

Managerial Teleworking: Antecedents and Consequences of Micro, Small and Medium Enterprises (MSMEs) in Nigeria

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Abstract

Research on teleworking has attracted tremendous scholarly attention and is well documented in the body of existing literature. However, literature on determinants to managerial teleworking and performance of MSMEs are scant in the context of Africa and disruptive business environment. To bridge this knowledge gap, this paper investigates antecedents to teleworking of managers and the influence of managerial teleworking on the performance of MSMEs. We employ cross sectional survey and select a sample 300 managers of MSMEs in South South and South East of Nigeria through purposive and stratified sampling procedures. In collecting data, we utilize structured questionnaire to elicit responses from the respondents. From the analysed data, the results indicate that there is a positive relationship between managerial teleworking and performance of MSMEs, and that technology influenced the decision of MSME managers for adoption of managerial teleworking. Consistent with the findings, we recommend that the adoption of teleworking should be promoted among managers of MSMEs and that managers of MSMEs should make deliberate efforts to invest in information communication technologies which are prerequisites for adoption and diffusion of telework in MSMEs.

Keywords: *Teleworking, MSMEs, Determinants, Performance, Nigeria*

Introduction

Micro, small and medium enterprises (MSMEs) are acknowledged as the engine and backbone of economic growth across the world (Cravo, 2010; Beck, Demirguc-Kunt, & Levine, 2005). In a global context, Onyeje, Court and Agbaeze (2020) assert that there are circa 162.8 million MSMEs employing about 508 million people. In Nigeria, MSMEs are contributing approximately 40-55% of the gross domestic product (GDP), 75-87.9% of the total workforce in the private sector and 85% of the total industrial employment (National Bureau of Statistics, [NBS], 2017). Accordingly, the performance of the MSMEs is of primary interest to diverse stakeholders and has attracted the attention of scholars, managers, policy makers, and governments at different levels over the years (Brouthers & Nakos, 2004;

Tambunan, 2008; Doh & Kim, 2014; Irwin, Landay, Aaron, McDowell, Marino, & Geho, 2018).

However, with the disruptive business environment arising from natural disasters and global pandemic (Chong Huang & Chang, 2020; Juergensen, Guimón & Narula, 2020; Alonso, et al.; 2020), managers who oversee affairs of MSMEs are confronted with unprecedented challenge to execute their operations at the traditional place of workspace and uncommon changes brought to the world of work (Salamzadeh & Dana, 2020, International Labour organization [ILO], 2020). According to Aladejebi (2020), the COVID-19 outbreak has a devastating impact on all sectors of the Nigerian economy and that SMEs were adversely affected resulting in loss of revenue, failure to meet operating expenses, servicing of debts and dismissal of staff. The scholar proposes that the survival strategy of SMEs in times of economic burst emanating from the health emergency requires digitalized marketing approach and this ensures the continual flow of transactions of SMEs as against being truncated by lockdown measures to curtail the contagion of COVID-19. Consistent with this scenario and for managers of MSMEs in Nigeria and other parts of the world to perform their responsibilities in spite of disruptive environment and lockdown of businesses, teleworking becomes indispensable and momentous to ensure continuous operations of MSMEs (Carillo, Cachat-Rosset, Marsan, Saba & Klarsfeld 2020).

Teleworking, alternatively referred to as “telecommuting” “homeworking” and “remoteworking,” as a concept was first introduced in the literature in the 1970s. (Pérez, Sánchez & de Luis Carnicer, 2002; Nilles, 1975). Teleworking means the utilization of information and telecommunication technologies to interface among workers at remote and different locations to organize work (Pérez et al, 2002) while Golden and Froman (2011) explain teleworking as absence from traditional office to execute some piece of work at home while interacting with co office workers via communication technology. In the context of this paper, teleworking means managers of MSMEs working from home and other locations in performance of their duties by interacting with employees and customers with the aid of information and communication technologies.

Prior studies have investigated implementation of teleworking practices of MSMEs in view of management style and authority (Clear & Dickson, 2005), trend and role of technology, environment and organization in diffusion of telework among MSMEs (Neirotti, Paolucci & Raguseo, 2012), antecedents to adoption and challenges of teleworking (Neirotti, Paolucci & Raguseo, 2013; Dickson & Clear, 2006), risk, fears and rules of teleworking (Physica, Heidelberg & Pyöriä, 2011). However, influence of managerial teleworking on performance of MSMEs and determinants to adoption of teleworking of MSME managers and owner-managers in the context of Africa remains under explored.

In accordance with the identified knowledge gaps, the objectives of this paper are to :(i) examine determinants to adoption of managerial teleworking by MSME managers (ii) assess the contribution of managerial teleworking to MSME performance. In the remainder of this paper, we review literature in regard to the concept of teleworking, determinants of teleworking adoption and influence of managerial teleworking on the performance of MSMEs, explain the methodology, present results and discuss our findings, and further provide direction for further studies.

Conceptual and Theoretical Review

Managerial Teleworking

There is no consensus among scholars as to the meaning of teleworking but the concept of teleworking is generally referred to as work organization and arrangement from distant location (Kowalski & Swanson, 2005). Teleworking also couched as telecommuting, means working from home and distant locations beside traditional office space (Beham, Baierl & Poelmans, 2015). ILO (2020) conceptualizes teleworking as the performance of official duties and responsibilities with the use of smart phones, tablets, laptops and desktop computers outside the premises of an employer. In accordance with managers of MSMEs, managerial teleworking is the assignment of task and authority to different managers who oversee and execute roles from home and distant locations through application of information and communication technology (Sánchez, Pérez, de Luis Carnicer & Jiménez, 2007).

In this study, we draw on technology-organization-environment (TOE) model enunciated by Tornatzky and Fleisher (1990). The scholars of TOE model theorize that firms' adoption of technology innovation depends upon the influence of technological, organizational and environmental factors. In line with the explanations of Ghezzi, Rangone, Balocco, (2013), technology refers to equipment and processes; organizational factors mean firms' properties, resources, management structure and organizational architecture in linkage with employees while environmental determinants to the application of innovation includes industry structure, competition and regulatory framework. In the context of SME adoption of enterprise system application, Ramdani, Chevers and Williams (2013) present a number of factors such as relative advantage, compatibility, management support, organizational readiness, ICT experience, industry, market scope, competitive pressure among others, and they contend that these factors influence the application of enterprise systems. Consistent with the TOE theoretical root, Sánchez, Pérez, de Luis Carnicer and Jiménez, (2007) contend that the decision of SME managers to adopt teleworking is affected by a number of factors, and such multifaceted determinants are innovation, knowledge, skill and training, organizational culture, job involvement, cost reduction, disruptive and dynamic environment, and environmental munificence.

Determinants to adoption of Managerial teleworking

In the mainstream literature of teleworking, Neirotti, Paolucci and Raguseo (2013) documented that information telecommunication infrastructure, organizational and environmental factors serve as antecedents to adoption of managerial home working and remote working. In line with the triangular classification of antecedents to adoption of teleworking, relevant literature is reviewed for the development of hypotheses.

Technological factors and adoption of teleworking

The adoption of teleworking of MSME managers to a large extent is determined by the availability of information and communication technology. As stated by Pérez, Sánchez, de Luis Carnicer and Jiménez (2004), the accessibility to personal and mainframe computers, local area network, internet among others facilitate the application of teleworking by managers and workers of SMEs. Scholars on telework research argue that firms with existing information communication technology facilitate the adoption of managerial teleworking on the grounds that the workforce has already acquired the requisite skills and experience to relate with fellow workers from distant locations. Thus, electronic communication, information and communication technologies are prerequisites for adoption of teleworking for the reduction of time and space barriers (Perez, Sanchez, De Luis Carnicer & Vela Jimenez, 2007).

Organisational factors and adoption of teleworking

A number of factors account for the adoption of managerial teleworking in the context of organizational entities. The nature of product or service offered by organizations to a large extent serves as a determinant for adoption of managerial teleworking. Consistent with this view, Perez, Sanchez, De Luis Carnicer & Vela Jimenez (2007) assert that manufacturing firms hardly adopt teleworking but that teleworking is prevalent among firms that render services which are feasible to be provided through information communication technologies. Accordingly, teleworking is mostly adopted in firms based on the job characteristics inherent in organizations and geographically diverse and disperse nature of such firms necessitates teleworking. In line with the resource based theoretical model, Pérez, Sánchez, de Luis Carnicer, and Jiménez, (2005) contend that the level of organizational resource availability is a driver for the adoption of managerial teleworking. The decision of firms to adopt or decline the adoption of teleworking to some extent is explained by differentials in firms' resources. The resources, in accordance with view of the scholars, are pigeonholed as organizational, human and technological. The resources are composed of tangible and intangible assets, skills, capabilities and accumulated knowledge which a firm owns and controls. Further, managerial attitude of firms could encourage the adoption or constrain the adoption of teleworking in the context of organizations, and Meroño-Cerdán (2017) notes that managers are involved in deciding for or against the adoption of teleworking. Thus, managerial attitude plays a critical and supportive role for teleworking practice in small and medium firms. Managerial attitude in relation to the adoption of telework is based on the institutional theoretical framework which deals with diffusion of accepted organizational practices and values in a social matrix of stakeholders (Ndubisi & Kahraman, 2005). The scholars furthermore contend that size of firm and design among other factors are organizational drivers to adoption of teleworking in MSMEs.

Environmental factors and adoption of teleworking

Drivers to adoption of teleworking among firms from environmental context have been enumerated by scholars in the telework literature. From the perspective of Ruppel and Howard (1998), perceived competitiveness from the market place, adoption of telework by competitors, perceived globalization of the market place, communication with external consultants, regulatory legislation and concern for the ecology are environmental drivers for the adoption of teleworking while Olló-López, Goñi-Legaz and Erro-Garcés (2020) also state that national culture is a part of such factors. A global pandemic like COVID-19 disrupted organizational activities due to lockdown of economic sectors and units, necessitated teleworking among managers and other category of workforce. The outbreak and spread of COVID-19 is an environmental factor which requires adherence of preventive protocols by managers and employees (Chong, Huang & Chang, 2020).

H_{1a}: There is a relationship between technological factors and adoption of managerial teleworking

H_{1b}: There is a relationship between organizational factors and adoption of managerial teleworking

H_{1c}: There is a relationship between environmental factors and adoption of managerial teleworking

Managerial teleworking and performance of MSMEs

To date, there appears to be no sufficient empirical evidence between managerial teleworking and performance of MSMEs. However, a handful of studies documented dimensions of

teleworking in the context of SMEs in the Western countries. Telework literature noted the benefits of teleworking to organizations in Western countries. However, only a few studies provide empirical evidence to establish the nexus between teleworking and performance of firms. Scholars examine effectiveness of teleworking from the organizational level and asserted that telework stimulate organizational outcomes of productivity, commitment, employee retention and performance through findings from a meta-analytical study (Martin & MacDonnell, 2012). Empirical evidence from literature support the view that telework impact on the performance of firms. Martínez-Sánchez, Pérez-Pérez, Vela-Jiménez, & de-Luis-Carnicer (2008) in their study of telework adoption, change management and firm performance, reported that intensity of telework adoption was positively related to firm performance.

H₂: There is a relationship between managerial teleworking and performance of MSMEs

Methodology

Sample and Procedure

The study adopted cross sectional survey design, and with the application of purposive and stratified sampling procedure, drew a sample of 300 managers and owner managers of MSMEs in Yenagoa and Awka of South South and South East, Nigeria. The decision for inclusion of managers of MSMEs in the sample is on the basis of having information and telecommunication facilities which have been a deciding factor for teleworking. To collect data from the sample to support the study, three hundred level students of University of Africa, Toru-Orua and Nnamdi Azikiwe University, Awka were engaged in the distribution and collection of questionnaire from the research subjects in the respective states. The demographic characteristics of the sample demonstrated that 208(69.3%) of the respondents was male while 92(30.7%) was female; 60(20%) of the sample was of secondary education, 184(61.3) were graduate while 56(8.7%) were of postgraduate education. With respect to form of product, 129(43%) of managers offer tangible product while 171 (57%) of managers offer intangible products.

Validity and reliability

The study adopted content validity approach and ensured that the items measure what it is supposed to measure and had an adequate coverage of the variables. Cronbach alpha was applied to test the reliability of instrument which had internal consistency of the items. The coefficients range from .64 to .78 and are presented in the correlation matrix of table 1.

Measures

Adoption of Telework

The measurement instrument for adoption of telework was designed on a 5 point Likert scale form of strongly agrees to disagree based on the existing scientific literature in teleworking (Martínez-Sánchez, et al 2008). The statements were to elicit responses as to extent of agreement or otherwise in using the various forms of telework. The measure consists of 5-items and managers were to indicate the options that nearly match their opinion. As a manager of my firm, I engage in the following forms of teleworking: *Home based, satellite, mobile, distant location and informal telework*. The response continuum ranges from strongly agree to strongly disagree with respective weights from 5 to 1.

Determinants to telework adoption

The instrument for determinants of teleworking was in three major compartments of technology, organization and environment in tandem with the hypotheses which serve as direction for the study. The items for each component was designed on a 5 point Likert scale

continuum of strongly agree to strongly disagree through the scientific literature reviewed. The technological determinants consist of 6-items of the questionnaire, and a sample of item is: *availability of personal computers influence the adoption telework in your firm*; organizational determinants consist of 7-items and sample items are, *the size of your firm determine adoption of telework*, *availability of organizational resources influence the adoption of telework*; and the environmental determinants are of 6-items of questionnaire and sample item is *perceived competitiveness in the market place is a determinant to adoption of telework*.

Firm Performance

To collect objective performance data of MSMEs in Nigeria is difficult and this is because such data are not readily available. Accordingly, subjective performance measure is applied in this study. In line with previous studies, the perceived performance measurement is designed on a 5-point Likert scale of strongly agree to strongly disagree and the measure consists of 4-items. The respondents were asked to agree or disagree as to whether adoption of teleworking has improved on firm performance in the areas of *customer satisfaction*, *productivity*, *innovation and return on sales*. In line with the prior works of Martínez-Sánchez, et al. (2008) and Martin and MacDonnell (2012), the subjective performance measurement indices were applied.

Control variable: The control variables are managers' gender, education and nature of business, which is the form of product offered by MSMEs. The control variables were categorical variables which were dummy-coded as gender of manager: (*Male =0, Female=1*); education of manager: (*Secondary Education=0, Higher Education=1, Post Graduate Education=2*); nature of business: (*Intangible product- Services =0 and tangible product= 1*).

Analytical Strategy

The data collected were analysed with frequency and percentage distribution of demographic characteristics of sample. Further, the variables were analysed with bivariate correlation and hierarchical regression for the hypotheses postulated for the study.

Data Analysis

Table 1 below demonstrates the Cronbach alpha, mean values, standard deviation values and correlation coefficients of control, dependent and independent variables. The statistics indicate that adoption of managerial teleworking has relationships with technological, organizational and environmental factors and as well as firm performance.

Table 1: Alpha, Means, Standard Deviations and correlation matrix among variables

Variables	1	2	3	4	5	6	7	8
1 <i>Gender</i>	1							
2 <i>Education</i>	-.07	1						
	.09							
3 <i>Form of product</i>	*	.14	1					
4 <i>Adoption of telework</i>	.08	-.07	.08	1				
5 <i>Technological factors</i>	.01	.02	-.06	17**	1			
6 <i>Organizational factors</i>	.01	-.02	.05	.16**	.95	1		
					.91*			
7 <i>Environmental factors</i>	.02	.04	.07	.14*	*	.96	1	
						.15*	-	
8 <i>Firm performance</i>	.05	-.08	.09	.76**	.15**	*	.14*	1

	1.3	1.9	1.5			19.3	19.3	14.0
Mean	1	9	7	13.51	19.09	1	8	9
Std.Deviation	.46	.62	.49	3.09	5.01	5.18	5.24	3.03
Alpha	-	-	-	.64	.72	.74	.73	.78

Note: significant at * $p < 0.05$ & ** $p < 0.01$

The results from table 2 show regression analysis of antecedents (determinants) and adoption of managerial teleworking. The control variables were first entered in the model and the statistics indicated that the control variables of gender, education and form of product are not significant predictors to adoption of managerial teleworking of MSMEs ($\beta = 0.07, p > 0.05$; $\beta = 0.08, p > 0.05$; $\beta = 0.09, p > 0.05$). However, the F test demonstrated that the model has a good fit ($F = 1.89, p < 0.05$). In terms of the determinants (antecedents) to the adoption of managerial teleworking, from the F-test, there is a significant relationship between technological, organizational and environmental factors and managerial teleworking respectively and further indicated that the models have good fit ($F = 1.89, p < 0.05$; $F = 1.89, p < 0.05$; $F = 1.89, p < 0.05$). However, considering the individual variables with the respective coefficients, technological factors has significant effect on managerial teleworking (H_{1a}) ($\beta = 0.17, p < 0.05$), organizational factors has positive but no significant effect on managerial teleworking (H_{1b}) ($\beta = 0.05, p > 0.05$) and environmental factors has positive but no significant effect on managerial teleworking (H_{1c}) ($\beta = 0.15, p > 0.05$).

Table2: Hierarchical Regression Analysis of determinants to managerial telework

Variables	Step1:	Step 2:	Step3:	Step4:
	$\beta(SE)$	$\beta(SE)$	$\beta(SE)$	$\beta(SE)$
Gender	.07(.39)	.07(.38)	.07(.39)	.07(.39)
Education	.08(.29)	.08(.29)	.08(.29)	.08(.29)
Form of product	.09(1.37)	.08(.38)	.08(.36)	.08(.36)
Technological factors		.17(.04)*	.22(.12)	.20(.13)
Organizational factors			.05(.12)	.10(.19)
Environmental factors				.15(.14)
R^2	.019	.047	.047	.049
ΔR^2		.028	.000	.001
F	1.89*	3.65*	2.93*	2.50*
Df	(3, 296)	(4,295)	(5,294)	(6,293)

β : standardized coefficient, SE: Standard error, Significant at * $p < 0.05$

In table 3, the control variables were first entered in the model and the statistics indicated that the control variables of gender, education and form of product are not significant predictors to performance of MSMEs ($\beta = 0.03, p > 0.05$; $\beta = 0.09, p > 0.05$; $\beta = 0.01, p > 0.05$). However, the F test demonstrated that the model has a good fit ($F = 1.68, p < 0.05$). From the result, managerial teleworking has a positive significant effect on the performance of MSMEs (H_2) $\beta = 0.75, p < 0.05$). With change R square of .56, the statistics suggests that 56% variance in performance of MSMEs is accounted by managerial teleworking in the current disruptive environment of business.

Table 3: Hierarchical regression managerial telework and firm performance of MSMEs

Variables	Step1: $\beta(SE)$	Step 2: $\beta(SE)$
Gender	.03(.38)	.07(.38)
Education	.09(.29)	.08(.29)
Form of product	.01(.36)	.08(.38)
Managerial teleworking		.17(.04)*
R^2	.02	.57
ΔR^2		.56
F	1.68*	98.70*
Df	(3, 296)	(4,295)

β : standardized coefficient, SE: Standard error,
 Significant at * $p < 0.05$

Discussions and implications

The findings from the study make salient contributions to management scholarship, particularly in the domain of teleworking, human resources management and MSMEs. The finding indicated that there was a significant relationship between technological factors and adoption of managerial teleworking. The finding underpinned the empirical evidence and theoretical arguments of prior studies that availability of information and communication infrastructure is a determinant critical to adoption and diffusion of teleworking among firms (Pérez et al, 2004, Ndubisi & Kahraman, 2005; Neirotti et al., 2013). This presupposes that the availability of information and communication technology is a prerequisite for managers of MSMEs to adopt telework and perform their duties from remote location and home.

Furthermore, organizational resources and environmental factors had positive but insignificant effect on the adoption of teleworking among managers of MSMEs in Nigeria. The results imply that organizational resources and environmental factors did influence the decision of managers of MSMEs for teleworking but the predominant factor is information and communication technology. The finding is diametrically opposed to previous scholarship from the Western countries; this is because studies from developed economies demonstrated that organizational resources and environmental dynamism to a large extent determine the adoption of teleworking (Ollo-López et al., 2020). Our research was grounded in the technology-organization-environment (TOE) paradigm of Tornatzky and Fleisher (1990). The findings partly concurred with this theoretical foundation as technological factors, organizational factors and environmental factors accounted for the adoption of managerial teleworking among managers of MSMEs.

In view of the nexus between managerial telework adoption and performance, the finding indicated that there was a positive significant relationship between managerial teleworking and firm performance. The result of the current study supported prior empirical evidences which established a positive relationship between teleworking and organizational effectiveness and performance (Martínez-Sánchez, et al. 2008; Martin & MacDonnell, 2012). Our study has contributed to the existing body of telework literature as prior scholarship is scant with respect to the link between teleworking and firm performance.

Consequent upon the findings of the study, we conclude that technological factors, organizational resources and environmental factors influence the adoption of teleworking among managers of MSMEs in Nigeria. Further, we recommend that teleworking should be adopted among managers of MSMEs as telework impact firm performance. With the present disruptive business environment and health emergency with devastating impact on MSMEs, we recommend that MSMEs should invest in information and communication technology to facilitate the adoption of telework and work from home and distant locations.

Limitations and Direction to Further studies

Albeit our findings from the study contributed consequentially to the telework literature across management disciplines, the study is not without limitations. The study was conducted in the cosmopolitan cities of Awka and Yenagoa in two states of the East and South and accordingly, requires caution in making generalizations. Thus, further studies should cover more state capitals like Lagos and Kano in Western and Northern parts of Nigeria. Besides, the design of study was a cross sectional survey and we suggest that longitudinal design should be applied in subsequent studies.

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Conflict of Interest

We declare that there is no potential conflict of interest to the authorship and publication of this paper

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