

## E-ADMINISTRATION AND ADMINISTRATIVE EFFICIENCY OF THE TARABA STATE CIVIL SERVICE

EMMANUEL TERNGU VANGER

Department of Business Administration,  
Joseph Sarwuan Tarka University, Makurdi-Nigeria  
orcid.org/0000-0002-1299-8790

\*Correspondence: +2348039218097, +2348157037472, [ternguvanger@gmail.com](mailto:ternguvanger@gmail.com)

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ATSUNKARE NICODEMUS

Department of Business Administration,  
Joseph Sarwuan Tarka University, Makurdi-Nigeria

### Abstract

*This study examined the effect e-administration on administrative efficiency in the Taraba State Civil Service. The study adopted the survey research design. The study population consisted of 4333 staff of the 10 Ministries in Taraba State that pioneered the implementation of e-administration. Multistage sampling technique was used to draw respondents for the study. Data collected was analysed using descriptive statistics and logit regression analysis. The study established that e-administration enhances the streamlining of internal administrative processes by simplifying the processes and eliminating unnecessary bottlenecks, clearly outlining work schedules and improving communication that result in minimal work errors, improved work speed, enhanced accountability and transparency, work quality, adherence to due process and a boost in employee morale and commitment levels. Conversely, findings indicate that e-administration is inversely related to ensured cost efficiency given the huge associated costs in the short term. The study concludes that the Taraba State government should develop a change management model that will accommodate the rapid changes envisaged in the ICT world and foster the improvement of employee motivation as technology evolution unfolds. There is also need to investigate how the automation of administrative processes impacts the interaction between the government and the citizenry in Taraba State.*

**Keywords:** E-governance, Administrative efficiency, E-administration, Information and Communication Technology, Taraba State Civil Service.

### Introduction

No country has been able to develop without public sector determinism which is aimed at correcting market and other imperfections in society (Rodrik, 2011). This is primarily so because public administration manned by the Civil Service is vested with public policy formulation and implementation (Oyelaran-Oyeyinka as cited in Oni, Gberevbie & Oni, 2016). Recognising this all important place of the Civil Service in the quest to attain national

development by the Nigerian state, different reform regimes poised to put its Civil Service on the pedestal for effective and efficient service delivery have been experimented (ECA as cited in Oni, Gbervbie & Oni, 2016). One of such reform regimes is the prioritization of e-administration (Oni, Oni and Gbervbie, 2015).

Electronic Administration (e-administration) connotes the deployment of electronic processes or if you like the adoption of information and communication technology (ICT) tools and applications in the Civil Service for the purpose of enhancing productivity and efficiency in the internal administrative system as well as its responsiveness to the public (Dike, 2019). The internal administrative efficiency and cost effectiveness e-administration brings to bear on the adopting system is that, it enhances the interaction between government and its citizenry which is a measure of government's leaning towards transparent and accountable leadership (Dike, 2019). To be sure, e-administration derived its impetus from the rapid infiltration of information and communication technology anchored on the deployment of computerised devices, methods and systems such as smart phones, personal computers, the internet, and applications softwares among others (Danfulani, 2013).

Pointedly, the justification for prioritizing e-administration is that it leverages on information and communication technology (ICT) tools and applications to augment the traditional paper processes in government institutions (European Commission as cited in Oni, Gbervbie & Oni, 2016), and enhance the functionality of government and its processes (Heeks as cited in Oni, Gbervbie & Oni, 2016). Nevertheless, the adoption and deployment of e-administrative tools like the e-filing, e-approvals, e-timesheets etc by any responsible government should derive from a population-centric approach embedded in impersonality, transparency and efficacy (Onuigbo and Eme, 2015).

The deployment of e-administration tools and applications by any government whether central or local derives impetus from the desire to achieve cost effectiveness, optimise work processes for efficient service delivery and user time efficiency for both the government institution and the citizenry (Onuigbo and Eme, 2015). Similarly, Fang (2002) rationalises the deployment of e-administration on minimizing organizational cost, streamlining administrative processes and data and administrative autonomy. Pointedly, e-administration is primarily concerned with optimising government administrative processes by minimising process costs, determining process efficiency, streamlining and synchronising inter-departmental/agency synergies and collaboration and optimising the time required for each administrative process/activity (Onuigbo and Eme, 2015).

Of particular importance is the fact that the campaign for the adoption and deployment of electronic administration (e-administration) which is a sub-set of e-governance in the public sector derived its impetus from the "re-inventing government" movement in America which became common place at the beginning of the 1990s (Adebayo and Bilguis, 2018). Prior to this time, e-administration was primarily deployed by the private sector (Adebayo and Bilguis, 2018). In Nigeria, e-government or e-administration or perhaps e-governance only emerged in the year 2000 with the establishment of the Nigerian National Information Technology (NNIT) policy which validated the deployment of information technology in virtually all sectors of the Nigerian economy (NITP, 2000). To be sure, the deployment of information technology tools and applications in public administration is not just about enhancing

productivity and efficiency in the internal administrative system but also to better access to information and quality of service delivery to the public (Ho, 2002). Implicitly, e-administration is a gateway to enhanced task management (Romaniuk, 2016).

However, despite the gains of deploying e-administration as availed by researchers like Fang, 2002; Abasilim, Edet, 2015; Oni, Oni, and Gberevbie, 2015; Onuigbo and Eme, 2015; Eneh, 2015; Chukwuemeka, Ubochi, and Okechukwu, 2017; Osakede, Ijimakinwa, Arijeniwa, Adesanya, and Ojo, 2017; Adebayo and Bilguis, 2018; Dike, 2019 that e-administration ensures cost and time efficiency and transparency, accountability as well as quality service delivery to the public, most of these studies are based on tertiary institutions, federal ministries and agencies with a paucity of studies focused on the e-administration and the administrative efficiency of the core civil service ministries in any state in Nigeria. Also, available studies concentrate on the Government to Citizens (G2C) aspects of e-governance or government. Similarly, studies by Dode (2007); Bansode and Patil (2011); Olaopa (2014), Gberevbie, Ayo, Iyoha, Duruji, and Abasilim (2015); established that the implementation of electronic governance in the public sector is encumbered by the resistance to change and poor e-readiness among others. Thus, this study examines the effect of e-administration on administrative efficiency in the Taraba Civil Service.

### **Understanding the Meta theory of e-administration**

The Meta theory espoused by Bekkers and Meijer (2015) is anchored on the differences between positivist and social constructionist studies proposed by Heeks and Bailur (2007). Bekkers and Meijer (2015) Meta theory is explained within the premise of a cube with three dimensions derived from scholarly works namely: explaining versus understanding, individualism and holism, as well as change and maintenance. The explaining versus the understanding dimension differentiates between explaining and understanding. It portrays explaining to mean prioritizing the interpretation of events from the viewpoint of an externality (Hollis, 2007). Implicitly, the interpretation of a phenomenon is subjectively determined based on the prevailing social outlook of the externality interpreting the phenomenon (Hollis, 2007).

The individualism and holism dimension purports that particular approaches in the social sciences assume that individuals are the primary units of society and the aggregation of these individual actors and interpretations represents the societal interpretation and appreciation of a phenomenon based on social outlook (Hollis, 2007). The change and maintenance dimension differentiates between those who want a change and those who prefer maintenance of status quo. Interestingly, the Meta theory can be employed to explain the streamlining of administrative processes for administrative efficiency. Of particular importance is the fact that the deployment of electronic tools and applications in the internal administrative processes of government purportedly alters the hitherto paper administrative processes and entrench delicate but momentous effective and efficient administrative controls.

Even though bureaucratic systems are perceived and rightly so to be averse to change, the nature and character of the deployed electronic tools and applications for administrative purposes holds promise when governance is practiced on the premise of change games. To be sure, the streamlining of internal administrative processes has the capacity to enhance

productivity and efficiency in the internal administrative system as well as its responsiveness to the public (Dike, 2019). Similarly, the deployment of e-administration ensures internal administrative efficiency and cost effectiveness on the adopting system as well as enhances the interaction between government and its citizenry which is a measure of government's leaning towards transparent and accountable leadership (Dike, 2019).

### **Materials and Method**

The study design adopted for this study is the descriptive survey design. The justification for this research design is that it permits sampling from a large population especially that elements of the population share similar characteristics, the design is cost and time effective and results generated can be generalized. The study population comprises of four thousand, three hundred and thirty three (4333) staff of the 10 Ministries in Taraba State that pioneered the implementation of e-administration in Taraba State which includes: Ministries of Agriculture, Information and Orientation, Works and Transport, Water Resources, Youth and Sports, Justice, Education, Special Duties and Science and Technology. The multistage sampling technique was used to draw respondents for the study. In the first instance, stratified sampling was adopted to delineate the sample according to all 10 concerned Ministries featured in the sample. Thereafter, proportional sampling was deployed to ensure that all staff directly involved with e-administrative processes in the departments of Administration, Finance and Accounts, Establishment and ICT were proportionally captured across the concerned Ministries using the Bourley's 1964 formula (as cited in Nicodemus, 2018) while the Taro Yamane's (1964) formula was used for sample size determination. Lastly, simple random technique was used to randomly select 366 respondents for the study. Data collection was through the use of a researcher developed structured questionnaire measured on a nominal scale. The questionnaire was subjected to inter-rater reliability test with a .947 reliability index. Data collected was analysed using descriptive statistics (frequencies and percentages) and logit regression analysis was used to test the research hypothesis at a 0.05 level of significance. The study was anchored on a logit model of e-administration and administrative efficiency as follows:

$$\text{Log} \left( \frac{x_1}{1-x_1} \right) = \theta_0 + \theta_1 Z_1 + \theta_2 Z_2 + \theta_3 Z_3 + \theta_4 Z_4 + \theta_5 Z_5 + E_3$$

$X_i$  = probability of e-administration having effect on administrative efficiency.

$Z_1$  = e-administration has streamlined the internal administrative processes (1 if yes and 0 if no).

$Z_2$  = e-administration has ensured cost efficiency in the internal administrative processes (1 if yes and 0 if no).

$Z_3$  = e-administration has reduced time demands on staff and their workload (1 if yes and 0 if no).

$Z_4$  = e-administration has increased the transparency and openness in government activities (1 if yes and 0 if no).

$Z_5$  = e-administration has created a standardised, electronically-embedded decision-making systems (1if Yes and 0 if no).

$\theta_0$  = *Interception*

$\theta_1 - \theta_5$  = Parameter estimates.

## Results and Discussion

The analysis of the data collected was based on the 350 questionnaires retrieved from the respondents. The results of the study are presented as follows:

### Socio-Demographic Characteristics of Respondents

Data on demographic characteristics (Table 1) indicates that 170 (46.9%) respondents were junior cadre staffers who were involved in the e-administration processes, 150 (37.4%) were senior cadre officers, and 30 (15.7%) were in the Permanent Secretary and Directorate cadres. The implication of this is that all staff cadres in the departments of Administration, Finance and Accounts, Establishment and ICT are directly involved in e-administrative processes which gives them the capacity to respond to items under interrogation in the study. On the educational qualification of respondents, 46 (13.1%) have attained post-basic education while 50 (14.3%) hold National Diplomas or its equivalent, 156 (44.6%) possess 1<sup>st</sup> degrees or its equivalent and 98 (28.0%) hold postgraduate qualifications. The implication of this is that all the respondents have the requisite understanding to be able to interpret and respond to questions interrogating e-administration and administrative efficiency in the Taraba Civil Service. The socio-demographics of respondents also indicate that 39 (11.1%) of respondents have worked with the Taraba State Government for a minimum of 5years, 78 (22.3%) of respondents' work experience ranges from 6-10 years, 112 (32.6%) respondents have worked between 11-15years, while 119 (34.0%) of respondents have more than 15 years work experience in the State Civil Service. Implicitly, the respondents have worked long enough to have experienced both the traditional paper administrative processes and the newly deployed e-administrative processes to make valuable assessment of the administrative efficiency of the e-administrative processes especially that e-administration is a very recent development in Taraba state Civil Service.

**Table 1: Demographic characteristics of Respondents**

Attributes	Frequency	Percentage (%)
<i>Staff Cadre</i>		
Junior Cadre	170	46.9
Senior Cadre	150	37.4
Permanent Secretaries and Directorate Cadre	30	15.7
<b>Total</b>	<b>350</b>	<b>100</b>
<i>Educational Qualification</i>		
Post-basic education	46	13.1
National Diploma or its equivalent	50	14.3
1 <sup>st</sup> Degree or its equivalent	156	44.6
Postgraduate qualification	98	28.0
<b>Total</b>	<b>350</b>	<b>100</b>
<b>Years of Service</b>		
1-5	39	11.1
6-10	78	22.3
11-15	114	32.6
More than 15	119	34.0
<b>Total</b>	<b>350</b>	<b>100</b>

**Source:** *Field Survey, 2018*

### **E-administration and Administrative Efficiency of the Taraba State Civil Service**

A total of 340 (97.2%) of respondents' indicate that e-administration has automated and streamlined the internal administrative processes in the Taraba Civil Service. The implication of this finding is that administrative processes are modernized, synchronised, accessible 24/7, and saved in such a way that access to information by concerned staff is made easy and accessible even from the comfort of their homes especially in this era of Covid-19 with its 'new normal'. Additionally, records are readily available, it accommodates multiple users and enmeshed in multiple checks and balances to ensure effective monitoring, that due process is adhered and consistency with transparency ethics of the civil service are upheld. Similarly, 329 (94%) of responses indicate that e-administration has ensured cost efficiency in the internal administrative processes. This implies that the deployment of e-administration has significantly shrunked the processing costs of administrative tasks and information especially with the free flow of information between ministries, departments, and agencies (MDAs) of government when juxtaposed with the traditional paper operating systems. Apparently, the deployment of e-administration shrinks costs by reducing delays in the processing timelines and process costs by boosting the input-output ratio. Interestingly, the deployment of e-administration diminishes labour cost as fewer employees are required to facilitate the electronic processes.

Results also show that 329 (94%) of respondents assert that e-administration has reduced time demands on staff and their workload. The implication of this result is that the streamlining of the internal processes in the Civil Service is a catalyst for the substantial reduction in the timelines for processing administrative tasks for prompt decision making while significantly reducing the stress associated with workload of the Civil servants. On whether the deployment of e-administration has increased the transparency and openness in government activities, 331 (95%) respondents opine that indeed, the automation of administrative processes has boosted the transparency and openness in governmental affairs in the Taraba Civil Service. Implicitly, the automation of administrative processes has checked corrupt practices like particularistic tendencies, bribery and abuse of administrative procedure while the system is self-regulating, enhances monitoring and evaluation as well as easing the tracking of staff performance. Similarly, 342 (98%) respondents perceive e-administration to have adhered to due process and created standardised, electronically-embedded decision-making systems. The implication of this response is that, the streamlining of e-administrative processes ensures that shunting, and other sharp practices are curtailed hence due process is attained in all administrative endeavours like procurement and decision making processes.

**Table 2: E-administration and Administrative Efficiency**

<b>Items</b>	<b>Frequency</b>	<b>Percentage</b>
e-administration has streamlined the internal administrative processes which makes access to information, monitoring and evaluation easy	340	97.2
e-administration has ensured cost efficiency in the internal administrative processes	329	94
e-administration has reduced time demands on staff and their workload thereby reducing work related stress	330	94.2

e-administration has increased the transparency and openness in government activities	331	95
e-administration adheres to due process and has created a standardised, electronically-embedded decision-making systems	342	98

Source: Field survey, 2018

**Test of Hypothesis: the deployment of e-administration has no significant effect on administrative efficiency of the Taraba State Civil Service (Table 3)**

The result of the test of hypothesis indicates that the deployment of e-administration in the Taraba Civil Service is positively related with Z<sub>1</sub> (streamlined the internal administrative processes), Z<sub>3</sub> (reduced time demands on staff and their workload), Z<sub>4</sub> (increased the transparency and openness in government activities) and Z<sub>5</sub> (created standardised, electronically-embedded decision-making systems). A 1% increase in e-administration will lead to an increase or improvement in Z<sub>1</sub> (streamlined the internal administrative processes), Z<sub>3</sub> (reduced time demands on staff and their workload), Z<sub>4</sub> (increased the transparency and openness in government activities) and Z<sub>5</sub> (created standardised, electronically-embedded decision-making systems) by 0.85%, 2.34%, 2.05% and 0.73% respectively. Conversely, e-administration is inversely related to ensured cost efficiency in the internal administrative processes. A 1% increase in e-administration will ensure cost efficiency in the internal administrative processes by 1.18%.

The McFadden R-squared of 0.640326 indicates that about 64.03% of the variations in efficiency in Taraba State civil service are explained by e-administration. Therefore, the model is said to have a good fit and is appropriate in explaining the effect of e-administration on administrative efficiency in the Taraba State Civil Service. Congruently, since the probability value of the likelihood ratio statistic (prob(LR statistic)) – 0.000000 is less than 0.05 level of significance, the null hypotheses which states that “e-administration has no significant effect on administrative efficiency of Taraba State Civil Service” is rejected implying that indeed, e-administration has a significant effect on the administrative efficiency of the Taraba State Civil Service.

**Table 3: Logit regression test of Administrative Efficiency**

Dependent Variable: Administrative efficiency

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Z1	0.854991	0.324895	2.652241	0.0212
Z2	-1.181421	0.469764	-2.510639	0.0217
Z3	2.342437	0.492611	4.775282	0.0000
Z4	2.053670	0.473832	4.334175	0.0000
Z5	0.727976	0.318565	2.282726	0.0227
C	1.042371	0.463955	2.246706	0.0247
McFadden squared	R-0.640326	Mean dependent variable		0.531429

S.D. dependent variable	0.499726	S.E. of regression	0.286215
Akaike info criterion	0.531478	Sum squared residual	28.18010
Schwarz criterion	0.597614	Log likelihood	-87.00858
Hannan-Quinn criter.	0.557802	Deviance	174.0172
Restr. Deviance	483.8193	Restr. log likelihood	-241.9096
LR statistic	309.8021	Avg. log likelihood	-0.248596
Prob(LR statistic)	0.000000		
Obs with Dep=0	164	Total obs	350
Obs with Dep=1	186		

**Source:** Researcher's Computation using SPSS

### Discussion

Findings indicate that a positive relationship exists between e-administration and administrative efficiency and the relationship is statistically significant at 0.05% as revealed by the result of the test of hypothesis. The relationship is in line with *a priori* expectation. To be sure, e-administration enhances the streamlining of internal administrative processes by simplifying the processes and eliminating unnecessary bottlenecks, clearly outlining work schedules and improving communication that result in minimal work errors, improved work speed, enhanced accountability, work quality and a boost in employee morale and commitment levels. This finding is corroborated by Ndou (2004) who established that the deployment of e-administration processes ensures the minimization of work errors and administrative inefficiencies associated with unnecessary bottlenecks as well as enhance transaction time optimization. This finding is also congruent with the work of Nweke (2007) who established that the streamlining of internal administrative processes ensures optimal transaction time and accuracy in decision making in the public service. Similarly, findings established that e-administration has reduced time demands on staff and their workload thereby reducing work related stress. Implicitly, the automation of administrative processes in the Civil Service via the use of electronic technologies and applications like email, websites, wireless gadgets and computing softwares has reduced the amount of time required to process documents, enhance efficient communication between government departments/units, superiors and subordinates for the purpose of ensuring the attainment of effective decision making in the Civil Service. This finding is congruent with the work of Chukwuemeka, Ubochi and Okechukwu (2017) who established that the automation of administrative processes eliminates street bureaucracy and its associated delays, optimises process time and minimises quality inefficiencies in the internal administrative functions of the Civil Service.

Findings also reveal that e-administration has increased the transparency and openness in government activities in the Taraba Civil Service. Apparently, the automation of administrative processes enhances better documentation and briskly curtails human manipulation of the decision-making process excused on the premise of discretionary action especially that procedural violations and variations are traceable to the concerned officers who could be sanctioned for such unethical conduct. Moreover, the deployment of e-

administration is a structural reorganization and reengineering of government decision-making processes that downplays arbitrary domination of state apparatuses and paraphernalia by state elites, the use of discretion by bureaucrats while at the same time, promoting accountability bureaucracy. This finding is consistent with the work of Shim and Eom, (2008) who established that the entrenchment of e-administration tools and applications in public bureaucracy has proven potency in the internal control and management of sharp practices with the aim of attaining appreciable levels of openness and conscientiousness in the government bureaucracy. Similarly, Lupu and Lazar, (2015) demonstrate that 'a 1% increase' in the e-administration index of countries joining the European Union (EU) potentially prunes corruption by 6.7 % while for the non-EU member states, corruption is trimmed by 6.3%. Interestingly, findings also show that e-administration adheres to due process and has created a standardised, electronically-embedded decision-making that eliminates bureaucratic bottlenecks associated with the manual administration in the Taraba Civil Service. This implies that the automation and streamlining of the internal administrative processes ensures that bureaucratic business is conducted in accordance with due process mechanism that curtails the abuse of power seemingly anchored on discretionary actions so as to attain appreciable levels of transparency, openness and cost saving. This is to the extent that the automation of administrative processes ensures the attainment of due process which is an administrative control mechanism consistent with strict adherence to fiscal discipline and openness in the procurement process, award of contracts and budget implementation. This finding is consistent with the work of Aman, Al-Shbail, and Mohammed, (2013) who posit that the deployment of electronic processes in administrative functions of government holds promise to guarantee precision, improve efficiency, transparency and curtail abuse of power seemingly anchored on discretionary actions by bureaucrats.

On whether e-administration has ensured cost efficiency in the internal administrative processes, findings indicate that e-administration is inversely related to ensured cost efficiency in the internal administrative processes of the Taraba state Civil Service. The implication of this finding is that the deployment of e-administration tools and applications requires huge expenses which involve the acquisition, installation, maintenance and upgrading of such tools and applications like computers hardware and applications software as well as internet subscription. Given such costs, e-administration is not cost efficient in the short term. This finding is consistent with that of Abdel-Fattah and Galal (2008) who avail that the cost of computerising administrative processes which involves the acquisition of electronic devices and applications as well as the training of personnel on the deployment of e-administration processes is huge when compared with the cost of the paper bureaucracy in the short term. Nevertheless, Obi, Uzor and Chukwurah (2020) argue that the deployment of electronic administrative processes in the Federal Civil Service in Nigeria has ensured the minimization of information processing cost and inefficiencies associated with the manual bureaucratic processes. This position is also congruent with that of Ndou (2004) who claim that the automation of the Nigerian Civil Service holds promise for ensuring cost efficient administrative processes. What can be added to the argument purporting that the deployment of electronic administrative processes is cost efficient as opposed to the finding of this study is that when the cost analysis is premised on a long term consideration the benefits of e-administration outweigh that of the paper bureaucratic processes.

## Conclusion

This study examined the effect of e-administration on administrative efficiency in the Taraba Civil Service. It established that e-administration streamlines the internal administrative processes simplifying to eliminate unnecessary bottlenecks, clearly outlining work schedules and improving communication that result in minimal work errors, improved work speed, reduce workload related stress. Congruently, it enhances adherence to due process to curtail the abuse of abuse office justified by the use discretion, ensures internal control that results in transparency and accountability, improved work quality and a boost in employee morale and commitment levels and ultimately results in effective decision making. Conversely, the study established that e-administration is inversely related to cost efficiency in the Taraba state Civil Service when considered on a short term basis. While the deployment of e-administration in the Taraba Civil Service holds promise to ensure internal administrative efficiency, the Taraba State government should develop a change management model that will accommodate the rapid changes envisaged in the ICT world to ensure the sustainable streamlining of administrative processes on the one hand and foster the improvement of employee motivation as technology evolution unfolds. There is also need to investigate how the automation of administrative processes impacts the interaction between the government and the citizenry in Taraba State.

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