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Dynamic capabilities and employee performance of telecommunication firms in Delta and Edo states, Nigeria

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Abstract
In strategic human resource management literature, the theoretical and practical effects of dynamic capabilities on employee performance remained obscured. This study investigated the relationship between dynamic capabilities (measured by learning, sensing and integrating) and the performance of telecommunication companies in Delta and Edo States, Nigeria. The cross-sectional survey design was employed and questionnaire was the main instrument of data collection which was administered to one hundred and thirty-seven (137) employees of three (3) telecommunication companies (MTN, Airtel-Nigeria and Glo-Nigeria) in Delta and Edo States. Data obtained were analyzed using descriptive and inferential statistical tools. In particular, the multiple regression results revealed that dynamic capabilities (learning, sensing and integrating) strongly and positively influence the level of performance of telecommunication companies. In view of the findings, the paper recommends that management of telecommunication companies should encourage swift reaction to environmental changes, by enhancing the sensing, integrating and learning capabilities of employees to detect, monitor and respond to volatilities in the business environment. Similarly, management of telecommunication should strategically reposition the companies to identify and acquire external expertise about trends in technologies, markets and industry; this would aid their capability to adapt swiftly to disturbances from the business environment and become more resilient.

Keywords: Learning capability**,** Integrating capability**,** Performance**,** Sensing capability

1. Introduction

The business environment occupies is a global space where virtually everything is rapidly changing. Hence, only the best organizations may thrive while the rest may experience a downturn or liquidate. Katarzyna, Agnieszka, Liliana and Jolanta (2023) opined that what are required for organizations to thrive in a global economy are dynamic capabilities that can enable them adjust in line with the dynamism in the business environment. Heubeck (2023) sees dynamic capabilities (DCAs) as those abilities which organization employ to specially deal with changes in the external environment of business. Heubeck and Meckl (2023) argued that DCAs open up organizations to available opportunities and aids them to realize their day-to-day operational processes and routines.

DCAs as observed by Ekpan, Eluka and Wariugo (2022), are mainstay components for an organization to survive in a dynamic environment. Aside survival of organizations due to DCAs, they create opportunities for competitive advantage, functional competencies, and increased performance. Consequently, organizations can have increased performance, functional competencies and sustainable competitive advantages if they have superior DCAs (Bieńkowska, Koszela & Tworek, 2021).

According to Farzaneh, Wilden, Afshari and Mehralian (2022), DCAs can have indirect impact on organizational outcomes. Issah, Anwar, Clauss and Kraus (2023); Rehman and Saeed (2015) also confirmed the indirect impact of DCAs on employee performance via empirical findings.

Furthermore, DCAs research has sparked up more academic debate because the business environment has become a more dynamic place due to integrations of new technologies, dispersion of novel management practices organizations must adopt and increased global competition. These challenges *inter-alia* as opined by Drago, et al. (2023), corrode value of organizational competences and encourage them to build novel functional competences so as to survive in a dynamic environment. Thus, the dynamic business environment has compelled organizations (telecommunication companies inclusive) to respond to changes in the environment by sensing, learning, reconfiguring, renewing and integrating existing capabilities (Behl, Gaur & Pereira, 2023; and Cake, Agrawal & Gresham, 2020).

For the above identified reasons, Susanto, et al. (2023) advocated that organizations must therefore insvest in capabilities targeted at realizing increased performance. Hypothetical debates have been progressed about the connection between DCAs and employee performance. Numerous empirical researches are still unclear about the conceptualization and parts progressed about DCAs (Susanto, et al., 2023; Behl, et al., 2023; and Cake, et al., 2020). As a result, DCAs and employee performance researches have created varied multi-dimensional DCAs constructs which is comprise coordination, learning, integrating, sensing, reconfiguring, renewing and a host of others. Given the multi-dimensional DCA constructs, this current study used three (3) - sensing capability to competitors, integrating capability to new processes and learning capability of novel practices as they concern the telecommunication industry in Nigeria.

This study proposed a model which suggests that increased performance may be linked to the capabilities of organizations to sense, integrate and learn in a dynamic environment. This therefore connotes that DCAs are deemed to be antecedents enhancing functional competencies and sustainable competitive advantage, which in turn have positive effect on employee performance. In the light of the above discourse, this study investigated whether dynamic capabilities (learning, sensing and integrating capabilities) impact on the performance of telecommunication companies in Delta and Edo States, Nigeria.

1.2 Problem Statement

Practically, DCAs plays a vital role in an organization as they underscore accumulations of capabilities entrenched in an organization, which according to Issah, Anwar, Clauss and Kraus (2023) are directly connected with performance. In terms of performance, organizations that operate in dynamic environments have to develop novel products and services to secure a place in the industry. However, exploiting these opportunities require an organization to be well equipped with stern and enduring DCAs as well as incessant innovation. It is widely acknowledged in the management literature that there is positive significant link between innovation and employee performance.

Furthermore, the crucial role of innovation in enhancing employee performance has been widely supported in the management literature (Odiri, 2019; Odiri, 2016; Odiri, 2020); hence there is no dearth of literature stressing its import. While innovative capabilities can be advantageous to organizations, they also require DCAs to become unswerving in the ways they do things. Notably, there is death of theoretical framework and empirical studies on the mechanisms via which DCAs are used to enhance the performance of organizations. More specifically, the extant literature has

not adequately addressed the nexus between DCAs and how varied DCAs (such as learning, sensing and integrating) may influence the level of telecommunication performance in Delta and Edo States, Nigeria. Therefore, we empirically tested a model incorporating learning, sensing and integrating capabilities and how they lead to increased performance of telecommunication companies in Delta and Edo States, Nigeria. Arising from the above, the following research hypotheses were formulated:

H_o1: There is no significant relationship between sensing capability and performance of telecommunication companies

H_o2: There is no significant association between integrating capability and performance of telecommunication companies

H_o3: There is no significant relationship between learning capability and performance of telecommunication companies

2. Literature Review

2.1 Dynamic Capabilities (DCAs)

The concept of DCAs is deeply rooted on the resource-based theory advocated by several theorists Wernerfelt (1984); Barney (1991); Peteraf (1993) as cited in Holzmayer and Schmidt (2020) - a theory emphasizing the varied resources of organizations which propel them to sustainable competitive advantage and performance. Researchers see DCAs as experiences that are strategic routine which enable organizations to alter the resource base when needed and design value-creating tactics that promote employee performance (Sun, Song, Wipawayangkool & Oh, 2021). This connotes that the role of DCAs is to act as a buffer largely between two (2) factors – organizations' resources and adjustments of the resource-base (Heubeck & Meckl, 2022).

Consequently, while the resource-based viewpoint focuses on choice of resources, DCAs viewpoint emphasize development of resources and its renewal (Fabrizio, et al., 2022). Limaj and Bernroider (2019) defined capabilities as the ability of organizations to exploit their resources and integrate them using strategic routine for purpose of realizing its goal. On the other hand, Hock-Doepgen, Clauss, Kraus and Cheng (2021) defined DCAs as an organizational procedure via which organizations obtain and incorporate learning in the creation of new resources. While the beliefs of DCAs are still validated by management researchers, there are accounts of rising literature indicating varied DCAs; however, this study focused on three (3) DCAs – integrating, learning and sensing capabilities which are briefly discussed below.

Integrating capacity (INTCAP) is the ability of an organization to evaluate its worth of resources previously existing and integrating them to shape emerging competencies (Kaur & Mehta, 2017). Thus, INTCAP is hinged on two (2) factors - effectiveness of all tasks in hand and the synchronization of all activities (Rehman & Saeed, 2015). INTCAP is achieved by an organization by synchronizing all strategic routines via variety of process such as assigning of task, scheduling, communication, etc (Bieńkowska & Tworek, 2020).

Second, is sensing capability (SENCAP) which refers to the ability of an organization to detect novel opportunities, scan environment, respond to competitive move and evaluates competitive position (Hernández-Linares, Kellermanns & López-Fernández, 2021). In the views of Dias, Gouveia and Ferreira (2021), an organization can possess the ability to shape its resource-base by sensing changes in the marketplace and respond suitably. Thus, when an organization is responding to changes in the marketplace suitably, it would have a positive effect on redefining

its marketing, operational, functional, and technological competencies (Matarazzo, Penco, Profumo & Quaglia, 2021). The most vital thing is the ability of an organization to know and respond efficiently to environmental changes.

Third, is learning capability (LEACAP) which enables an organization to explore and learn innovative ways together with being able to exploit those things they have learned in the past (Ruiz-Ortega, Rodrigo-Alarcon & Parra-Requena, 2023). Rehman and Saeed (2015) see LEACAP as a process of gaining insight or knowledge about how things are done in the most suitable manner and also identifying novel ways of doing these things. LEACAP aims at improving technological insight/knowledge for sustainable competitive advantage (Siti, Surhuda, Nurul & Norazira, 2023).

2.2 Employee Performance

Employee performance has been broadly defined and discussed in management literature. According to Bitencourt, de-Oliveira, Ladeira, Santos and Teixeir (2020), employee performance is the outcome of the ability of an employee to achieve measurable goals for the organization. Prior studies (Chien & Tsai, 2021; Hernández-Linares, et al., 2023; Dejardin, 2023) have shown that employee performance is a significant in realizing established organizational goals.

In the management literature, there are few empirical studies that had investigated the direct relationship between DCAs and employee performance. The fact is employee performance may lead to sustainable advantage and superior performance for an entity (Kanten, Kanten, Keceli & Zaimoglu, 2017). In nutshell, DCAs aim at creating and reconfiguring resource-base, zero-order and operational capabilities, and hence have an impact on performance of employees (Zhou, Zhou, Fenga & Jiang, 2019). This suggests that there exist an indirect relationship between DCAs and employee performance. In this study, three (3) DCAs were identified - integrating, sensing and learning in relation to employee performance; thus a model conceptualizing the link between the identified DCAs and employee performance is shown in Figure 1:

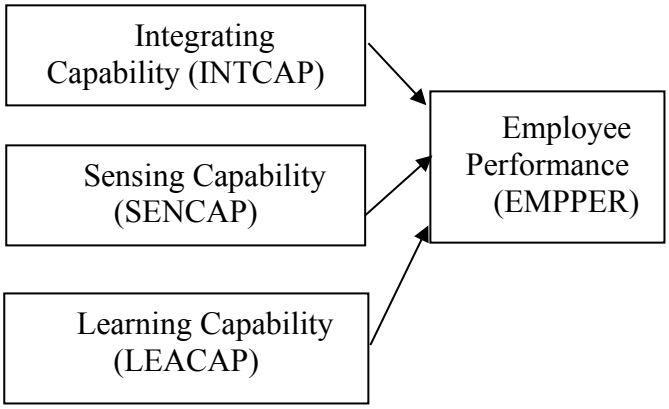

Figure 1: Conceptual Model of Study
Source: Researcher's Conceptualization (2024)

2.3 Theoretical Framework

The study is centred on the dynamic managerial capability theory (DMCT) advocated by Eisenhardt and Martin, (2000); and Teece, Pisano and Shuen (1997) as cited in Zhou, et al. (2019). The DMCT adopts a micro-level perspective and emphasized that dynamic capabilities are the compelling force behind development of value-creating and superior-performing organizations (Behl, et al., 2022). The DMCT suggests that top management serve as a prime strategic architect within organizations and that management should be responsible for overseeing the adaptability and efficiency of organizational strategies in any given dynamic environment (Cake, et al., 2020).

Consequently, top managers leverage on their unique dynamic capabilities to organize an organizations' resource-base and make strategic decisions at individual-level capabilities (Sun, et al., 2021). Thus, dynamic capabilities are the source of competitive advantage while longevity of competitive advantage anchors on the strength of dynamic capabilities (Katarzyna, et al., 2023). DMCT identifies

three (3) main resources – human capital (skills, knowledge and expertise). According to Heubeck and Meckl (2022), the configuration of human capital plays a role in strategic decision and enhances strategic disparities between organizations, given the significant disparities in breadth and intensity of managerial skill.

The second resource is social capital (relationships managers build over time via repeated interaction/shared experiences and the third which is managerial cognition (encompassing cognitive processes and structures). According to Rehman and Saeed (2015); Heubeck and Meckl (2023), the three main resources (human, social and managerial capitals) are the major sources of dynamic capabilities to enables organizations to become sustainable, gain competitive advantage and enhance their performance

2.4 Empirical Review

Drago, et al. (2023) examined the association between dynamic capabilities, firm performance and strategic behaviour from 2006-2021 in Spain. The study showed that there is relationship between dynamic capabilities, firm performance and strategic behavior. Hence, firms can expand their processes by building dynamic capabilities and shaping strategic behaviour to promote better firms' performance.

Hernández-Linares, et al. (2023) investigated whether knowledge-based dynamic capabilities impact on firms' performance via mediating role of entrepreneurial orientation using 1,047 Portuguese and Spanish SMEs. The structural equation modeling (SEM) results revealed that knowledge-based dynamic capabilities are linked with firms' performance. Furthermore, it was found that entrepreneurial orientation partially mediates in the link between dynamic capabilities and firms' performance.

Heubeck (2023) used hierarchical regression analysis and bootstrapping methods in examining the effect of dynamic managerial capabilities on firms' performance in German. Longitudinal sample of 31 German DAX firms were employed and questionnaire was the main data collection instrument. Findings demonstrate that dynamic managerial capabilities significantly impacted on firms' performance by fostering research and development expenditures and confirmed a moderating effect of specific-slack resources on the link between dynamic capabilities and firms' performance.

Siti, et al. (2023) employed annual data involving 62 companies in the ACE market in examining the link between dynamic capabilities and firms' financial performance from 2012-2021. Secondary data were obtained from financial accounts of the ACE markets and data analyzed via 2-step generalized moment method (GMM). Findings indicated that changes in dynamic capabilities had positively and significantly contributed to firm's performance in the ACE market in Malaysia.

Ruiz-Ortega, et al. (2023) analyzed the micro-foundations of dynamic capabilities and how they influenced by pioneering orientation and inter-organizational relationship among Spanish firms. 292 Spanish Agri-food firms were administered questionnaire and data obtained were analyzed using the ordinary least-square (OLS) estimation. Findings showed a positive significant effect of pioneering orientation on dynamic capabilities while a negative significant effect was found between dynamic capabilities and inter-organizational relationship

Katarzyna, et al. (2023) assessed whether organizational performance is influenced by employees' dynamic capabilities during pandemic (the black-swan pandemic) in Poland, United States of America and Italy via descriptive survey. A total of 1,160 questionnaires was administered to respondents and questionnaire was the main data collection instrument. Path analysis results revealed that organizational

performance is affected by employees' dynamic capabilities, particularly during pandemic period.

Ekpan, et al. (2022) evaluated the nexus between dynamic capabilities and resilience of manufacturing companies in Nigeria by decomposing dynamic capabilities into sensing and reconfiguration capabilities while resilience was measured using agility. The study used cross-sectional survey design and questionnaire was administered to 86 respondents. The partial least squares SEM result affirmed that dynamic capabilities positively ad significantly correlate with organizational resilience.

Sun, et al. (2021) investigated the mediating impacts of firms' dynamic capabilities and environmental scanning in the link between entrepreneurial orientation and performance of Korean companies via descriptive survey. Questionnaire was administered to managers of Korean companies and data obtained were analyzed via structural equation modeling (SEM). Findings indicated that dynamic capabilities partially mediate the link between entrepreneurial orientation and performance while both dynamic capabilities and dynamic capabilities and environmental scanning mediate in the link between dynamic capabilities and entrepreneurial orientation

Zhou, et al. (2019) examined whether dynamic capabilities (sensing, integration and reconfiguration) influence the level of innovation and firm performance among 204 Chinese firms. The SEM results support the arguments that dynamic capabilities had the tendency to exert significant and positive impact on innovation and performance levels among the Chinese firms.

Rehman and Saeed (2015) studied the effect of dynamic capabilities on the performance of organization, taking competencies of organization as a moderating variable of banks in Pakistan. Questionnaire was the main data collection instrument and data obtained were analyzed using regression. Findings showed that dynamic capabilities had direct effect on performance of organizations. Also, it was shown that competencies of organization had positive moderating role in the link between dynamic capabilities and performance of organizations

3. Methodology

In this study, cross-sectional survey design was used in analysing and interpreting issues connected with dynamic capabilities (DMCs) and employee performance of selected telecommunication companies in Delta and Edo States, Nigeria. The population of study comprised the workforce of three (3) leading telecommunication companies in Delta and Edo States, Nigeria - MTN, Airtel-Nigeria and Glo-Nigeria. Thus, a total population of the study was made up of two hundred and nine (209) respondents who are employees of telecommunication companies in Delta and Edo States (Human Resources Departments of the Telecommunication Companies, 2023).

The study used the Taro-Yamane (1964) sample size determination formula in arriving at the sample size of one hundred and thirty-seven (137). The study sample was distributed to the three selected telecommunication companies as follows:

Table 1: Sample Size Distribution

Companies	% Representation	Sample Size
MTN	90/209 x 137	60
Airtel-Nig	59/209 x 137	39
Glo-Nig	60/209 x 137	38
Total		**137**

Source: Researcher's Compilation (2024)

The main data collection instrument is the questionnaire which was designed on 4-point scale of Strongly Agree, Agree, Disagree and Strongly Disagree; this scale was employed as it has been used by prior studies of Drago, et al. (2023), and Hernández-Linares, et al. (2023). The

researcher relied on scales previously developed by past researchers; the scales/items were pilot-tested on forty (40) respondents who do not form part of this study. Cronbach Alpha reliability test was used to correlate the data obtained in order to ascertain the internal consistency of the scale/items in the questionnaire. Cronbach Alpha results for the scales/items are presented as follows:

Table 2: Cronbach Alpha Results

Items	Cronbach Index
Employee Performance (EMPPER)	0.75
Learning Capability (LEACAP)	0.76
Integrating Capability (INTCAP)	0.80
Sensing Capability (SENCAP)	0.79

Source: Researcher's Compilation (2024)

This study relied on existing models of DCAs and employee performance studies of Rehman and Saeed (2015); Zhou, et al. (2019); and Ruiz-Ortega, et al. (2023). The study is made up of a dependent variable (employee performance) and three (3) dimensions of DCAs (learning, integrating and sensing capabilities – independent variables). On the basis of the above, multiple regression models was specified to assess the relationship between DCAs and employee performance as follows:

$$EMPPER = f(LEACAP, INTCAP, SENCAP) \text{ - eq. 1}$$

$$EMPPER = \beta_0 + \beta_1 LEACAP_{it} + \beta_2 INTCAP_{it} + \beta_3 SENCAP_{it} + u_{it} \text{ - eq. 2}$$

Where: EMPPER, employee performance; LEACAP, learning capability; INTCAP, integrating capability; SENCAP, sensing capability U, error term; B, $i$ntercept; β_1-β_3, coefficient of variables

Descriptive and inferential statistical tools were used to analyse the obtained data. While the descriptive statistics was used in describing the nature of the data/variables, inferential (multiple regression) was used in testing the research hypotheses of the study. Decision rule for the test of hypothesis is that if F-probability is greater than F-tabulated, the null hypothesis is rejected while the alternate hypothesis is accepted and vice-versa.

4. Results and Discussion

Table 3: Respondents' Bio-Data

Items	Variables	Parameters	Frequency = 137	Percent (%)
1	Gender	Male	82	59.86%
		Female	55	40.14%
		Total	137	100%
2	Marital Status	Single	47	34.31%
		Married	90	65.69%
		Total	137	100%
3	Educational Qualification	OND/HND	22	16.06%
		B.Sc./B.A.	77	56.20%
		M.Sc./MBA	20	14.60%
		Others	18	13.14%
		Total	137	100%

Source: Researcher's Compilation (2024)

Table 3 showed that 82(59.86%) and 55(40.14%) of the respondents were male and female respectively; an indication that there were more males in the telecommunication companies

under investigation. The marital status showed that most respondents 90(65.692%) were married while 47(34.31%) were single. The educational qualification of respondents revealed that most respondents had obtained Bachelor of Science (B.Sc.) or Bachelor of Arts (B.A.) degree; thus, they are knowledgeable/capable in responding to the items in the questionnaire.

Table 4: Descriptive Statistics

Items	Mean	Standard Deviation	Observations
Employee Performance	2.6158	0.3549	137
Learning Capability	2.5970	0.4832	137
Sensing Capability	2.4679	0.6967	137
Integrating Capability	2.5594	0.5114	137

Source: Researcher's Compilation (2024)

Table 4 showed that dimensions of DCAs (learning, sensing and integrating capabilities) and employee performance scored above 2.5 cut-off mean-point; an indication that respondents agreed that DCAs when efficiently managed can lead to increased level of employee performance.

Table 5: Pearson Correlation

	ORGPER	INTCAP	SENCAP	LEACAP
ORGPER	1.0000			
INTCAP	0.3555	1.0000		
SENCAP	0.0243	0.0401	1.0000	
LEACAP	0.0285	0.0470	0.0550	1.0000

Source: Researcher's Compilation (2024)

Table 5 revealed that DCAs (learning, integrating and sensing capabilities) positively correlate with employee performance; hence, there is positive relationship between DCAs and performance of the selected telecommunication companies in Delta and Edo States, Nigeria.

Table 6: Variance Inflation Factor

	VIF	**1/VIF**
Integrating Capability (INTCAP)	1.66	0.6024
Learning Capability (LEACAP)	1.40	0.7142
Sensing Capability (SENCAP)	1.02	0.9803
Aggregate	1.36	

Source: Researcher's Compilation (2024)

Table 6 revealed that the aggregate VIF (1.36) is less than accepted aggregate VIF (10.0); an indication of absence of multicollinearity in the multiple regression models of dynamic capabilities and employee performance of the selected telecommunication companies in Delta and Edo States, Nigeria.

Table 7: Multiple Regression

Estimators	**Predictors**	**t-Ratios**	**P-value**
R^2	0.801	INTCAP=8.39 (0.038)	0.000
Adjusted R^2	0.792	LEACAP=6.28 (0.047)	0.000
F-Value	21.18	SENCAP=5.38 (0.048)	0.000
F-Probability	0.000		

Source: Researcher's Compilation (2024); Values in parentheses are the coefficients

The multiple regression model (Table 7) showed that R^2 is 0.801; an indication that DCAs jointly explained about 80% of the systematic variation in employee performance of the telecommunication companies in Delta and Edo States, Nigeria while the unexplained variation is 20% The F-value (21.18; F-Prob. = 0.000) suggests that DCAs jointly have significant influence on employee performance. thus, when dynamic capabilities are put to use by an organization, it would increase the level of employees' performance. The t-ratios for all the DCAs - INTCAP is 8.29; (Prob. = 0.000); LEACAP is 6.28 (Prob. = 0.000); and SENCAP is 5.38 (Prob. = 0.000).

Furthermore, the result showed that DCAs significantly positively affect employee performance. In view of this, null hypotheses 1-3 were rejected while the alternate hypotheses were accepted. The results is supported by the dynamic managerial capability theory which advocates how dynamic capabilities are seen as compelling forces behind development of value creation and superior-performance (Behl, et al., 2022). It can be argued that organizations that support learning, sensing and integrating of capabilities will perform better than those that do not. These findings corroborate with the result of Drago, et al. (2023) in Spain, Hernández-Linares, et al. (2023) in Portugal, Heubeck (2023) in Germany Rehman and Saeed (2015) in Pakistan who established that DCAs positively significantly affect employee performance.

5. Conclusion and Recommendations

One of the foremost debates in strategic human resource management (SHRM) literature is the contention of how dynamic capabilities (DCAs) interact, resulting to increased employee performance. Whilst we acknowledged the numerous empirical studies on other managerial capabilities and employee performance, there is lack of studies that had assessed whether certain dynamic capabilities (e.g. learning, integrating and sensing capabilities) affect the level of performance of telecommunication companies in Delta and Edo States, Nigeria. Consequent upon the above, we examined the link between DCAs and the performance of selected telecommunication companies (MTN, Airtel-Nigeria and Glo-Nigeria) in Delta and Edo States, Nigeria.

In specific, the study revealed that learning, integrating and sensing capabilities influence the level of telecommunication companies' performance in Delta and Edo States, Nigeria. Hence, when organizations sense, integrate and learn new ways or processes, it could lead to increased performance. In view of the findings, we recommend that telecommunication companies' management should encourage swift reaction to environmental changes, by enhancing sensing, integrating and learning capabilities of employees to detect, monitor and respond swiftly to volatilities in the business environment.

Similarly, management of telecommunication should strategically reposition the companies to identify and acquire external expertise about trends in technologies, markets and industry; this would aid their capability to adapt swiftly to disturbances from the business environment and become more resilient. The study suggests that future research on DCAs and employee performance should be conducted using other sectors in Nigeria. Also, management researchers may consider using other DCAs so as to see whether they will affect employee performance in other Nigerian States.

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