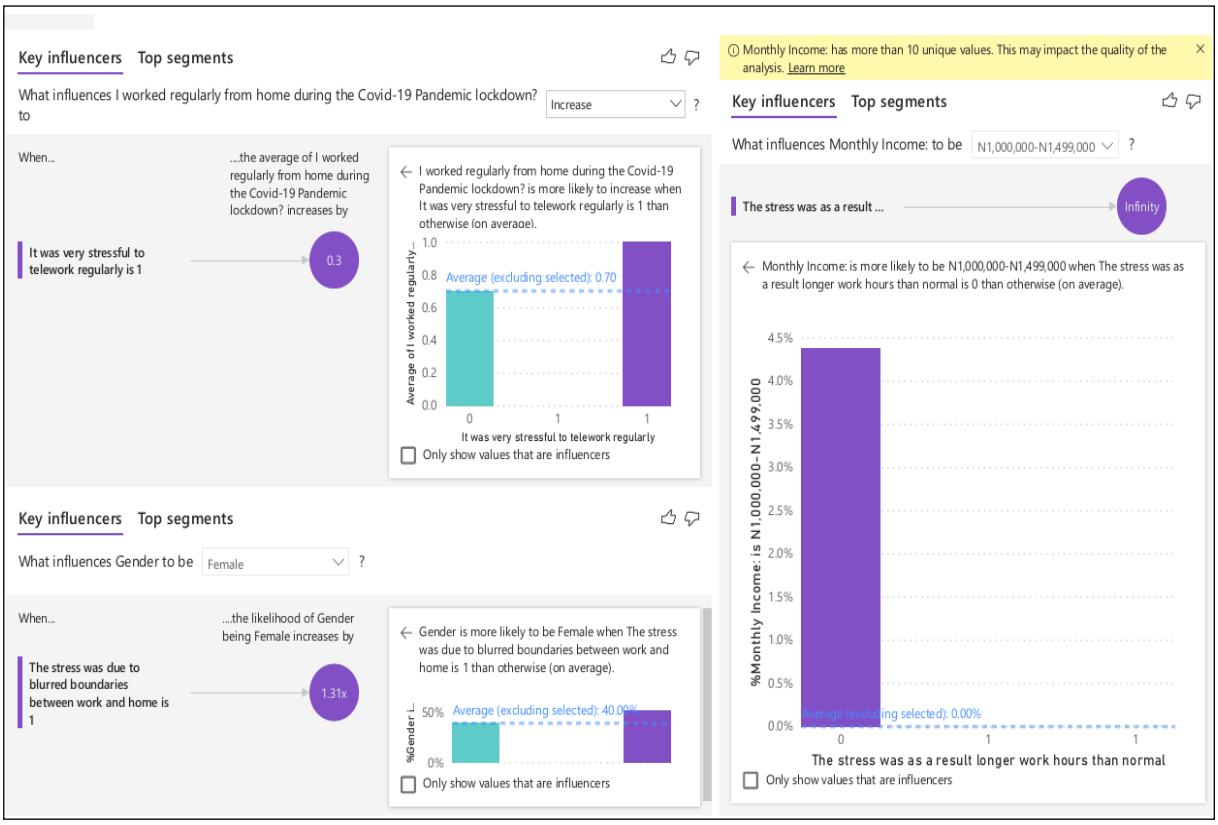

Figure 4.2: Power BI Analysis showing the relationship between teleworking during the COVID-19 pandemic lockdown and stress of employees of oil & gas companies

Figure 4.2 above explains the significant relationship between teleworking during the COVID-19 Pandemic lockdown and the stress of oil workers in Nigeria. The result shows a substantial positive correlation of 0.3 between teleworking during the COVID-19 pandemic lockdown and the stress of Total employees. Again, the null hypothesis is rejected while the alternative hypothesis that there is a correlation between teleworking during the COVID-19 Pandemic lockdown and the stress of oil workers in Nigeria is accepted. These findings also support the results of Uford (2021) who posits that the stress experienced by Total Nigeria PLC (a subset of the sampled population in this study) increased during the COVID 19 pandemic lockdown telework.

Other findings from the analysis show significant factors leading to stress among certain demographics. Particularly, females were 1.31 times more likely to experience stress due to blurred boundaries between home responsibilities and work than their male counterparts. This pattern is expected because the Nigerian culture is such that puts a higher expectation on women to take care of the home and children than men. Such blurred boundaries have been noted to be the leading cause of stress for women in previous studies by Belzunegui-Eraso (2020).

Another remarkable finding was the fact that those who earned the highest felt no stress at all as a result of working longer hours. While the positive correlation between pay and motivation has been argued for a long time, these results tend to agree that there is some sort of correlation. This is because no one in the highest wage band agreed to experience stress due to working longer. Again, it is arguable that these high-income

earners telework for a shorter period because they are likely to be supervisors who are not involved in routine activities hence reducing the exposure to the teleworking characteristics of the longer worker which caused stress to other demographics.

5.3.3 Test of Hypothesis 3

H0$_3$: There is no willingness by the employees in the oil and gas industry in Nigeria to continue with regular telework after the COVID-19 pandemic lockdown.

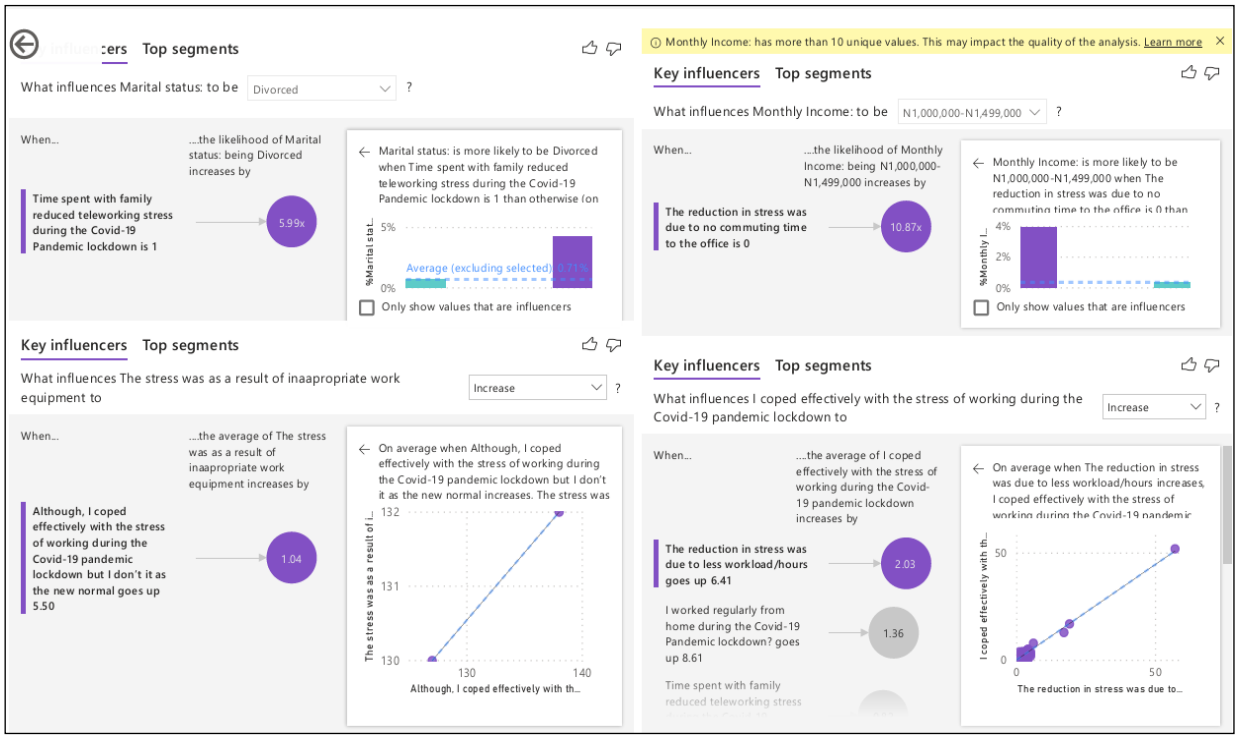

Figure 4.3: Power BI Analysis showing the willingness of oil and gas workers to continue with regular telework after the COVID 19 pandemic

The data was analyzed to determine the correlation between coping with stress and factors that helped reduce stress.

Employees who mentioned the time spent with family as something that helped reduce their stress were 5.99 times more likely to be divorced than any other marital status. This was a surprising outcome; however, the result is consistent with the assertion of Song and Gao (2020) who find that stress connected with teleworking is linked to greater conflict among couples and the need for more negotiations between couples. This implies the major source of home conflict is linked to disagreement between spouses. Hence, for workers not living with their spouse because they are divorced, time spent with other family members tends to be free from such conflicts and more enjoyable.

Secondly, when the employees reported that they experienced no reduction in stress due to the elimination of commuting time those employees were 10.87 times likely to be among the highest paid at N1,000,000 to N1,499,999 per annum. Since they were not commuting to work during this period, the implication of this is that the employees were

not experiencing stress from commuting to the office when they had to do so. This has could be because such employees can afford to live closer to the office than others or they had drivers that drove them to work. The results obtained agree with the recommendations by HR Management and Compliance (2019), after observing significant stress levels reported among commuting employees in the US. They advised employers to provide employer-sponsored carpooling.

Thirdly, there was a positive correlation between employees that did not recommend regular teleworking and inappropriate work tools. Here it was observed that as the recommendation against regular teleworking increased by 5.5 points, the source of stress due to inappropriate work tools also grew by 1.04. Hence, employees with inappropriate work tools tend to not like regular teleworking. Again, the results resonate with the finding of the International Labour Organization (2020), who had noted that continually working on sub-par equipment and tools leads to reduced productivity, frustration, and eventually disengagement of the workers. They recommend that for employees to remain as productive as they would be in the office, the employer needs to ensure that teleworkers have access to the technology and tools that they would otherwise be using if they were at the workplace and continuously engage the employees to detect any difficulties with the tools and for the workers to come forward with their specific needs, in terms of ICT equipment and software as well as related training

Fourthly, it was also observed that when employees responded that they had a reduced workload/hour during the COVID 19 pandemic lockdown telework, they were also likely to cope better with stress. Studies have shown that teleworking increases work intensity and work-home interference, leading to adverse effects on the well-being and stress levels of teleworkers (Eurofound and ILO, 2017). However, according to ILO (2020) setting a clear and manageable workload for employees helped them maintain a healthy work-life balance. Our findings also support this position.

From the foregoing, and also based on the result that 66% of the employees did not recommend an extended mandatory teleworking even though they cope with the stress, it is obvious that the null hypothesis is accepted that employees are not willing to continue with regular teleworking beyond the COVID 19 pandemic lockdown.

6. Summary

This paper has provided insights into the effect of the COVID 19 pandemic lockdown telework on Nigerian oil and gas workers. Particularly exploring the change to the way teleworking is approached (i.e. mandatory vs voluntary), the causes of stress while teleworking and the resultant strain on the employees' willingness to continue to telework regularly beyond the COVID 19 Pandemic.

There was a significant change in the work culture of the Nigerian Oil and gas employees during the COVID 19 pandemic lockdown as the number of regular teleworkers moved from 0% prior to the studied period to 91% during the lockdown. Also, was observed that the international oil company workers were already having a

flexible working arrangement which made it easier for them to cope better with the COVID 19 pandemic lockdown mandatory telework.

Secondly, there is a significant positive correlation between teleworking and stress. Women are seen to be experiencing the most stress due to blurred boundaries between work and home than their male counterparts. There is also a relationship between pay and stress due to long hours as the highest income earners said they were not experiencing stress due to longer work hours. It is observed that the divorced respondents enjoyed time spent with family. Also, there is a marked positive correlation between inappropriate work tools and telework stress.

6.1 Recommendations

Based on the results and findings, the researcher recommended the following;

The oil and gas employers need to provide their employees with a manageable workload and setting SMART (Specific, Measurable, Achievable Realistic and Timebound) objectives so that workers are better prepared to organize their personal time and tasks, in order to successfully balance their work responsibilities with their family tasks as also recommended by ILO (2020).

Since teleworking greatly depends on technology and ICT tools, there is a need for Oil and gas companies need to provide appropriate tools and continuously engage the users to assess their efficiency and provide adequate training where necessary.

Though not directly studied, it was observed they less commuting time helped reduce stress for office-based workers and as such employees could do well to provide low-cost homes close to the office or provide carpooling services for office-based employees to reduce their stress.

6.2 Limitation and Area for Further Studies

One limitation of this study is that the questionnaires were administered electronically and not physically. This limited the opportunity for some respondents to seek further clarification on some of the questions. Also, there appears to be limited consensus in the literature on the causes of stress to different genders and the attendant strain. Consequently, though this study gave little insight into this aspect, it would be appropriate if further research focuses on gender differences between teleworkers and stress.

6.3 Conflict of Interest Statement / Compliance with Ethical Standards

All authors declare that they have no conflicts of interest. None of the authors received any kind of research grants and every contributor to this study has been recognized. Furthermore, responses were completely voluntary. All respondents were aware of the potential use of their responses for academic purpose.

About the Authors

Dr. Imoh Uford specializes in Brand Management and Consumer Behaviour. Before joining the Akwa Ibom State University (AKSU) in 2018, he had over 12 years of work experience which traverses the Nigerian banking, telecommunications and education (Consulting) sectors respectively. He obtained his PhD (Marketing) degree from the prestigious University of the Witwatersrand, Johannesburg, South Africa. He also holds an MBA (Marketing) degree, B.Sc. (Marketing) degree with a Second Class Honours Upper Division and a Diploma in Business Administration. He is a Full Member of the National Institute of Marketing of Nigeria (MNIMN). Dr. Uford has very good research and data analysis skills, highly creative and imaginative thinking, excellent written and verbal communication skills as well as innovative approach to problem solving. He is a lecturer in the Marketing Department, AKSU. He is also an investment analyst, with several accomplishments in the Nigerian banking industry as well as many academic publications in both local and international Journals. Dr. Uford sits as a reviewer to many international Journals. He has been awarded Certificate of Recognition as a reviewer by Elsevier Journals and he is open for collaborations within his research interests.

Engr. Imaeka Charles obtained her B.Eng. in Electrical Engineering (First Class) from the University of Nigeria, Nsukka (UNN). After her graduation, she was offered an appointment by UNN as a lecturer. She served barely over a year before joining Total E. & P, Nigeria, as a Cost Controller in 2014. She has worked in several departments within the organization and has many distinguished accomplishments. In 2018, she was certified as a global accountant by the ACCA, UK while in 2021 she obtained her MBA from the University of South Wales, UK. She possesses the ability to learn very fast and multi-task different assignments. She is passionate about innovative approach to problem solving and is available for collaborations.

Mrs. Justina Ekom Ekong specializes in Consumer Behaviour and Sales Management. Prior to joining the Akwa Ibom State University (AKSU) in 2013, she had six (6) years of work experience in the telecommunications industry and pensions company, respectively. She obtained her M.Sc. degree in Marketing, MBA in Management and B.Sc. degree in Marketing all from the University of Uyo, (UNIUYO). Currently, she is a PhD candidate at AKSU. Mrs Ekong is a relationship manager with good marketing and sales skills. She is an eloquent communicator and team player who is result oriented. She also has a self-confident personality with a passion for excellence. Presently, she is a lecturer in the department of Marketing, AKSU, with some publications in both local and international journals. She is very much available for collaborations in any of the aforementioned research areas.

References

Ayyagari, R., Grover, V. and Purvis, R. (2011). Technostress: technological antecedents and implications, MIS Quarterly, 35(4).

Baert, S., Lippens, L., Moens, E., Weytjens, J. and Sterkens, P. (2020). The COVID-19 crisis and telework: A Research Survey on Experiences, Expectations and Hopes. *IZA Institute of Labour, Economics*, DP No. 13229.

Bailey, D. E. and Kurland, N. B. (2002). A review of telework research: findings, new directions, and lessons for the study of modern work, *Journal of Organizational Behavior,* 23, pp. 383–400.

Belzunegui-Eraso, A. and Erro-Garcés, A. (2020). Teleworking in the Context of the COVID-19 Crisis, *Social & Business Research Laboratory*, *12*(9), p. 3662. [Online]. Available at: https://doi.org/10.3390/su12093662.

Bethlehem, J. G., and Biffignandi, S. (2012). *Handbook of web surveys*, Hoboken, New Jersey: Wiley.

Boell, S. K., Campbell, J., Cecez-Kecmanovic, D., Cheng, J. E. (2013). *The Transformative Nature of Telework: A Review of the Literature*. AMCIS 2013 Proceedings.

Broman-Fulks, J. J. and Kelso, K. (2012) Stress Management, *Research Gate*. [Online]. Available at: https://www.researchgate.net/profile/Joshua_BromanFulks/publication/273946086_Stress_Management/links/5510d20f0cf20352196ca48c/Stress-Management.pdf

Caplan, R. D. (1987/12). Person-environment fit theory and organizations: Commensurate dimensions, time perspectives, and mechanisms, *Journal of Vocational Behavior,* 31(3), pp. 248-267. [Online]. Available at: http://hdl.handle.net/2027.42/26479

CGTN (2020). *CGTN documentary https://news.cgtn.com on updates on COVID-19 Pandemic*. [Accessed: August 16 2020].

Chinomona, R. (2011). Non-mediated channel powers and relationship quality: A case of SMES in Zimbabwe channels of distribution) Unpublished PhD. National Central University, Taiwan. Pp.1-175

Churchill, Jr., G. A. (2001). *Basic marketing research*, 4th edn. Ohio, US: South Western Thompson Learning.

Duh, H. I. and Uford, I. C. (2019). Examining contributions of customer-based and employee-based brand equity to a retail bank's market performance using resource-based theory. *The Retail and Marketing Review,* 15(1), Pp. 27-38. Available at:https://scholar.google.com/scholar?oi=bibs&cluster=4752147984643051084&btnI=1&hl=en

Eurofound and the International Labour Office (2017). Working anytime, anywhere: The effects on the world of work, Publications Office of the European Union, Luxembourg: *International Labour Office*, Geneva. [Online. Available at: http://eurofound.link/ef1658

Gartner, M. B. (2020). HR Survey finds 52% of organizations' business operations are continuing at a reduced level: HR leaders are resetting 2020 priorities to drive business outcomes throughout the COVID-19 Pandemic, Gartner website [Online]. Available at: https://www.gartner.com/en/newsroom/press-releases/2020-06-24-gartner-hr-survey-finds-52--of-organizations--busines

Hatayama, M., Viollaz, M. and Winkler, H. (2020). *'Jobs' amenability to working from home: Evidence from skills surveys for 53 Countries', Policy Research Working Paper No. 9241*. Washington DC: World Bank.

HR Management & Compliance (2019). Stressful Commutes Make for Stressed Employees, *HR Daily Advisor Blog*. [Accessed: 26th March 2021].

International Labour Office (2020). Teleworking during the COVID-19 pandemic and beyond: A practical guide, International Labour Organization 2020.

Konradt, U., Schmook, R. and Mälecke, M. (2000a). Implementation of telework and impacts on individuals, organizations, and families: a critical review. In Cooper, C. L. and Robertson, I. T. (eds), *International Review of Industrial and Organizational Psychology*. Chichester: Wiley, 15, pp; 63–99.

Konradt, U., Schmook, R., Wilm, A. and Hertel, G. (2000b). Health circles for teleworkers: Selective results on stress, strain and coping styles, *Health Education Research*, 15, (3), pp. 327–338. [Online] Available at: https://doi.org/10.1093/her/15.3.327.

Lietz, P. (2010). Research into Questionnaire Design: A Summary of the Literature, *International Journal of Market Research, 52*, pp. 249 - 272.

Maier, E. and Wilken, R. (2014). The Impact of Stress on Consumers' Willingness to Pay' Psychology and Marketing, 1(9), pp. 774-785. [Online]. Available at: https://doi.org/10.1002/mar.20733

McPherson, J. and Mohr, P. (2005). The role of item extremity in the emergence of keying-related factors: an exploration with the life orientation test, *Psychological Methods*, 10(1), Pp. 120-31. [Online]. Available at: doi: 10.1037/1082-989X.10.1.120. PMID: 15810872.

Michie, S. (2002). Causes and Management of Stress at Work, *Occupational & Environmental Medicine*, 59, pp. 67-72. [Online]. Available at: http://dx.doi.org/10.1136/oem.59.1.67

Olszewski, P. and Mokhtarian, P. L. (1994). Telecommuting frequency and impacts for state of California employees. *Technological Forecasting and Social Change*, 45, pp. 275–286.

Parasuraman, R., and Bowers, J. C. (1987). Attention and vigilance in human-computer interaction, In A. Gale and B. C. Christie (Eds.), *Psychophysiology of the electronic workplace.* Chichester, England: Wiley, pp. 163–194.

Polit, D. F. and Hungler, B. P. (1999). *Nursing Research: Principles and Methods.* 6th edn. Philadelphia: Lippincott.

Sarbu, Miruna (2015). Determinants of Work-at-Home Arrangements for German Employees, *Labour*, 29(4), pp. 444-469. [Online]. Available at: SSRN: https://ssrn.com/abstract=2685456 or http://dx.doi.org/10.1111/labr.12061

Song, Y. and Gao, J. (2019). Does telework stress employees out? A study on working at home and subjective well-being for wage/salary workers, *Journal of Happiness Studies,* 21(7), pp. 2649–68.

Surabhi, V. and Gustafsson, A. (2020). Investigating the emerging COVID-19 research trends in the field of business and management: A bibliometric analysis approach, Journal of Business Research, 2020, 118(C), pp. 253-261.

Symptoms of Coronavirus Disease 2019 (2020). *Centers for Disease Control and Prevention*. [Accessed: 16 February 2020]

Uford, I. (2017). Customer and employee-based brand equity driving United Bank for Africa market performance' Published PhD Thesis. *University of the Witwatersrand, South Africa*. pp.1-227.

Uford, I. C. (2021). Teleworking and Stress Factor Amidst COVID-19 Pandemic in Total Nigeria, *Journal of Marketing Management and Consumer Behavior*, 3(2), pp. 48-72.

Walls, M. and Safirova, E. (2004). A Review of the Literature on telecommuting and its implications for vehicle travel and emissions' *RFF Discussion Paper 04-43*. Resources for the Future, Washington, D.C.

Weijters, B., Cabooter, E. and Schillewae, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels', *International Journal of Research in Marketing,* 27(3), pp. 236-247. [Online]. Available at: 10.1016/j.ijresmar.2010.02.004

Weinert, C., Maier, C., Laumer, S., Weitzel, T., (2014). Does teleworking negatively influence IT professionals?, *Proceedings of the 52nd ACM Conference on Computers and people research*, pp. 139–147.

Weinert, C., Maier, C. and Laumer, S. (2015). Why are teleworkers stressed? An empirical analysis of the causes of telework-enabled stress' *Wirtschaftsinformatik Proceedings*, P. 94.

Zikmund, W. G. and Babin, B. J. (2010). *Exploring Marketing Research,* 10th edn. China: Cengage Learning.