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IMPROVING OCCUPATIONAL CAPACITY FOR ENHANCEMENT OF SUSTAINABLE SOCIO- ECONOMIC WELLBEING IN THE NIGER DELTA REGION OF NIGERIA: THE ROLE OF CORPORATE SOCIAL ACTION

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Abstract

Natural resource exploitation by multinational corporations (MNCs) in the Niger Delta area of Nigeria has led to environmental degradation and abject poverty for the host community, rather than improve the socio-economic wellbeing of the host community. The study situated the sustainable socio-economic development of the Niger Delta region within the context of the corporate social responsibility (CSR)

practices of the actors in the oil and gas industry. Findings showed that corporate social actions of the MNCs and the intervention programmes of the three tiers of government in the Niger Delta region are at best a failure when measured against the indices of socio-economic development, hence the protracted agitation for resource control and endless crises in the region. The study recommended a paradigm shift in CSR design, planning and execution in the Niger Delta area of Nigeria to a workable and inclusive approach for improvement of occupational capacity for small and medium enterprise (SME) development and growth.

***Keywords:** Corporate social action, Standard of living, Occupational capacity improvement, Value and wealth creation, Small and medium enterprises development and growth*

Introduction

Natural resource exploitation is supposed to improve the socio-economic wellbeing of the host community. The Niger Delta area of Nigeria plays host to the exploitation of oil and gas resources by multinational corporations (MNCs), but has rather suffered environmental degradation and deepening poverty. In response to abject poverty in the region, indigenes have resorted to militancy.

In efforts to address the ugly situation, the MNCs claim huge budgets for corporate social responsibility (CSR). But, comparing the standard of living in the Niger delta zone with that of other zones in Nigeria, Eneh (2011) described the corporate social actions (CSAs) of the MNCs in the region as peripheral. It is a paradox that Nigeria's petrol dollars received over the years fail to address the increasing "poverty, dilapidating infrastructure, under development of human capital and general reduction in socio-economic activities" in the Niger Delta area of Nigeria (Udeh, 2005: 1). Nigeria's oil wealth has rather created a tragic unwelcome development than develop it. All intervention programmes of the three tiers of government and the CSR programmes of the oil companies remain at best inconsequential.

It cannot be said that a comensurate amount of money is being spent in trying to develop the Niger Delta area. Besides, financial resources spent so far in this direction are either misapplied or mismanaged. All CSAs geared towards developing the Niger Delta area of Nigeria took cognizance of the stakeholder value of the indigenous people at the design, planning and execution levels of the programmes. The study aimed to situate the sustainable socio-economic development of the Niger Delta region of Nigeria within the context of enhancing the stakeholder value of the indigenes of the oil rich region through a paradigm shift in the prevailing CSR practices of the oil and gas corporations operating there.

Review of related literature

Conceptual framework

CSR and similar concepts, such as corporate social performance, corporate social responsiveness, corporate social action (CSA) and corporate citizenship, as found in the body of knowledge, are used interchangeably. CSR is the umbrella concept. Narwal & Singh (2013: 465) defines it as “responsibilities of corporate towards the society within which they are working.” Sirsly & Sur (2008: 35) define CSA as “the expression of the organizations discretionary relationships with stakeholders”. It is an initiative or gesture regarded as the vehicle through which CSR is enacted.

Stakeholders value such actions and regard them highly if they meet the needs or expectation of the stakeholders. When such actions enhance the welfare of the stakeholders, they are viewed as positive. Therefore, the choice, design, planning and execution of corporate social actions to be executed as a CSR project or programme by organizational managers will depend on the needs of stakeholders at any point in time. In the Niger delta area of Nigeria, the concerns of the host communities (as stakeholders) are numerous, from pollution to environmental degradation, fire out-breaks, poverty, among others. CSR has failed to protect the endangered region.

SME development

Mbah (in Ekeke, 2013: 3) defines entrepreneurship as “the process of identifying opportunities in the market place, marshalling the resources required to pursue these opportunities and investing the resources to exploit the opportunities for long time gains”. The quest to actualize the business idea results in the establishments of an enterprise or business venture with which to exploit the market. The entrepreneurial process gives rise to three types of entrepreneurial businesses: lifestyle firms; foundation companies and high potential ventures. In the view of Okenwa (1999: 10), “whenever entrepreneurship development is discussed, attention had often been focused on small and medium scale enterprises”. SMEs remain the vehicle which drives the process of entrepreneurial development. When created, the enterprise harnesses all the resources with the objectives of producing goods and services that satisfy human needs distributed at a profit. Kotler and Armstrong (2010) describe this as the process of value delivery and capturing or value in return.

Value creation

Priem (2007: 220) argues that value creation “involves innovation that establishes or increases the consumers’ valuation of the benefits of consumption (i.e. use value)”. Businesses are set up to produce and deliver goods and services to target audiences with a view to satisfying identified needs. The satisfaction of targeted consumers or the increase in consumer benefit experienced in product offerings is what defines value creation by entrepreneurs. What marketing does in the entrepreneurial process is to ensure that the right products are delivered to the target consumers at the right price and at the right place after appropriate awareness are created for such products. The satisfaction of the consumers is very important to the business owners because the money worth paid by the customers in exchange of the goods/services is what creates value which is captured by the business owners in return for the products exchanged.

Wealth creation

The role of marketing in the entrepreneur process is to ensure that the value created for the consumer in exchange for value (captured value) in return by businesses (Kotler & Armstrong 2010). The profits generated through the creation and delivery of innovative products and services lead to accumulation of wealth by entrepreneurs in any economy. And further reinvestment of surpluses by entrepreneurs leads to development of new markets, new technologies, new products which stimulate consumption and further profit for the entrepreneurs. Overtime and through strategic management of their enterprises, business owners become very wealthy through profit-making and accumulation of wealth. SMEs are job creators through their various ventures which they develop and manage in the society. The multiplier effect associated with the salaries and wages paid to employees of these ventures engender wealth distribution in the economy.

Functional relationships and model specification could be established from the reviewed literature for the conceptual framework of the study. Figure 8.2.1.1 shows that the cross tabulation of the dimensions of the independent variable and the two dimensions of the dependent variable could be expressed as follows:

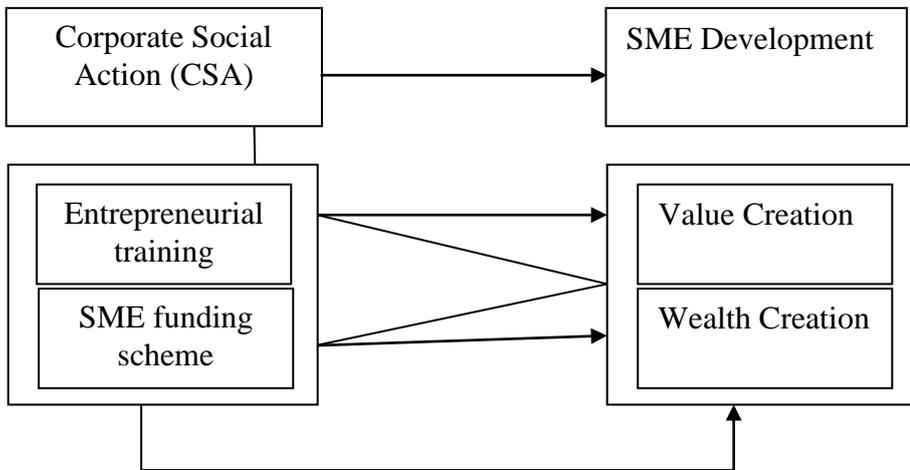


Figure 8.2.1.1: Conceptual framework for the study.

$$\begin{aligned}SD &= F(\text{CSA}) && \dots\dots\dots \text{function 1} \\CSA &= F(\text{ET, SFS}) && \dots\dots\dots \text{function 2} \\SD &= F(\text{VC, WC}) && \dots\dots\dots \text{function 3}\end{aligned}$$

Where:

SD = SME Development
CSA = Corporate Social Action
ET = Entrepreneurial Training
SFS = SME Financing Scheme
VC = Value Creation
WC = Wealth Creation

The following propositions are discernable:

- P1 = Entrepreneurial training will lead to value creation in the Niger Delta of Nigeria.
- P2 = Entrepreneurial training will lead to wealth creation in the Niger Delta of Nigeria.
- P3 = SME financing scheme will engender value creation in Niger Delta of Nigeria.
- P4 = SME financing scheme will engender wealth creation in Niger Delta of Nigeria.

Theoretical foundations

The Stakeholder Value Theory underlies this conceptual study. It promotes the fact that, “all those who create or capture value, or who in their relationship with the firm assume risks, either inside the firm (owners, managers, employees) or outside the firm (consumers, suppliers), or who suffer the impact of the firm’s externalities or misinformation (local society at large), must be considered stakeholders at least for the purpose of value distribution” (Argandona, 2011: 4).

Freeman (1984: 13) defines stakeholders as “those group without whose support the organization would cease to exist”. Post et

al (in Zink, 2005: 1042) defined stakeholders as, “the individual and constituencies that contribute, either voluntarily or involuntarily, to its wealth-creating capacity and activities, and therefore its potential beneficiaries and/or risk takers”. As noted by Zink (2005: 1045), “stakeholder orientation has to be seen as part of sustainability, because in the mean time it has become more obvious that sustainable success depends not only on the shareholder, but also on all other relevant stakeholders of an organization”

With the stakeholder orientation, organizational managers are aware that they need to create value for several categories of stakeholders: consumers, owners, employees, host, communities etc. The importance of stakeholder value creation reinforces the notion that, “the needs of shareholders cannot be met without satisfying to some degree the needs of other stakeholders...” (Jamali, 2008: 217). The value to be created for stakeholders should be such that is capable of enhancing the wellbeing of the recipients in addition to being environment specific. Each environment has peculiar needs to be met by the CSR activities of organizations.

Empirical studies

Uzuagu (2015) investigated the CSRs of two oil companies (Shell Petroleum Development Company (SPDC) and the Nigerian Agip Oil Company (NAOC)) and their effects on the socio-economic life of the host communities in Rivers State. The study, which adopted the descriptive survey design, found that the CSR programmes of SPDC were not well known to its host communities. The CSR efforts of SPDC did not contribute to the socio-economic development of its host communities. On the other hand, the CSR programmes of NAOC, were found to contribute to the socio-economic development of its host communities.

Okenwa (2012) investigated the extent to which multinational oil companies have enhanced the socio-economic development of host communities. The study adopted descriptive survey research design and utilized the Corporate Integrity and Sustainable Development Questionnaire (CISDQ) as the instrument for data collection. The

findings of the study included the following: the host community of Ebanna in Akwa Ibom state claimed they were happy with the sustainable development programmes of the oil company because they were enriched through such programmes, and community members had negative feeling towards the multinational oil companies due to alleged marginalization. The study concluded that good corporate citizenship is necessary for a healthy operating environment for multinational corporation and that corporate integrity capacity ensures that multinational oil corporations view seriously its social responsibility in the area of environmental protection.

Ethnographic study that adopted long drawn interviews and non participant observation of both oil workers and indigenes of a host community was carried out by Jike (2010). The study adopted structural model and noted that more than 50% of oil producing states lived below poverty line except Bayelsa State with 40%, the establishment of interventionist institutions with the mandate to reduce poverty in Nigeria, failure of Nigeria's poverty alleviation programmes, defoliation, toxicity of the soil, diseases, youth restiveness, among others. The study recommended peace and economic empowerment for way-forward.

Discussion

Entrepreneurial training, value creation and wealth creation

Appropriate entrepreneurial training aimed at enhancing stakeholder value or self worth in any setting could serve as an effective corporate social action. In the Niger Delta area, where the rent-seeking attitude of the indigenes has resulted in crisis situation, the adoption of entrepreneurial education will serve as a sustainable corporate social action effort by the MNCs involved in oil and gas exploitation, for two reasons. First, Gilad and Lavine (in McFadzeam, O'loughiin & Shaw, 2005: 365) submit that, "individuals develop entrepreneurial tendencies because of negative situational factors or because they wish to explore profitable business opportunities". Solution to the ongoing crisis situation in the Niger Delta region could be found in

entrepreneurship development and growth, which could serve as a veritable alternative to reposition the youths of the area as entrepreneurs. Secondly, entrepreneurial training is capable of encouraging the entrepreneurs to tap from the business opportunities available in the oil and gas exploitation via the local content legislation. As reported by Okenwa (2012) and Uzagu (2015) for Rivers State, this will solve the problem of frequent misunderstanding and clashes between host communities and MNCs in the area of CSR implementation and satisfaction of host communities.

As noted by Oba & Onuoha (2013), SMEs are seen globally as the engine growth of modern economies and generate more employment opportunities to greater part of the population in any given economy and as such contribute significantly towards poverty reduction.

More importantly, SMEs through their innovative strategies produce and deliver goods and services in the marketplace through creating value for consumers and capturing value in return. With special incentive schemes targeted at SME development, entrepreneurs will be in a position to build capacity with which to produce new goods and services, new organization and new processes. The resultant effect of creation of more value added offering for target consumers is the making of more profits and subsequent accumulation of wealth by entrepreneurs.

Tunzer (in Ghandi & Amisah, 2014: 327) observes that the economic boom in some Asian countries is attributed to SMEs which have moved many people away from poverty and created millions of new middle class consumers. In the same vein, SME development in the Niger Delta area of Nigeria has the capacity to bring out our boys from the creeks (as agitators) to the field of business as wealth creators, thereby reducing the level of poverty in the region, as Jike (2010) reported.

SME financial scheme

Under CSR programmes in the Niger Delta region, MNCs have empowerment schemes being carried out. Also, under the Amnesty

programmes, the federal government is empowering the youths in the Niger Delta. Paradoxically, these empowerment programmes are ongoing alongside with violent crimes (militancy and kidnapping) as well as agitation for resource control and other issues. This might be so because many citizens get the entrepreneurial capacity building without the finances to start off. If empowerment programmes are tied to financing of SMEs, much economic value will be created.

Recommendations

The following recommendations have been proffered:

A strategic fit between oil and gas MNCs and their host communities should be established in the quest for enhanced organizational performance of the MNCs. A paradigm shift in the CSR framework of the corporations and the intervention programmes of the various tiers of government is required to end the rift between the host communities in the oil-rich Niger Delta and the multinational companies on one hand and with the federal government on the other. Adoption of stakeholder orientation approach is imperative to determine the area of need as well as project and programme design, planning and implementation to enhance the long term satisfaction of host communities.

A forum should be created to provide a platform for encouraging the host communities to accept certain CSAs for sustainability implications. Argandiona (2011: 39) asserts that creating sustainable value for stakeholders should include “one that goes beyond economic extrinsic value to include other types of value which stakeholders need even if they do not know it, in different proportions and for different uses.” A thorough reappraisal of the CSR framework is required for effective CSR policy formulation, implantation, implementation, evaluation and control in the oil-rich Niger Delta.

There should be a policy departure from giving donations and economic rents to host communities to emphasis on occupational notion of entrepreneurship. This involves owning and managing a

business venture. The CSR policy implantation evokes strategy ownership, consciousness, focus, cooperation, commitment, and understanding of all stakeholders in the task concerned. Implementing the new policy on CSA with emphasis on occupational notion of entrepreneurship will involve the following:

- i. Entrepreneurial training
- ii. Skill acquisition and development
- iii. Financial scheme
- iv. Starting and managing a business venture.

The evaluation and control measure should involve periodic monitoring of activities of the people involved in the scheme and taking of corrective action where necessary. When properly articulated, corporate social actions with special emphasis on creation of SMEs in the Niger Delta region have the strategic potential to engender sustainable development of the region. Idemudia & Ife (2006) observed that the failure to seek, understand and integrate community perception into CSR policies and practices, will always hinder the cooperation and satisfaction of host communities.

Conclusions

Leveraging on the stakeholder theory, this paper have made an attempt to canvas for a paradigm shift in CSR execution in the Niger Delta area of Nigeria with a view to creating sustainable economic value for stakeholders in the oil-rich region. The pursuit of entrepreneurial training and special SME financing scheme as CSAs with a view to creating occupational notion of entrepreneurship, has the capacity to enhance sustainable socio-economic development in the Niger Delta.

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EVALUATION OF THE IMPACT OF OPEN BOOK MANAGEMENT ON EMPLOYEE PERFORMANCE IN SELECTED MANUFACTURING FIRMS IN ENUGU STATE, NIGERIA

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Abstract

This study examined the impact of Open Book Management employees' Performance in Manufacturing Firms in Enugu State, Nigeria. Open book management is based on the principle that managers and employees who know and understand financial performance and goals and share a stake in organizational success are more apt to be highly effective and motivated in meeting those goals. Specifically, the study sought to: determine the extent confidence and trust affect employees commitment and determine the influence of equitable reward system on employee morale. The study adopted the survey research design. The population of the study was a total of 1,276 staff of the five selected manufacturing firms in Enugu State, Nigeria. The sample size 125 was obtained from the population using Evans Morris formula at 95% confidence level and 5% margin of error. Data were collected using the questionnaire research instrument and interview which was designed in a 5-point Likert scale and manually administered to the respondents. The hypotheses were tested using regression analysis and Chi-Square (X^2). The findings indicate that Confidence and Trust had positive influence on Employee Commitment($r = 0.876, p < 0.05$);

Equitable reward system significantly influenced employee morale ($X^2 = 127.933$). The study recommends Confidence and trust should be built between the employers and the employees; and an efficient equitable reward system should be designed and implemented by management in the practice of open book management. The study concludes that open book management processes, leads to low employee turnover and high levels of customer satisfaction which in turn increases the profitability of the organization.

Introduction

Of all the factors of production available to an organization, the employees has the highest priority and is the most significant factor of production, hence the success of any business is closely tied to the job performance of its employees. Similarly, Nikzad and Maryan (2012) opine that organizations believe that the employees are their main assets and are their main competitive advantage. In this circumstances staff retention and motivation for increasing job productivity by using different mechanisms is one of their important duties.

To achieve strong employee performance and drive behaviours from the employees to get specific outcomes, managers conduct employee performance appraisals, implement training and development programs, and decide when to promote and reassign. In practice this worked well for certain employees who were solely driven by financial rewards. However, where employees were driven by learning and development of their skills, it failed miserably (www.peoplestream.com).

In recent years, there has been lot of publicity about Open Book Management and a lot of discussions around it. There are many claims on the potential of Open Book Management in revolutionizing the businesses. Many cases show that Open Book Management, if applied correctly and suitably will be beneficial. In fact, Open Book Management has simple but effective means for organization management. (Nikzad and Maryan, 2011) It is a way of managing a company demonstrably, without concealment, that motivates all

employees to focus on helping the business grow profitably and increasing the return on its human capital (Aggarwal and Simkins, Literally, it means opening a company's financial statements to all employees and providing the education that will enable them to understand how the company makes money and how their actions affect its success and bottom line. OBM is a way to optimize the use of human capital, an innovative management practice for engaging employees to enable the firm succeed. (Buchkin and Goiten, 2011) Four basic practices are necessary for this. Employees must be appropriately trained; employees must be empowered to use this information to cut costs, employers must trust employees to act as equal business partners and employees must be fairly rewarded for business success.

Case 1995 as cited by Nikzad et al states that the best sentence for understanding the philosophy of Open Book Management is said to be; "all for one and one for all" in which "one" is the organization. In the other word, under the umbrella of Open Book Management all conflicts of interests will go away that means your interests and my interest will become our interests which according to the philosophy of Open Book Management is the real meaning of achievement. Today with globalization, a lot of attention has been paid to the importance of confidence and trust in social, economical, political and organizational relations. This is because lack of confidence and distrust in business is so prevalent among shareholders and employees. Open-book management is therefore a timely business tool.

There is an increasing demand on corporations to develop reward programs that are motivating employees to work harder and faster. These programs usually educate and encourage associates to become more productive, efficient, and valuable individuals in the company in terms of the "bottomline." So, in order to attract and retain qualified and committed individuals, firms need to have an equitable reward systems that encourage and reward employees to always stay focused on the organizational performance. Rewards to employees should be presented in such a way that it results in better performance,

enhanced productivity, higher motivation, and increased morale. The Nigeria reward system is not encouraging. It is a society where national priorities are turned upside down, hard work is poorly rewarded, but rogues are often glorified. Therefore there is need to a strong need to expose the principles of open Book Management to Manufacturing Firms in Enugu State, Nigeria.

The objective of this study therefore is to evaluate the impact of Open Book Management on the performance of employees in selected manufacturing firms in Enugu State, Nigeria with specific focus on determining the extent confidence and trust affect employees' commitment and the influence of equitable reward system on employee morale.

Review of related literature

Open-book management (OBM) has four major practices or principles, which are appropriate training of employees; employees empowerment through information to cut costs, existence of trust between the employers and employees as equal business partners and fair reward for business success. OBM organizations typically disclose detailed financial information to all employees, train them to interpret and use the data, empower them to make operational decisions, and tie a portion of their pay to the organizational performance, often through a bonus plan that is modified every year and an ESOP that is geared to the longer term (Katier, 2013)

Clearly communicated and understood goals, a hallmark of open-book management, leads to improved profitability and encourages teamwork. This leads to increased job satisfaction and reduced turnover. Henglein (2009) makes it clear that organization practicing open-book management report that employees feel a stronger sense of ownership in the organization, develop more trusting and collaborative relationships with their employers. Not surprisingly, these outcomes - a stronger sense of ownership, improved trust and collaboration, stronger teams, better informed and innovative suggestions, and an improved bottom line, to name a few - are also hallmarks of successful corporate

sustainability initiatives that emphasize the triple bottom line of people, planet and profits.

The act of opening the books is a highly symbolic act. It is a demonstration of commitment. It demonstrates trust. It demonstrates a commitment to treating employees like adults (Shodhganga, 2010). Trust is one of the cornerstones of a winning workplace. Companies cannot expect employees to expend discretionary effort in their duties if they do not believe their employers will do right by them (Nikzad et al). Working together often involves interdependence, and people must therefore depend on others in various ways to accomplish their personal and organizational goals. Organizational trust has been defined as the positive expectations individuals have about the intent and behaviors of multiple organizational members based on organizational roles, relationships, experiences and interdependencies (Shockley-Zalabak et al. 2000, 35). For Sako (2007), trust is an expectation held by an agent that its trading partner will behave in a mutually acceptable manner (including an expectation that neither party will exploit the other's vulnerability). Simply put, trust means confidence—confidence that others' actions are consistent with their words, that the people with whom you work are concerned about your welfare and interests apart from what you can do for them, that the skills you have developed are respected and valued by your coworkers and the larger organization, and that who you are and what you believe truly matter in the workplace. All the definitions of trust suggest that trust involves one party having confidence in or relying on another party to fulfill its obligations.

Several theories have emerged that describe mechanisms for minimizing the risk inherent in working relationships. These theories are designed to regulate, to enforce, and/or to encourage compliance to avoid the consequences of broken trust. Mayer, Davis and Schoorman (2011). For Johnson and Grayson (2005), trust may be cognitive and affective. Cognitive trust is a customer's confidence or willingness to rely on a service provider's competence and reliability. It arises from an accumulated knowledge that allows one to make predictions, with

some level of confidence regarding the likelihood that a focal partner will live up to his/her obligations. On the other hand, they opines that affective trust is the confidence one places in a partner on the bases of feelings generated by the level of care and concern the other party demonstrates. It is demonstrated by feelings of security and perceived strength of the relationship. The essence of affective trust is the reliance on a partner based on emotions. Conversely, the absence or loss of organizational trust has been associated with: the loss of high-caliber employees to other (and often competing) organizations, a loss of interest among employees in the job and organization, employee retirement, employee complacency, employee defiance, and increased levels of absenteeism and tardiness. Morgan and Hunt (1994) theorize that trust influences commitment, and that commitment and trust are key mediating variables between antecedents and consequences commitment Employee commitment is heightened if there is a feeling of ownership among subordinates in the sense that they are truly accepted by the superiors as important stakeholders in the organization (Bell and Mjoli, 2014).

Open book management not only lets employees understand how their decisions and actions affect the overall health of the company it makes sure that they understand how it affects their paychecks. Every employee has a direct stake in the company's success, so that through incentive and reward systems, employee performance is tied to the organization's success. When the organization goals are met, employees personally benefit. Reward is the benefits that arise from performing a task, rendering a service or discharging responsibility (Agwu, 2013). The principal reward for performing work is pay, many employers also offer reward packages of which wages and salaries are only a part. The packages typically include: bonuses, pension schemes, health insurance, allocated cars, beneficial loan, subsidized meals, profit sharing, share options and much more. A reward system is any process within an organization that encourages, reinforces or compensates people for taking a particular set of actions. Reward system refers to all the monetary, non-monetary and psychological payments that an organization provides

for its employees in exchange for the work they perform. (Bratton and Gold, 2007). It may be formal or informal, cash or non-cash, immediate or delayed. It involves both financial and non-financial reward which consists of an organization's integrated policies, processes and practices for rewarding its employees in accordance with their contribution and skill within the competence framework of an organization's strategy. The only way employees will fulfill their dream is to share in the dream. Hence, reward systems are the mechanisms that make this happen. In other words, reward systems seek to attract people to join the organization, keep them coming to work and motivate them to perform to high levels (Agwu, 2013). So, in order to attract and retain qualified and committed individuals, firms need to have appropriate pay systems that encourage and reward employees to always stay focused on producing quality products in an efficient manner and to always do the right thing. (Mujutaba & Shuaib, 2010).

The rewards systems are comprised of two main elements: financial and non-financial rewards. The financial rewards include rewards strategies such as merit-pay, market-based pay, profit-related pay, while non-financial rewards focus on the needs of people for recognition, achievement, responsibility and personal growth (White and Drucker, 2000 as cited by Galanon, Geogakopoulos, Sotiropoulos, et.al, 2010). For Brattan & Gold, 2007, rewards schemes may include extrinsic and intrinsic rewards. Extrinsic rewards are items such as financial payments and working conditions that the employee receives as part of the job. Intrinsic rewards relate to satisfaction that is derived from actually performing the job such as personal fulfillment, and a sense of contributing something to society. Many people who work for charities, for example, work for much lower salaries than they might achieve if they worked for commercial organizations. In doing so, they are exchanging extrinsic rewards for the intrinsic reward of doing something that they believe is good for society. A proper reward system, establishing good working conditions, clear definition of expectations, and proper communication are vital in boosting employee

morale. Morale may be defined as an intangible concept that refers to how positive and supportive a group feels toward the organization to which it belongs and the special feelings members of the group share with others, such as trust, self-worth, purpose, pride in one's achievement, and faith in the leadership and organizational success (Haddock, 2010). Productivity is directly related to morale. Happy employees have high morale while dissatisfied and unhappy employees have low morale. Similarly, high employee morale means that employees are happy, and that is reflected in the kind of work they produce. By contrast, low employee morale results in less productivity and pessimism among employees (Arunchard & Ramanathan, 2013 as cited in Jeter, 2014).

A study carried out by Dixit and Bhatti (2012) on employee commitment and its impact on sustained productivity in India- Auto Component Industry indicate that the Employees Commitment (Affective, Normative, continuous) are significantly related to sustained productivity in Auto component industry. The study recommends that the auto-component industry should ensure that the commitment level of employees be analysed to the extent of its attachment in the organization and necessary continuous action to increase and maintain the productivity level of the employees should equally be ensured. Another study by Agwu (2013) on the Impact of Fair Reward System on Employees Job Performance in Nigerian Agip Oil Company Limited Port-Harcourt revealed that implementation of fair reward system in Nigerian Agip Oil Company Limited Port-Harcourt to a large extent influenced improved employees' job performance and reduced rate of industrial action. The study recommends among others: regular review of organizational reward system to ensure fairness, maintenance of competitive rates of pay, flexibility in reward administration and rewarding people for the value they create.

Methodology

In a broad sense, the study undertook an evaluation of the impact of open book management on employee performance in selected manufacturing firms, in Enugu State, Nigeria. The survey design was adopted for this work. The population of the study is the management and staff of the five selected manufacturing firms made up of one thousand two hundred and seventy six (1,276) staff. The study used one hundred and twenty five staff as the sample size of the study. Secondary data from published and unpublished materials were used while the primary data was collected through the use of questionnaire, structured oral interview and formal discussions with employees of the sampled organizations. The systematic sampling method was used to select respondents. The instrument for data collection elicited information on demographic characteristics of respondents and the two (2) objectives. The options for the answers were arranged in a 5-point likert-scale of Strongly Agree (SA: 5 point), Agree (A: 4 point), Strongly Disagree (SD: 3 point), undecided (UD: 2 point), and Disagree (D: 1 point). Data were presented in frequency and simple percentage tables. Hypothesis 1 was tested using regression analysis, while hypothesis 2 was tested using Chi-Square (X^2). The decision rule for the study is reject null hypotheses (H_0) if the calculated value is greater than the critical value at 5% error. Do not reject null hypotheses (H_0) if otherwise

Analyses

Extent confidence and trust influence employee commitment

The respondents' opinion on the extent confidence and trust influences employee commitment is presented in Table 8.2.2.1.

Table 8.2.2.1: Extent confidence and trust influences employee commitment

Item	SA (%)	A (%)	SD (%)	U (%)	D (%)	Mean
Employers confide in the employees concerning some discreet plans of the organization	20 (17.7)	23 (20.4)	27 (23.9)	12 (10.6)	31 (27.4)	2.28
Employers trust in the employees that they will not expose their plans to their competitors	28 (24.8)	36 (31.9)	17 (15.0)	9 (8.0)	23 (20.4)	2.61
Trust and confidence breeds commitment and dedication to duty	54 (47.8)	38 (33.7)	7 (6.2)	10 (8.8)	4 (3.5)	3.35
Confidence and trust enables staff to be committed by using their talents and gifts in their performance	50 (44.2)	38 (33.7)	12 (10.6)	7 (6.2)	6 (5.3)	3.29
Employee are retained as a result of trust and confidence	39 (34.5)	50 (44.2)	14 (12.4)	4 (3.5)	6 (5.3)	3.12
There is stable and secure workforce as a result of existence of trust and commitment	34 (30.1)	51 (45.1)	13 (11.5)	9 (8.0)	6 (5.3)	3.08

Source: Field Survey, 2016

As presented in Table 8.2.2.1, 20 (17.7%) respondents and 23 (20.4%) respondents strongly agreed and agreed respectively that employers confide in the employees concerning some discreet plans of the organisation. Twenty-seven (27, or 23.9%) respondents strongly disagreed, 12 (10.6%) respondents were undecided on this and 31 (27.4%) respondents disagreed with this. With a mean score of 2.28 + 1.06, the respondents are of the view that employers confide in the employees concerning some discreet plans of the organization

With the mean score of 2.61 + 1.07 and 28 (24.8%) respondents strongly agreeing, 36 (31.9%) respondents agreeing, 17 (15.0%) respondents strongly disagreed, 9 (8.0%) respondents were undecided and 23 (20.4%) respondents disagreeing that employers trust in the employees that they will not expose their plans to their competitors.

As captured in the response of 54 (47.8%) respondents who strongly agreed, 38 (33.7%) respondents who agreed, 7 (6.2%) respondents who strongly disagreed, 10 (8.8%) respondents were undecided on this and 4 (3.5%) respondents who disagreed as well as

the mean score of $3.35 + 0.75$, the respondents are of the view that trust and confidence breeds commitment and dedication to duty.

It is the determination of the respondents that confidence and trust enable staff to be committed by using their talents and gifts in their performance. This is based on the responses of 50 (44.2%) respondents who strongly agreed, 38 (33.6%) respondents who agreed, 12 (10.6%) respondents who strongly disagreed, 7 (6.2%) respondents were undecided and 6 (5.3%) respondents who disagreed with the mean score of $3.29 + 0.86$.

Based on the responses of 39 (34.5%) respondents who strongly agreed, 50 (44.2%) respondents who agreed, 14 (12.4%) respondents who strongly disagreed 4 (3.5%) respondents were undecided and 6 (5.3%) respondents who disagreed including the mean score of $3.12 + 0.82$, it is the opinion of the respondents that employee are retained as a result of trust and confidence.

The mean score of $3.08 + 0.79$ and the responses of 34 (30.1%) respondents who strongly agreed, 51 (45.11%) respondents who agreed, 13 (11.5%) respondents who strongly disagreed, 9 (8.0%) respondents and 6 (5.3%) respondents who disagreed, reveals that there is stable and secure workforce as a result of existence of trust and commitment.

Extent equitable reward system influences employee morale

The opinion of the respondents on the extent to which equitable reward system influences employee creativity is presented in Table 8.2.2.2. The respondents believe that equitable reward system influences employee morale. This is reflected in their responses, which shows 35 (31%) respondents strongly agreeing, 51 (45.1%) respondents agreeing, 10 (8.8%) respondents strongly disagreed, 7 (6.2%) respondents were undecided and 10 (8.8%) respondents disagreed respectively that equitable reward system influences employee morale as well as the mean score of $2.98 + 0.91$.

From the responses of 46 (40.7%) respondents who strongly agreed, 42 (27.2%) respondents who agreed, 13 (11.5%) respondents

who strongly disagreed, 3 (2.7%) respondents were undecided on this and 9 (8%) respondents who disagreed as well as the mean score of 3.11 + 0.93, the respondents agreed that equitable reward system brings about job satisfaction and influences employees to use their initiative in performance.

Table 8.2.2.2: Extent equitable reward system influences employee morale

Item	SA (%)	A (%)	SD (%)	U (%)	D (%)	Mean
Equitable reward system influences employee morale	35 (31.0)	51 (45.1)	10 (8.8)	7 (6.2)	10 (8.8)	2.98
Equitable reward system brings about job satisfaction and influences employees to use their initiative in performance.	46 (40.7)	42 (37.2)	13 (11.5)	3 (2.7)	9 (8.0)	3.11
Inequitable reward system leads to lower productivity	21 (18.5)	58 (51.3)	19 (16.8)	9 (8.0)	6 (5.3)	2.99
Equitable reward system boosts staff morale in using the skills acquired from different fields of endeavors for organizational performance	32 (28.3)	49 (43.4)	18 (15.9)	7 (6.2)	7 (6.2)	2.88
Equitable reward system positively affects the employees morale which gives rise to job satisfaction	56 (49.6)	44 (38.9)	5 (4.4)	5 (4.4)	3 (2.7)	3.35

Source: Field Survey, 2016

The mean score of 2.99 + 0.81 and the responses of 21 (18.5%) respondents who strongly agreed, 58 (51.3%) respondents who agreed, 19 (16.8%) respondents who strongly disagreed, 9 (8.0%) respondents were undecided and 6 (5.3%) respondents who disagreed, the respondents are of the determination that inequitable reward system leads to lower productivity

32 (28.3%) respondents and 49 (43.4%) respondents strongly agreed and agreed respectively that equitable reward system motivates staff to use acquired skills from different fields of endeavours. Eighteen (18) (or 15.9%) respondents strongly disagreed, 7 (6.2%) respondents were undecided on this and 7 (6.2%) respondents disagreed with this. Based on these responses and the mean score of 2.88 + 0.96, the respondents are of the opinion that equitable reward

system boosts staff morale in using the skills acquired from different fields of endeavors for organizational performance.

The mean score of 3.35 + 0.75 shows that the respondents agree that the practice of equitable reward system positively affects the employees morale which gives rise to job satisfaction This is supported by the frequency responses of the respondents, which reveals that 56 (49.6%) respondents strongly agreed with this, 44 (38.9%) respondents agreed with this, 5 (4.4%) respondents were undecided on this 5 (4.4%) respondents strongly disagreed with this while 3 (2.7%) respondents disagreed with this.

Test of hypotheses

Test of Hypothesis one

Confidence and trust significantly influences employees commitment

This hypothesis is tested using the regression analysis. The summarized results are presented in Table 8.2.2.3.

Table 8.2.2.3: Summarised regression results for hypothesis one

Variable	Coefficient	t-value	p-value
Constant	1.609	17.697	0.000
Confidence and Trust	0.654	19.097	0.000

$r = 0.876$; $r^2 = 0.767$; RegSS = 51.548; ResSS = 15.690; F-value = 364.692; sig. = 0.00

Source: SPSS

The result of the regression analysis summarized in Table 8.2.2.4. shows that the model for the relationship between Confidence and Trust (CT) and Employee Commitment (EC) is:

$$EP = 1.609 + 0.654CT$$

This reveals that Confidence and Trust has positive influence on Employee Commitment. With t-value > 1.96 (t-critical) and p-value < 0.05, this impact is significant.

Also, the regression coefficient (r) of 0.876 indicates a strong relationship between the independent variable (confidence and trust) and the dependent variable (employee commitment). The coefficient of determination (r^2) of 0.767 reveals that 76.7% of the variation observed the dependent variable is caused by the independent variables. Having a regression sum of square of 51.548 > the residual sum of squares of 15.690, this variation is not due to chance. The F-value and corresponding significance value of 364.692 (0.000) shows that these results are significant.

Based on this, the results indicate that confidence and trust has positive influence on employee commitment.

Test of Hypothesis two

Equitable reward system significantly influences employee morale.

In testing this hypothesis, the Friedman Chi-Square was used. The results are presented in Table 2.4.

Table 8.2.2.4: Friedman chi-square test result for hypothesis two

Statistic	Value
N	113
Chi-Square	127.933
Df	4
Asymp. Sig.	.000

Source: SPSS

As presented in Table 8.2.2.4, the calculated Friedman Chi-Square test result is 127.933. This is greater than the critical chi-square value of 9.488. This result is significant as p-value < 0.05. Hence, the null hypothesis is rejected and the alternative hypothesis accepted

accordingly. Therefore, equitable reward system significantly influences employee morale.

Discussion of findings

Extent confidence and trust influences employee commitment

A major gain of open book management is that it boosts confidence and trust among employees. This is important because confidence and trust goes a long way to enabling employees have a positive commitment. Confidence and trust is built in employees when employers confide in employees concerning some discrete plans of the organisation, trusting that the employees will not expose their plans to competitors. When this is done, commitment and dedication to duty is secured, productivity increased, unity and harmony achieved, and job satisfaction, job security and mental stability are realized, as indicated by Oko & Agbaeze (2013).

Extent equitable reward system influences employee morale

From this study, it is discovered that open book management assures equity reward system, which has a direct influence on employee morale. The influence can be in the form of inducing creative thinking, influencing employees to use their initiative in performance, enabling management to utilize the knowledge available in the employees, motivating staff to use acquired skills from different fields of endeavors to organizational performance and enabling staff to use their talents and gifts in their performance. This aligns with the findings of Bahaudin & Shandana (2010) who concluded that firms needs to have appropriate pay systems that encourage and reward employees to always stay focused.

Conclusion

Open Book Management is a demonstration of commitment and trust because the books cannot be opened without confidence and trust existing between the employers and employees. Trust is one of the cornerstones of a highly performing organization. A crucial component

of Open Book Management is that employees have a direct stake in the company's success. An equitable reward system, are vital in boosting employee morale and productivity is directly related to morale. If properly practiced, OBM leads to low employee turnover and high levels of customer satisfaction which in turn increases the profitability of the organization. Specifically, this study revealed that open book management is relevant to organizational performance in the manufacturing firms in Enugu state. Confidence and trust has positive effect on employee commitment and equitable reward system significantly influences employees' morale when open book management is practiced in organizations.

Recommendations

Based on the findings of the study, it is recommended that confidence and trust should be built between the employers and the employees; and an efficient equitable reward system should be designed and implemented by management.

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ROLE OF SMART CITY IN SUSTAINABLE URBAN DEVELOPMENT IN NIGERIA

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Abstract

Although the spate of urban growth is increasing around the globe, urban decay ensures the cities cannot support the ever rising urban population and constitutes several environmental and social risks to urban dwellers in developing countries. To help develop strategies to curb the challenges of urban decay, this study examined the role smart cities initiatives can play in ensuring sustainable urban development in Nigeria. The paper adopts the library research method and relies on extant review of theoretical and empirical literature, from which inferences were drawn. Findings recommendations and implications would provide empirical approaches to curbing the problem of urban decay and guide policy makers to integrate smart city initiatives in sustainable urban development policies in Nigeria.

Keywords: Smart cities, Urban decay, Sustainable urban development, Nigeria

1.0 Introduction

In recent years, countries around the world have witnessed unprecedented increase in urban population and this has increasingly stretched the capacity of most cities to support the ever rising urban population amidst dwindling natural and economic resources. Most cities are confronted with the quagmire of managing the attendant socioeconomic and ecological problems emanating from the social relations of its teeming population. The world population has been projected to increase by more than one billion people amounting to about 8.5 billion by 2030. It is expected to increase further to 9.7 billion by 2050 and 11.2 billion by 2100 (UN 2015). The contemporary global population distribution indicates that approximately 60 % of the global population lives in Asia (4.4 billion), 16 % in Africa (1.2 billion), 10 % in Europe (738 million), 9 % in Latin America and the Caribbean (634 million), and the remaining 5 % in Northern America (358 million) and Oceania (39 million).

The spate of urban growth in Africa is fast becoming a concern for governments on the continents. Although a late starter in the global urbanization process, Africa is currently urbanizing at an alarming rate with predictions suggesting that Africa will enter the urban age around 2030 when half of Africans will live in urban areas Celik, 2005, UN-Habitat (2004). This process is suggested to be driven by Nigeria which is notably the most populous African -nation United Nations (2012). It is estimated that at current growth rate, Lagos will be the third largest city in the world with a population of over 24 million people by 2020 Dung-Gwom, J. Y., Hirse, S. O. and Pwat, S. P. (2008). A

crucial aspect of this is that city growth and expansion in Nigeria has been largely uncontrolled Egunjobi, L. (2000), Oyesiku, O.O. (2002), and Olanrewaju, D.O. (2004) thus compounding problems in the country. Some of these problems include inadequate and poor housing, slum-squatter settlements, inadequate water supply, waste disposal management, vehicular traffic and human congestion, high rates of unemployment, poverty, crime and other social problems Rotimi M. A. (2003, and Dung-Gwom, Hirse, and Pwat, (2008). Specifically, studies have shown that urban housing problems are universal; however, Olanrewaju, (2004) Aina, (1990) Lawanson, T. O. (2005), Olotuah,. and Bobadoye, (2009) opine that this problem is more critical in developing countries like Nigeria because of its magnitude and limited capacity to surmounting it. It is estimated that about 60-70% of Nigerian urban dwellers live in slums Dung-Gwom.& Oladosu, (2004),. Furthermore, Nigerian cities are known for poor waste management practices, ranging from poor waste collection system to ineffective disposal, which contribute adversely to crisis of air, water and soil pollution confronting sustainable urban development in the country. Also open and unsanitary landfills contribute to contamination of drinking water and increase infection and transmit diseases. Likewise, solid waste management has become a challenge for most cities across the world (UN-Habitat 2010). Most water bodies are been polluted with plastic wastes generated from the cities and as Jambeck et al. (2015) reported, 275 million metric tons of plastic waste was generated in 192 coastal countries in 2010 alone with approximately 1.7–4.6 % of these plastic wastes entering the oceans . Plastic wastes do not readily biodegrade but degrades

into smaller pieces that affect marine ecosystems (Derraik 2002). The plastics form 'soups' in five major ocean gyres: two in the Pacific, one in the Indian and two in the Atlantic and affect many marine biodiversity by ways of ingestion (Zarfl et al. 2011; McFedries 2012). Also consumer products contribute to the emission of micro-plastics to surface water such as cosmetics and personal care products, cleaning agents, paint and coatings (Van Wezel et al. 2015). The problem of urbanization induced environmental degradation evidently has engendered crises of underdevelopment in the country. Hence the need to investigate and provide new ways of managing the urbanization induced development crises and ensuring sustainable urban development in the country has increasingly become a concern for the government, scholars and development agencies. It is in the light of this that this study seeks to examine the role of smart city initiatives in promoting sustainable urban development in Nigeria.

2.0 Conceptual clarification

In the course of writing this paper, some key concepts were utilized and it becomes pertinent for these concepts to be operationalized as used in the context of this work.

2.1 Smart cities: There are many different ways of defining and understanding the idea of a smart city, complicated by overlapping terms such as the knowledge city (Yitcanlar et al., 2008), ubiquitous city (Leem and Kim, 2012), the digital city (Shin and Kim, 2012) and the intelligent city (Komninos, 2008), all of which have slightly different emphases. This study operationalized smart city to depict a city with smart Information and communication technology been central to its overall livelihood processes.

Ensuring sustainable development and quality of life in complex social relations of cities' environment and its inhabitant are imperative concerns to contemporary environmental concerns. Cities are increasingly aware of the concept of "smart city" and are actively developing strategies towards the goal of becoming "smart" and manage city resources more efficiently while addressing development and inclusion challenges. The genesis of the concept lie in Dutton's wired city, which promised to use emerging telecommunications technology to provide unprecedented amounts of data and information to households and businesses through "information highways" that, would create a communications-centric society. Another precursor to the smart city is the digital city, a technologically-defined city that uses widespread broadband infrastructure to support e-Governance and "a global environment for public transactions" (Mitchell, 2000).The notion of smart city is established from the combination of the knowledge society and digital city. It is defined as a "multi-layer territorial system of innovation" made up of digital networks, individual intellectual capital, and the social capital of the city, which together constitute collective intelligence (Komninos, 2008). Economic competitiveness and innovation achieved through the knowledge-based economy marks a city as intelligent, allowing it to generate a "spatial competitive advantage" through industrial districts, regions, and learning clusters that produce sophisticated R&D and are supported by digital networks and artificial intelligence (Komninos 2008).

2.2 Sustainability:

Sustainability can be defined as the way of economic and social development without disrupting the environment. If we consider the Brundtland commission report (The United Nations Report 1987), it defines sustainable development with two concepts: development focusing on the world's poor and

although development is limitless from the technology purview, it still has many limitations considering the environment's ability to satisfy our present as well as future needs. The sustainable development can be broadly classified into Social, Economic, and Environmental sustainability. These would encompass the major requirements of city environments comprising of sustaining water, energy, and food supplies, managing water and reducing greenhouse gas emission. 70% of the world's population is expected to reside in the cities in less than 40 years (Charbel Aoun 2013). Cities are the foundation for providing economic stability to its citizens by attracting business and capital. Cities need to become more efficient, more livable and provide better quality of life, business opportunities and security to achieve social inclusiveness and social sustainability. Cities consume 75% of our energy resources, and emit 80% of the carbon that is harming our environment (Charbel Aoun 2013) A smart city leads its community to become more competitive for capacity, opportunity and investment by providing an enhanced quality of life as well as decreases the environmental consequences of urban life by decreasing its carbon footprint through sustainable and integrative governance.

2.3 Urban

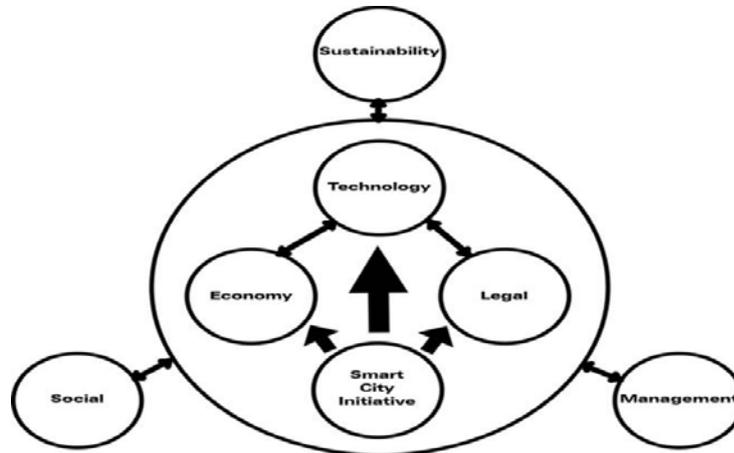
Development in Nigeria: To understand the inherent problems of smart cities and sustainable urban development it would suffice one to take a historical review of urban development plans in Nigeria; 1960-1966: focused its development plan in the country on sectoral and economic planning rather than conscious efforts aimed at resolving physical planning challenges. The second National Development Plan 1970-1974, was formulated as the first after the Nigeria civil war, designed to reconstruct the Eastern parts of the country most affected by the civil war. The 1975-1980 plan that brought a great relief to physical planning activities by including certain policies that

relate to environment and rural development, the establishment of Federal Ministry of Housing, Urban Development and Environment. The greatest contribution of the Federal Government to Urban and Regional Planning during post-independence period and through the third National Development Plan (1975 – 1980) was institutionalization of the concept of new towns which led to the emergence of Abuja, Onne, Satellite town and Festac town. A critical look at the sustainable positions of these towns would argue sternly that outside the present Abuja City and the then celebrated FESTAC towns that is evidently deteriorating as a result of ineptitude of our unsustainable policy thrust with only Abuja seemingly at the forefront of looking smart as a result of bias and political economy of national development in Nigeria. In addition to this, the World Bank started making in-roads into the states for urban development programmes with site and services projects in Bauchi and Imo states which are currently at a laughable stage of development as result of their current socioeconomic and political inability to sustain overtime and adapt to smart ICT utilization in urban governance. Besides, the Federal Government initiated studies on twenty major urban centres. In the Second Republic: 1979-1983, the Military Government handed over power to the civilian administration and the fourth National Development Plan was already in However, the Plan specified clearly the objective of Urban and Regional Planning by defining the role of physical planning as a tool for achieving national development objectives as well as putting forward some policy measures that were of planning interest (Adebayo, 1999). From 1999 to date Nigeria has made efforts and adopted a number of strategies for national development and management.

The National Economic Empowerment and Development Strategy (NEEDS1)-(2003-2007) in 2003 that was translated to State and Local Government versions, State Economic Empowerment and Development Strategy (SEEDS) and Local Economic Empowerment and Development Strategy (LEEDS) – adopted in 2005 and 2007, respectively. The above gave fillip to the National Urban Development Policy (Nudp) (2009); charged with the goal to develop a dynamic system of urban settlements which will foster sustainable economic growth, promote efficient urban and regional development and ensure improved standard of living and wellbeing of all Nigerians by

- (i) Restructuring all existing public institutions involved in urban management at the three tiers of Government and where necessary create new ones with a view to ensuring effective responses to the challenges of urbanization in Nigeria.
- (ii) Prepared regional, master plans, and development plans for all designated urban centers and growth centers within the context of National Physical Development Plan
- (iii) Integrate the urban development policy into the national economic policies of government.

3.0 Theoretical model:



Adapted from: Joshi , Saxena , Godbole,& Shreya (2016)

Based on the exploration of a wide and extensive array of literature from various disciplinary areas, the identified factors– Social, Management, Economy, Legal, Technology, Sustainability, (SMELTS) forms the basis of an integrative framework. This comprehensiveness is the distinguishing factor of the smart city, which integrates a number of physical, institutional, and digital components to create a holistic definition of what smart planning would *be*.

i) Social

The ability for all citizens to communicate with one another and agencies and groups that represent them provides a new sense of possibility to the idea that smart cities are based on smart communities whose citizens can play an active part in their design. Presently there are many initiatives where citizens can first access information about what is happening in their communities and cities but also explore ways in which many different groups can become actively involved in the design and planning process, both in face-to-face and remote situations using data, scenarios and models all informed by the contemporary ICT (IFF. 2020 Forecast). **Joshi , Saxena ,**

Godbole,& Shreya (2016) argued that cities that are smart only with respect to their economy are not smart at all if they disregard the social conditions of their citizenry. Smart cities initiatives should be sensitive in balancing the need of various communities. Projects of smart cities have an impact on the quality of life of citizens and aim to foster more aware, educated and informed citizens. Also, smart cities initiatives allow the citizens to participate in the governance and management of the city and become active users. If they are key players they may have the opportunity to engage with the initiative to the extent that they can influence the effort to be a success or a failure. The smart city is invisible to many citizens, which makes it difficult to get them engaged. But the smart city is about all citizens, not just a group of enthusiasts. It is about daily chores and everyday life. Social Media also plays an important role in smart city initiatives. As the smart city is about altering attitude, communication is a critical factor in engaging people by showing them the enormous value of data. In addition to the traditional role of a watchdog on behalf of the people – the media now needs to work on being the – Disseminator of information; Educator – on a variety of aspects of modern urban living and Simplifier of policy and how it impacts individual lives. Reaching a large audience is hard in a time where the media landscape is changing rapidly.

ii .Urban city Management:

Governance is a major execution challenge for smart cities. Limited transparency, fragmented accountability, unequal city divisions and leakage of resources are some of integral characteristics of regular governance. A move from this type of governance to digital or e-governance is essential for an effective and efficient administration of the smart cities. Smart Governance includes political and active participation, citizen services and the smart use of e-Government. (Gil-Garcia & Pardo 2005) suggested a list of success factors and challenges

for e-government initiatives which can be extended to the smart city governance as most smart city initiatives are also driven by governments and leveraged by the exhaustive use of technology to better serve citizens. E-government can be explained as an initiative to improve the decision making process, improve public policy-making and improve public governance – all with ICT at its foundation. E-governance helps the citizens to involve comprehensively in all these aspects. Internet is the most widely used channel of communication for many people and thus cities can incorporate it to identify the needs and wishes of the different target groups and address them in the most effective manner. ICT can enhance democratic processes and increase opportunities for individuals and communities to interact with the government. Internet enables greater participation, as it incapacitates the restrictions imposed by geography, disabilities or other factors. It also enables access to information by individuals and groups that had not been included previously. Smart governance is an important characteristic of a smart city that is based on citizen participation (Giffinger, Fertner, Kramar, Kalasek, Pichler-Milanovic & Meijers, 2007) and private/public partnerships. Smart governance relies on the implementation of smart governance infrastructure that facilitates service integration, collaboration, communication and data exchange (Odendaal, 2003). *Legal* Evolution of smart cities cannot be successful without legitimate legal compliances. Also councils, governments and other political bodies influence the operation of these initiatives. So both political and legal components are crucial for smart city development (Mauher & Smokvina, 2006). Governments and the organizing entities must write down policies that support the development of smart cities (Eger & Maggipinto, 2010). Legal and regulatory issues should be tackled accordingly by the government for frictionless development of a city. City governments must boost pro-active

steps for implementing and managing smart city drive by framing laws and policies that become the fulcrum for growth and development. Technological innovations are necessary but innovations in policy making are even more essential and are obscure (Hartley, 2005). The policies must conform to both technical as well as non-technical requirements that are imperative for urban growth (Yigitcanlar & Velibeyoglu, 2008).

Smart cities face various challenges with respect to legal compliances, environmental and regulatory issues that dominate the policy context (Gil-García & Pardo, 2005) . Before taking any kind of decisions, rules and regulations must be kept in mind (Mahler & Regan, 2002). Knowledge of policies, law and restrictions is critical in understanding and using Information and Communication Technology in a proper manner. Smart cities must be governed on the grounds of well-laid principles and guidelines. Therefore, principles and policies are important for efficient and smooth working between administration and local public bodies.

iii. Technology

For an ordinary city to transform into a “smart” city, technology (notably ICT technologies) plays major role. Modern cities are getting smarter because of rapid evolution of technology. Problems can be avoided, anticipated and mitigated by analyzing huge data available. This is where Big Data comes into picture. Various devices and components must be connected with each other to facilitate real-time decision making. Smart cities must exploit information and communication technology to increase sustainability and improve quality of life for the citizens (Bakici, Almirall & Wareham, 2013). Information and Communication Technology is one of the most essential drivers of the smart city initiative (Hollands, 2008). The amalgamation of these drivers along with others such as sustainability and quality of living can

completely transform the prospect of urban life and can boost the proper functioning and management of the cities (Odendaal, 2003; Vasseur, 2010).

Despite taking center-stage in the development of a smart city, technology has some hurdles. Use of ICT can certainly raise the standards of living but it also faces fierce challenges (Odendaal, 2003). Technologically sound human resource with practical skills is limited in urban cities of Africa due to access to quality education and ICT resources. Moreover, educating and training these employees with IT skills can be a major challenge. Politics, cultural differences and lack of inter-departmental cooperation are some of the organizational barriers that lie ahead of smart city development (Ebrahim & Irani, 2005).

4.0 Implications for Policy

The Nigeria state and smart city initiative: an assessment of smart urban development policies.

A critical assessment of infrastructures in major cities in Nigeria significantly challenge the actualization of smart city initiatives as a result of the social, economic and physical threat associated with urban sustainability of its basic infrastructures in its cities. There is inadequate capacity of the Nigerian state to provide sustainable energy; portable water and infrastructural development as a result of the endemic political economy of underdevelopment and leadership in Nigeria thus contribute to the mirage of actualizing smart cities initiatives. This is in concordance with Fadare & Oduwaye (2009) who noted that the situation of smart infrastructure in Lagos metropolis accordingly shows that smart infrastructure in Lagos metropolis is a mirage and the condition of infrastructures such as road, drainage, electricity and other infrastructure is described as appalling with ugly environmental sights, slum

areas, poor electricity, poor sanitation, inadequate and inappropriate use of open spaces, informal settlement, unorganized commercial areas and disjointed transportation system. Fadare & Oduwaye, (2009) advocates a rebranding of Lagos metropolis through regeneration of the city with heavy investment in modern infrastructural facilities, especially electricity supply, roads, bus rapid transit (BRT) and railways. Against the backdrops of above, this study argued that a critical analysis of the definitive components of smart city initiatives in Nigerian should suffice the integration of smartness in cities initiatives as a policy concept and thrust to depict the integration of smart ICT apparatus in overall urban development. we argued that at present there is virtually absence of smart city policy document though it can be adduced that there are some element of smartness in governance of urban cities in Nigeria looking at the policy thrust of efficient transportation network and traffic management in Lagos, Abuja and Enugu states just to mention, despite the non applicability of smart phones to enhance social relations of overall urban ecological management. This situation is responsible for the communication divide between government and the grass root population who have to struggle their way out of the technological divide and access to internet facilities. In addition, it would suffice that growing model of smart urban housing patterns and street linkages, ability of security institutions to receive information on crime and enforce rapid response and smart intelligence gathering, revamping of old metering system to smart metering of electricity, water and other social services been provided by the Nigerian government remains a huge clog to actualization of smart city initiative.

This study thus noted that a comprehensive need to integrate information and communication technology in overall urban

management should be a matter of necessity to trigger the development and boost the Knowledge, Attitudes and Perception of urban dwellers of the need to adopt eco-friendly attitudes towards urbanization in Nigeria. It suggests that institutional framework on redesigning our cities in such a manner that access to information and development of smart social relationship of city dwellers towards their immediate environment especially on contemporary urban challenges should be integral to actualizing the imperative of its sustainability. Consequently, the study argued that the role of smart cities initiatives though faintly observable are virtually inadequate and poorly instituted in the policy implementation process of urban and sustainable development initiative in Nigerian, owing to plethora of institutional and cultural pitfalls on urban residents' whose level of knowledge, attitude and perception of smart city's theoretical assumptions is still at infancy. To achieve urban sustainability therefore, the study suggests sectoral synergies and review of overall city development policies in Nigeria and the incisive infusion of sustainable smartness that would be culturally complementary to our sentiments and values.

6.0 Conclusion

This study established the policy need for the Nigeria state to adopt smart city initiatives in ensuring sustainable urban development that is capable of achieving the sustainable development goal no 11 target in due course. Following this submissions, it concludes that the Nigerian State must address the institutional impediments challenging good governance, policy implementation process of urban development, information technology knowledge/awareness, availability and

affordability of smart information and communication technologies for average urban city population.

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A REVIEW ON THE FACTORS AFFECTING TEACHER ADOPTION OF ICT IN NIGERIA

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Abstract

Corruption in Nigeria has contributed positively to the difficulties in improving educational system. The emergence of internet technology and deployment of ICT into the education systems have created a new demand in expanding the teacher's skill especially in the developing countries like Nigeria. This study aims to investigate the factors affecting teacher's adoption of ICT in teaching and learning in Nigeria secondary schools. This quantitative study adopted used a survey method and recommended ways to assist the school management and teachers in implementing ICT in the teaching and learning process.

Keyword: Nigeria education system, Teacher adoption of ICT, Teaching and learning process.

Introduction

Transparency International in 2014 was surveyed 163 countries the result shows that Nigeria was ranked the 38th most corrupt country in the world. Corruption is the hydra-headed monster and a cankerworm that undermines the fabric of all societies. It constitutes a serious threat to good governance as well as development programme aimed at improving educational systems in Nigeria. Corruption in Nigeria wears many kinds of

unattractive and dirty clothes. The situation has made educational system backwardness as the money which would have been used to provide infrastructures in our schools are being diverted into the pocket of small group of persons.

In this regard, Egbochuku (2003) explained that Nigeria has become very notorious in corruption, and it is massively taking place in low and high positions. There have been some complaints and reports of reckless looting of Nigeria's treasury by accounting officers of all tiers of government, parastatals and agencies, banks, oil sector, and construction companies, among others, that so much hard-earned money is being siphoned out of the country and stocked in foreign bank accounts. Most of the Nigeria ex-governors have been severely indicted for gruesome involvement in money laundering. Such monies are supposed to be used for developmental projects which stimulate investments, production, savings and employment, and invariable enhance good standard of living of the citizens. Instead, many people have continued to wallow in abject poverty, unemployment and shortages of infrastructures in schools and poor maintenance culture of public utilities (Kwabena, Kwame and Roderick, 2013).

Globalisation and the diffusion of ICT in all spheres of life have created a social system which is driven by knowledge and powered by technology. Information and communication technology (ICT) is playing a major role in shaping 21st century global education and making impact on secondary school education. The federal ministry of education created its ICT department in February 2007, notwithstanding several government agencies and other stakeholders in the private sector having initiated ICT-driven projects and programmes to impact all levels of the educational sector (OseiAgyeman, 2007). The quality of education depends on the qualities and abilities of teachers (Strong, James 2007). Well trained, component, and committed teachers can exceptionally deliver

their knowledge to their students. Today, the quality of teaching and learning is also reflected with the used of teaching aids such as computer, multimedia application in teaching and learning processes however the effectiveness of these tools on technology is not fully proven throughout its implementation at schools. Thus this study will investigate the factors that may affect adoption and use of ICT in teaching and learning processes particularly at the secondary school level.

Several factors such as lack of electricity, internet connection, training and infrastructure affect the adoption of ICT in the Nigeria education system. These factors act as barriers and challenge that slowing down the schools from adopting ICT in their classes. The ICT skills of teachers are one of the critical factors which must be improved. The ICT barriers in Nigeria secondary school system are similar to other countries. These barriers include societal rigidity, poor ICT education and corruption. These barriers limit the access of teachers and students to ICT education. The accessibility of ICT depends on the availability of infrastructures that support technology. The integration of ICT in the education system were largely depends on the availability, competency, and attitude of teachers toward using the technologies in the class, (Vongalis-macrow, 2006). Facts showed that the developed countries like England and Australia have made quite a considerable investment in ICT development and to integrate with their education systems by having a well formulated ICT national policies and specific strategies (Kamau, 2012). The contents of the national curriculum statements of the countries like, the UK, the USA and Australia have provided clear evidence for this paradigm shift from traditional teaching and learning approach to the infusion of ICT as a significant tool in the school curricula (Tinio, 2003). Some of the African countries have ICT policy aimed at improving educational system through ICT adoption into teaching and learning. As a

part of the global village, after 1994 the South African government introduced an education system which made provision for the same education for all South African learners. The policy also prescribed for the use of ICT by all schools to improve and enhance teaching and learning. This is supported by the policy statement (White Paper, 2004; GED, 2007; Kwabena, Kwame and Roderick, 2013) which stipulates that all South African learners must be ICT capable for the future. As part of the new social structure and the aspiration of making the South African Society an information society, computer laboratories with internet connectivity have been established in many urban schools to enhance and improve the quality of teaching and learning and to realise the national objective of the information society (White Paper, 2004; Kwabena, Kwame and Roderick, 2013).

On the other hand the developing countries like Nigeria and others are rapidly and heavily investing in ICTs despite the other challenges they face for instance insufficiency of infrastructure, resources, knowledge workers and technical skills with regards to ICT especially in rural areas where most schools are located (Roy, 2005).

ICT in Nigeria education system

Nigeria as a nation has recognized the potential of ICT in their educational system well on time. A national policy on computer education was developed to cater the need for ICT deployment and integration with the Nigerian educational system (Yusuf, 2005). In Nigeria, the ICTs usage is increasing and its growth is quite dramatic (Tella, 2007). However, at school level, the ICT implementation is still lacking due to various factors. For instance, schools cannot afford to have ICT facilities due to high investment cost, lack of basic infrastructures such as electricity supply, lack of adequate training, and inadequate funding of internet connectivity (Owoloabi, 2013).

A research by Omoniyi and Quadri in 2013 reported that majority of teachers in secondary schools do not have the required competency in the use of ICT (Omoniya. 2013). Another study by Obakhume, (2011) most of the teachers lack knowledge, competence to use ICT to facilitate teaching and learning process (Sukamolson.2012). Rangaswamy & Gupta, (2000) describes adoption as the decisions that individuals make each time that they consider taking up an innovation. ICT can be adopted in various ways; ICT does not only present innovation in the field of education, but also enhancing the efficiency of the teaching and learning.

Review of related literature

There are many factors identified as hindrances to the adoption of ICT into teaching and learning. Research literature on the adoption of ICT into teaching and learning shows that it involves a large number of influencing factors (Mumtaz, 2000). Rogers (2003) indicates that, “Technological innovations are not always adopted rapidly, even when the innovation has proven advantages”. Pelgrum (2001) listed personal ideas about the contribution that ICT can make to the processes of teaching and learning. He again argued that, teachers’ lack of knowledge and skills; insufficient number of computers and ICT infrastructure; and difficulty in integrating ICT instruction in classrooms as some of the factors that impede ICT integration in education. In a similar study, Ely (1993) identified: dissatisfaction with the status quo, existence of knowledge and skills, and availability of resources as major conditions relevant to ICT integration. In comparison, the two studies reveal something similar because existence of knowledge and skills relates to factor relating to teachers lack of knowledge and skills. Also availability of resources is similar to insufficient number of computers and ICT infrastructure. Finally dissatisfaction with the status quo is somehow related to

difficulty in integrating ICTs instruction in classrooms. Mooij and Smeets (2001) also assert that, if teachers are not confident in their competence to handle computers, their willingness to use ICT may be affected. Use of ICT in education for the purpose of teaching, research and learning is a kind of innovation because Rogers (2003) use innovation and technology interchangeably. Rogers (2003) identified five innovation characteristics that influence the decision to adopt innovation as: relative advantage, compatibility, complexity, trialability, and observability. He believed that when an innovation is perceived by users as having greater relative advantage, compatibility, trialability, observability, and less complexity, the innovation will be adopted

More rapidly, it can therefore be said that, relative advantage, compatibility, complexity, trialability, and observability have direct relationship with ICT adoption and use while complexity has an inverse relationship with ICT adoption. Butler and Sellbom (2002) also examined the factors affecting teachers in adopting new teaching technologies and barriers emerging during adoption. This research concluded, among other things, that trust in technology has been identified as the most important factor in teachers' decisions whether or not to adopt ICT. Know-how, difficulty in learning and time required to learn was also an important factor in adoption. Believing that technology enriches and improves education, difficulty using technology and management support appears as other factors affecting adoption of ICT into teaching and learning.

Challenges to ICT education in Nigeria

The opportunities that ICT provides for teaching and learning processes also come with challenges. ICT has a key role to play in enabling the education industry to manage complex information flows and to integrate them towards effective

educational planning and development. Although ICT holds great potentials in supporting and augmenting existing educational as well as national development efforts in Nigeria, several challenges remain. These challenges include:

1. Resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods, by both teachers and students. The attitudes of various managements in and outside Secondary schools towards the development of ICT related facilities such as the Internet and procurement of computers is rather slow in some instances, and in others there are no aids or support by the government at all (Albirini, 2006).
2. Inadequate ICT infrastructure including Computer hardware and software and bandwidth/access.
3. Lack of qualified ICT personnel. Most of secondary school teachers lack computer literate and ICT experts that would support and manage the Internet connectivity and/or application of computing in the teaching-learning process. The cost of equipment in a country like Nigeria with economy recession and seriously devalued currency is enormous. However, it should be noted that the problem might not be the funds nor the technology but rather the corruption and will on the part of government (Itegboje and Okubote, 2002).
4. Nigeria lacks the necessary infrastructural facilities to benefit from ICT. Again, most of the ICT infrastructures such as internet, telefax, e-mail are dependent on mobile telecommunication service provider, NIPOST (Nigerian Postal Agency) and Kaduna electricity. These services are epileptic in delivery and attract unbearably high bills.

Factors that discourage ICT adoption and use

Many studies investigate why teachers do not use ICT in their teaching and learning process in their school as according to (Winnans and Brown, 1992; Dupagne and Krendl, 1992; Hadley and Sheingold, 1993; Kwabena, Kwame and Roderick, 2013). Identifies the following factors were from their studies as factors that prevent teachers from using technology in their schools.

- Lack of teaching experience with ICT;
- Lack of on-site support for teachers using technology;
- Lack of help supervising children when using computers;
- Lack of ICT specialist teachers to teach students computer skills;
- Lack of computer availability;
- Lack of time required to successfully integrate technology into the curriculum;
- Lack of financial support.

Methodology

The study was mainly quantitative and was aimed at investigating the factors affecting teachers adoption of ICT in teaching and learning in Nigeria secondary schools, Sokoto State was selected area of study it has three (3) senatorial zone, namely as follows central senatorial one, western senatorial zone, Eastern senatorial zone. Were the teachers serve as respondents selected from each zone, Questionnaires were the instrument used to collect data from the respondents were seventy (70) from CSZ, sixty (60) from WSZ and fifty (50) from ESZ. Statistical Package for Social Sciences (SPSS version 20) was used to analyse the data collected. Total of one hundred and eighty (180) questionnaires were distributed. All the 180 distributed questionnaires were completely filled and returned in time. This therefore gave a response rate of 100%

which was reliable and valid, since the design involve obtaining information from a wide section of respondents at once without need to follow up the respondents for further information (Amin, 2005).

Results

The table below shows frequencies and percentages of demographic information of respondents collected based on gender, Age, Education level, Internet access, In-service Training, teaching and computer experiences, and computer usage. It revealed also that majority of the teachers have access to internet from outside their school environment.

Table 8.2.4.1: Demographic information on respondents

Variables	Category	Frequency	Percentage %
Gender	Male	115	63.9
	Female	65	36.1
Age	25-30	75	41.7
	31-35	54	30.0
	36-40	32	17.8
	41 and Above	19	10.6
Education level	NCE	125	69.4
	Bsc Ed	45	25.0
	Msc Ed	10	5.6
Internet access	Inside school	13	7.2
	Outside school	167	92.8
In-service Training	Yes	130	72.2
	No	50	25.7
Teaching experience	Below 5yrs	35	19.4
	5-9 years	72	40.0
	10-14 years	43	23.9
	15-20 years	12	6.7
	20 and above	18	10.0
Computer Experience	1 year	25	13.9
	2-4 year	49	27.2
	5-9 years	60	33.3
	10-14 years	29	16.1
	15 and Above	17	9.4
Purposes of Computer usage	Internet browsing	85	47.2
	Social Media	60	33.3
	Teaching and learning	35	19.4

Table 8.2.4.2 shows teacher knowledge of browsing, downloading and uploading material from the internet, while on the other side it revealed that teachers need to carry out some improvements to the skills in preparing lesson by using ICT; it also shows that there is need to increase ICT skills in the area of creating learning material using multimedia in order to be capable for the ICT adoption in teaching and learning process.

Table 8.2.4.2: Teachers skills and knowledge

Variables	VP (%)	P (%)	F (%)	G (%)	VG (%)	Means	Std. Dev
Browsing the internet, downloading & up loading	1.1	8.5	4.7	30.8	50.9	4.36	0.839
Producing simple document using MS word processing	6.4	8.1	10.4	30.1	45.0	4.09	1.118
Create a presentation using Ms PowerPoint	9.3	7.1	10.4	18.0	55.2	4.03	1.336
Preparing my lessons using ICT	18.2	43.7	18.0	8.7	11.3	2.91	1.306
Creating learning using multimedia	12.7	45.9	26.8	8.7	5.8	2.89	1.133
Communicating with others via social network, email etc	6.5	10.6	9.3	35.0	37.5	4.33	0.758

Table 8.2.4.3: Factors that affect ICT in teaching and learning

Variables	SD (%)	D (%)	N (%)	A (%)	SA (%)	Means	Std. Dev
I think it is important to improve my computer skills	1.1	4.4	3.3	33.9	57.4	4.42	0.841
Insufficient and irregular power supply (electricity) in my school	2.2	3.3	1.6	36.1	56.8	4.42	0.860
I will use educational technologies if it is offered in the classroom	4.9	4.4	1.6	31.7	57.4	4.32	1.053
Inadequate number of computer in my computer lab	7.1	9.8	1.6	33.3	48.1	4.05	1.239
There is insufficient amount of in-service training in ICT	5.5	6.0	2.2	72.7	13.7	3.83	0.931
Lack of technician to helps teachers with the computer hardware and software	5.5	3.8	1.1	74.3	15.3	3.90	0.896
ICT equipment such as overhead projector is	14.8	59.6	2.7	18.0	4.9	2.39	1.093

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available in my classroom							
My schools has its own computer networks	54.1	31.7	1.6	9.8	2.7	1.75	1.069
I feel too old to learn how to use computer	31.1	59.0	1.1	4.4	4.4	1.92	0.943

From Table 8.2.4.3, the teachers were asked to express their view about factors affecting ICT adoption in teaching and learning on five (5) likert scale ranging from SD, D, N, SA and A. The table shows descriptive statistics based on perception of the factors that affect ICT in teaching and learning. It revealed that the actual state and levels of ICT skills of the teachers in secondary schools need to be improved. They face many challenges while adopting ICT in teaching and learning at secondary schools. It shows that current situation will help in providing things to do for achieving the ideal state of ICT adoption at secondary schools level.

Conclusion

An ICT development framework must be established to improve the competency of teachers in their ICT adoption in secondary school. This framework can represent the essential characteristics of ICT development, which can guide teachers and other education stockholders. This study can be used as a basis for the development of teacher’s ICT skills. Further study related ICT skill standards for teachers should be set up at all level which offers strategies for planning training needs and staff development programs in order to equip them with essential skills for adoption and use of ICT tools in their classrooms.

Recommendations

The study recommends that:

Government should provide a comprehensible and practicable action plan to increase the usefulness of ICT adoption for teachers of secondary schools.

It also recommends that the proposed strategies for enhancing the effective utilization of ICT facilities in teaching and learning at secondary school level should be provided. Teachers should be motivated to be committed to the students learning and to their own development; increase their access to sufficient quantities of technology.

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TOWARD ADDRESSING CHALLENGES OF ENVIRONMENTAL EDUCATION: A PANACEA FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

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Abstract

Recognizing that no meaningful sustainable development can ever be achieved without the necessary attention to the environment, this review identifies the definitions, aims and objectives of Environmental Education, threats to the environment, and status of Environmental Education in Nigeria. It recommends collaborative efforts between governments, NGOs and other professional associations to address challenges of the environment and Environmental Education.

Introduction

Environmental challenges have been viewed as a critical factor in today's changing world. These have been addressed by various organizations both at the local and international levels. Environment education has been given several definitions, Wushishi (2006) sees Environmental Education as the process of recognizing values and classifying concepts that enable man

to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among them, his culture and his biophysical surroundings. Others see Environment Education as learning how to manage and improve the relationship between human society and the environment in an integrated sustainable way. Muibat et al (2008) sees Environmental Education as a problem-solving technique which is concerned with experience, observations, monitoring and measurement of environmental systems and problems aimed at solving environmental issues. This approach is said to use both scientific and humanist approaches of taking responsibility for the whole system.

Wushishi (2002) observed that the aims of environmental education include:

- ❖ Fostering a clear awareness of and concern about economic, social, political and ecological interdependencies in urban and rural areas
- ❖ Providing every person with opportunities to acquire knowledge, values, attitudes commitments and skills needed to produce and improve the environment.
- ❖ Creating new pattern of behavior of individuals, groups and society as a whole towards the environment.

And UNESCO (UNEP) identified the objectives of Environmental Education as follows:

1. Awareness to help social groups and individual acquire an awareness and sensitivity to the total environment and its allied problems.
2. Knowledge to help solid groups and individuals gain a variety of understanding of the enrolment and its associated problems

3. Attitudes to help social groups and individual acquire a set of values and feeling of concern for the environment.
4. Skills to help social groups and individuals acquire the skill for identifying and solving environmental problems.
5. Participation to provide social groups and individuals skills to be actively involved at all tends of working towards resolution of environmental problems.

The report of Brundtland Commission, *Our Common Future*, of 1989 published by Oxford University Press as Holbrook in 2009 was welcomed by the United Nations General Assembly in its resolution 42/187, which reads thus, *Sustainable Development is defined as development that meets ones needs of the present without compromising the ability of future generations to meet there own needs*. Perhaps not satisfied with the Commission's definition, Barbaza (2000) offers an alternative meaning which is seen as more appropriate for the African context thus, *Sustainable development is the will to follow the national approach to economic administration and the creation of economic policies to manage public matters of efficiently and periodically, and to show respect and progress to endure towards democracy, with full participation of all concerned actors, while taking into account specific local circumstances*. Similarly, Summer (2005) say that sustainable development involves a set of structures and processes that build the civil commons, which is based on values that promote life first, and for most this is but a factor of co-operation rather than competition and a human construct not a national acquiring phenomenon. Okebukola (2009), on the other hand, report that sustainable development means balancing the fulfillment of human needs with the protection of natural environment so that these needs can be met not only on the present but in the indefinite future.

All these definitions are not without criticism depending on the meaning attached to education. In the words of Wasagu

(2009), sustainable development is simply meeting and sustaining the needs of society in the global competition without sacrificing its resources.

Major threats to environment

There are several threats to the environment today, which if not given the required attention, the continuous survival of man on earth may not last long. These threats, which linkedd to living unattainable lifestyle, are:

1. The quality of the earth atmosphere is being threatened by many of the byproducts of science and technology. Air pollutants, such as SO₂, NO₂ and accumulation of CO₂, are responsible for the all disturbing greenhouse effects and ozone layer depletion condition facing the atmosphere today (Muibat et al, 2008). This has caused disturbing climate changes, such as increase in mean temperatures by 2.4-5.8°C between 2007-2100.
2. Coastal flooding is another serious threat caused by unsustainable development. It is estimated that by the year 2080, the annual number of people at risk from coastal flooding could increase from about 10 million to about 80 million worldwide (Okebukola, 2007).
3. Loss of soil productivity through desertification and it's likes are another serious threat to the environment. It was estimated since 1990s that world farmers are losing an estimated 24 billion tons of top soil from their crop lands annually. The effect of this is already being felt especially in the developing countries in form of contemporary insufficient food production by nations known to feed themselves before the advent of such conditions, e.g. Nigeria.
4. The world fresh water supply depletion is on the increase. This is as a result of the ever-increasing demand for water to

- meet the needs of the growing population. Industries and agricultural development coupled with other regional demand for the resources and its distribution is on the increase (Starr, 1991).
5. Modern technology is one of the major factors responsible for the loss of genetic diversity/biodiversity. This is a serious problem because of the cumulative consequences these losses may have for our ability to develop new sources of food and drugs essential for the survival of mankind. Experts assessed the rate of which species are becoming extinct at 1,000 to 10,000 times higher than the natural rate (Okebukola, 2007).
 6. The disposal of contaminated and hazardous materials both biodegradable and otherwise is posing serious challenge to the environment. Dangerous chemicals such as chlorofluorocarbons (CFCs), fertilizers, pesticides and so on have accumulated underground in water and in air with corresponding threats to human survival.
 7. Deforestation, although only important in the developing countries whose people seriously depend on the forest for their source of fuel for cooking and other practices of peeling the backs of the trees for medicinal purposes, clearing of vast land for agriculture and animal rearing and formation of new settlements all poses a serious threat to the environment.

Status of Environmental Education in Nigeria

The inclusion of Environmental Education started with the 1908 Educational Ordinance (Abdullahi, 1982). Fatubarin (1982) observed that some Environmental Education courses which were formally left exclusively for secondary school levels have been introduced into the primary school curriculum. Okebukola (1992) observed that at secondary school level of education, environmental issues are discussed in biology, chemistry and health sciences. He also reported the

establishment of environmental science units in some universities.

Umzurike (1992) revealed gross inadequacies in the national primary science core-curriculum in achieving the environmental educational goals and objectives. Accordingly, she called for the review of the curriculum package in terms of content, performance objectives and prescribed activities to be able to address the issues.

At secondary school level, Olagunju (1997) revealed some serious deficiencies in the curriculum, hence the need for work on the secondary school curriculum. However, Okebukola (1990) has it that the National Biology curriculum is enriched with several Environmental Education topics, but Naibi and Lawal (1993) reported that the topics are yet taught and learned with examination in mind.

The need for Environmental Education has gone beyond including it in some academic subjects like biology and chemistry. The need for a curriculum conference to address issues regarding Environmental Education is better today so as to adequately cater for the future generations.

Environmental Education and Sustainable Education Development

The critical position of Environmental Education for Sustainable Development needs no emphasis with the declarations of 2005-2014 as the Decade for Education for Sustainable Development. As opined by Okebukola (2007), the United Nations (UN) recognizes that there can be few more pressing and critical goals for the future of the human kind than to ensure steady environment in the quality of life to this and future generations in a way that respects our common heritage, the planet we live on. The link between environment and development was first made in 1980 when the Intellectual Union for the Conservation of Nature published by the World

Conservation Strategy linked it with Sustainable Development. The field of Sustainable Development can be looked into four consistent parts namely, (a) environmental sustainability, (b) economic sustainability, (c) social sustainability, and (d) political sustainability. It is, therefore, clear that environment and environmental education is a key issue for the realization of sustainable development.

This strong linkage was quite appreciated world-wide, which resulted into among other things, the UN Conference on the Human Environment in Stockholm in 1972, which focused on environmental issues where it emphasized the need of the interrelationships between the environment and socio-economic issues of poverty and underdevelopment, the 1992 UN Conference on Environment and Development popularly referred to the Earth Summit and the Johannesburg Summit 2002. In the same line, UN bodies and programmes have emerged, such as the United Nations Environmental Programme (UNEP), the World Bank, the World Wildlife Fund for Nature and the World Conservation Union.

As expected, UN member countries have developed sustainable development strategies in the same direction as the UN systems in order to key into their goals. In Nigeria, for instance, there are federal and state ministries of environment, as deliberate efforts to give the issue of the environment its rightful position with the desire to build a truly sustainable development.

Emergency problems

One serious observed problem is the poor implementation of good and efficient policies of national or international sources. Others are inadequate sensitization of public on the need to pay serious attention on environment so as to give Environmental Education its rightful positions in our schools systems. There is inadequate public enlightenment for the need of protecting, conservation as well as the restoration of the degraded

environment. There is also inadequate enforcement of enabling environmental laws.

Conclusion

No meaningful sustainable development can ever be achieved without the necessary attention to the environment. Therefore, Environmental Education is necessary towards meeting the challenges for sustainable development. The need for collaborative efforts between governments, NGOs and other professional associations having bearing on the environment towards addressing challenges of the Environment and Environmental Education is very desirable.

Recommendations

- ❖ The need for adequate policies specifically the need for national curriculum conference, to address issues of environmental education and putting it in its right place in the curriculum at all levels of education in the country.
- ❖ The need for adequate manpower training on environmental education and provision of special grant or funds possibly through (TetFund) to upgrade the standard of teachers at tertiary institutions.
- ❖ Public mobilization on environmental issues (particularly the evil acts of indiscriminate felling of trees without replacement) through media and development of relevant posters and jingles, etc.
- ❖ Provision of relevant environmental educational textual materials such as textbooks, teacher's guide, journals, etc.
- ❖ NGOs and professional associates need to join efforts with other institutions like schools, religions organization and other social groups for better improvement of their activities that have bearing on the environment..
- ❖ There is need for improved legislation for the protection of the environment.

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THE IMPACT OF VARIATIONS IN TRANSPORT POLICY- COMPLIANCE ON FLEET MANAGEMENT IN NIGERIAN INSTITUTIONS: A CASE OF THE UNIVERSITY OF PORT HARCOURT, NIGERIA

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Abstract

Misuse of public vehicles and fuel cards is becoming a worrisome menace. This study examined the level of compliance to the vehicle use policy of the University of Port Harcourt, Nigeria. The descriptive study used likert-scaled questionnaire and movement register for data sourcing, and inferential statistics for analysis of generated data. Respondents were vehicle users of the Logistics & Transport Unit of the Office of the Vice-Chancellor, University of Port Harcourt. Findings revealed proportional improvement in policy-compliance and inversely proportional rise in maintenance/operational costs with enforcement of policy as well as expected decreases in the vehicle maintenance/operational costs. There was a strong and positive correlation between policy implementation strategies and the rate of compliance by the vehicle users. The strength of the relationship between the variables under study was 98.10%. Variation in the rate of compliance by the vehicle users was explained by changes in the policy

implementation strategies. The study recommended unrelaxed efforts at policy-compliance enforcement.

Keywords: *Transport fleet management; Policy-compliance; Maintenance costs*

Introduction

ICAC (2008) observed that the menace of misuse of public facilities is more rampant in the use of public vehicles and fuel cards. The spate of misuse of public vehicles allotted to some officers of the University of Port Harcourt is a key issue of concern to the University authorities (Wabali, 2015).

Ndikom (2008) emphasized that policy formulation is a reactive process, which may be characterized by some ad-hoc responses to specific problems as they acquire some critical dimension within the transport system. To regulate the use of public vehicles, checkmate unprofessional conducts, ensure accountability, instill safety consciousness, and forestall some sharp practices of drivers and vehicle allottees, the Transport Unit of the University formulated some extant rules, regulations and standard operating procedures.

As is always the case with laws, compliance to the policy poses another great measure of difficulties (Bethel-University, 2016). Non-compliance to rules and regulations guiding the use of public vehicles in the University of Port Harcourt manifests in such acts as the use of official vehicles without proper permission from the relevant authority, use of official vehicles by unauthorized persons - friends or minors of the allottees, low sense of safety and lack of adequate security measures on the part of university drivers, reckless use of vehicles by both allottees and their drivers, which in some cases have resulted in traffic crashes, thereby endangering the lives of drivers, passengers and other

road users and increasing the operating and maintenance costs of the vehicles.

Others are the inability or deliberate refusal of the drivers to complete and submit log books domiciled in each vehicle (Eneonwo, 2014), irregular completion of fuel coupons, movement registers and other forms of documentation, failure to disclose cases of minor crashes, diversion of vehicles to unauthorized places before and/or after assignments, speeding in excess of the maximum allowable limit of 50km/hr in built-up areas, 80km/hr on highway and 90km/hr on expressways for cars (Weiland, 2015; FRSC, 2012), drunk-driving, failure of drivers to carry out appropriate pre-driving and post driving checks (WOFT checks: water oil, fuel/fan belt tension and tyres) and inspection and detection of potential sources of danger, failure to carry out the post driving checks - checking for water leakages, oil droplets, tyre pressure and examination of the volume of lubricants, ensuring that vehicle is properly parked with glasses shut, doors locked, and prompt cleaning of the vehicle after each use (One-Motoring, 2013).

This work set out to examine the place of vehicle policy in the overall management of fleet in public institutions. It x-rays the impact of the current rate of compliance to the policy on the overall fleet management concerns of the University of Port Harcourt. It investigates the level of relationship between the current rate of policy compliance and the operational efficiency and operational cost of the fleet. The specific objectives were to:

1. identify the factors responsible for the operational failure of University vehicles.
2. determine the effectiveness of the policy in the overall fleet management practices of University.

3. ascertain how the level of compliance to the policy has aided the increased rate of vehicle failure and un-serviceability.
4. determine level of awareness of the provisions of the policy by the drivers and their principals.
5. highlight relevant lessons that can be learnt from the study.

The research questions were:

1. What are the factors that hamper the operational efficiency of the University fleet?
2. How effective is the University policy on use of public vehicles in the overall management of the University fleet?
3. Is the current rate of compliance to the policy on use of public vehicles responsible for the increased spate of vehicle failure and subsequent relapse to unserviceable state?
4. How knowledgeable are the drivers and their principals about the rules and regulations guiding their use of University vehicles, otherwise known as terms and conditions of allocation?
5. What are the lessons that can be learnt from this study to improve on fleet management in similar institutions?

Two null hypotheses formulated to guide the study were:

H₀₁: There is no significant relationship between policy implementation strategies/steps and the rate of compliance by the official vehicle users in the University of Port Harcourt.

H₀₂: There is no significant relationship between policy compliance rate and the proximity of official vehicle users' residence to designated parks of the University of Port Harcourt.

This study set out to examine the policy of the University guiding the use of her vehicles, with a view to reviewing the policy and

highlighting relevant issues for improved compliance, enforcement and monitoring. The study will enhance the appreciation of the impact of adequate policy framework on the management of fleets. It will improve the lives and properties saving measures resulting from matters that may have been addressed by the policy. It will reduce the increasing rate of relapse to conditions of un-serviceability and consequent premature boarding of otherwise public vehicles. The work will be useful for the reduction of the present phenomenal increase in the operating and maintenance cost of the University vehicles, and so provides funds for other pressing needs. It will guide the University management in taking more proactive informed decisions on the disposal of public vehicles, especially through the notorious public auction sales. The work will serve as a light and guide for further studies with the purpose of improving fleet management operations in other public institutions. It will also contribute to existing body of knowledge and literature on the relationship between the rate of compliances to rules and regulations governing the use of public goods and the sustenance of the use of public goods.

Review of related literature

According to their concerns, the regulations of the University can be classified into two. They are Operational conducts of the University drivers/standard operating procedures and operational conducts of vehicle allotees (terms and conditions of allocation). Pertaining to drivers, it is the policy of the University that drivers are:

- i. not to allow/condone the use/driving of vehicles under the influence of alcohol/drugs to engage in defensive driving and apply utmost discretion in the use of public vehicles;

- ii. to maintain drivers and passengers safety by the compulsory use of seatbelts as provided in the vehicles;
- iii. not to condone the diversion of University vehicles to unauthorized locations;
- iv. not to use University vehicles for towing operations;
- v. to sincerely complete the movement register before and after use of vehicle;
- vi. to ascertain and record the status of vehicles before taking them up for assignment;
- vii. to sign for collection and return of pool vehicles at the exit/entrance points of designated parking lot and to ensure the cleanliness of vehicles after each day's use;
- viii. to liaise with transport officers for servicing and maintenance of vehicles in their custody as and when due;
- ix. to do all pre-driving and post-driving checks.

Pertaining to vehicle allotees, the policy of the University that allottee(s) are:

- i. not to drive University vehicle(s) by himself/herself where a university driver has been designated, except in unavoidable circumstances;
- ii. not allow the use of university vehicle(s) for unofficial engagements, except where appropriate permission has been granted by the transport officer;
- iii. not to allow the driving of University vehicles by his/her spouse, child, friends, relatives, ward, etc.;
- iv. not to allow/condone the interchange of official vehicle number plates or any part thereof, with any other vehicle;

- v. to maintain a system of liaison with the Transport Office, for the purposes to taking complaints arising from use of vehicles and for maintenance/servicing of vehicles.

Ajienka (2015) provides some pieces of information on expenditures on repairs and maintenance of the University of Port Harcourt vehicles from January 2010 to May 2015. They are January-December 2010 (N113, 489,662), January-December 2011 (N100, 231,531), January-December 2012 (N81, 429,458), January-December 2013 (N15, 082,249), January-December 2014 (N33, 766,399), and January-May 2015 (N3, 824,022). The figures clearly show that the cost of repairs and maintenance was on annual progressive decline from January 2010 to December 2013, and then rose rapidly in 2014. From the figures for January-May 2015, there was comparative decline in average monthly maintenance/repair cost. This is premised on the fact that the average monthly cost for January-December 2014 was 2,813,866 (i.e. $33,766,399 \div 12 = 2,813,866$), and for January-May 2015, it again declined to 764,804 (i.e. $3,824,022 \div 5 = 764,804$).

Methodology

The study engaged descriptive survey for data gathering and inferential statistics for data analysis. A questionnaire was structured in a flexible style that border on experiences in use of University vehicles, understanding of the provisions of University policy/rules and regulations governing the use of vehicle, policy compliance factors and opinions/ideas on ways to ensure more responsible and efficient use of public vehicles. It is such that easily allowed for scaling of responses, using the Likert Five Point Scale from “Strongly agree” (5 points) to “Neutral” (1 point).

Secondary data was used to test hypothesis one which measured the relationship between policy implementation strategies

and the rate of compliance by the vehicle users. The policy implementation strategies is operationalized by taking percentage of the number of queries, warning letters, surcharges and suspension letters received by the Allotees/Drivers within the period under study (2010-2015). Similarly, within the same period, policy compliance rate is operationalized using the regularity of return of logbooks as expected at the end of every month and completion of the daily movement register domiciled at each vehicles park.

Primary data was used to test hypothesis 2 which measured the relationship between policy compliance rate and proximity to vehicle users' residence. Both the dependent variable and independent variable were operationalized using relevant questions from the questionnaire. The response mode from the questionnaire were measured using the Likert Five Point Scale varying from: Strongly agree (representing 5 point), Agree (representing 4 point), Disagree (representing 3 point), Strongly disagree (representing 2 point), Neutral (representing 1 point).

Currently, the University operates a fleet of less than one hundred and twenty (120) vehicles because of the drop in fleet size after the public auction sales of un-serviceable vehicles in 2014. In some cases, there are no official drivers attached to the vehicle. This is more so with the pool vehicles. About one hundred vehicles have been allocated to various officers and offices of the University. The rest are in the central pool. It is expected that a total of one hundred and eighty (180) respondents may not be exceeded. This includes both drivers and vehicle allottees. Because the sample size in its entirety is relatively low, efforts were be made to cover the entire population.

The Analysis of Variance (ANOVA) served for statistical analysis of the rate of compliance to the policy on daily return of vehicles to the designated parks and completion of movements registers as measures of policy compliance rate. Hypothesis 1 addressed the relationship between the steps/strategies taken in the past five years, to implement the policy and the rate of policy compliance in the said years. Hypothesis 2 bordered on the relationship between the proximity of the residence of a vehicle user and his/her rate of

compliance to the regulation on daily return of vehicles to University parks. Each hypothesis was tested.

Results and Discussion

Table 8.2.6.1: Response rate

S/N	Status of the respondents	Number distributed	Number returned	% Rate of response
1	Vehicle allottees	64	58	90.6
2	Drivers	107	99	92.5
	Total	171	157	91.8

From Table 8.2.6.1, 171 copies of questionnaire were successfully distributed to the 180 respondents that formed the sample population. Only 157 respondents (representing 91.8% of the sample population) returned well completed copies of the questionnaire.

Table 8.2.6.2: Rate of policy compliance, policy implementation actions taken and annual cost of repair/maintenance of vehicles from 2010 to 2015

S/No.	Policy compliance rate (%)	Policy implementation actions taken (%)	Annual cost of repair/maintenance of vehicles (₦)
Year 1 (2010)	15	8	113,489,662
Year 2 (2011)	19	13	100,231,531
Year 3 (2012)	28	22	81,429,458
Year 4 (2013)	43	35	15,082,249.00
Year 5 (2014)	36	31	33,766,399.00
Year 6 (Jan-May, 2015)	52	38	3,824,022.00

Source: Record of monthly return of completed logbooks, Permissions Register (for non-return of vehicles), vehicle movement register and the 7th Vice-Chancellor's Tenure Report/Account)

(NOTE: Policy implementation actions are the queries issued, administrative warning letters issued and surcharges against drivers for vehicle misuse within each year.)

Table 8.2.6.2 answers research questions 2 & 3. For research question 2 (How effective is the policy on use of vehicles in the management of the fleet?), it is clear that with increased steps/actions towards policy implementation, there is corresponding increase in policy compliance rate and expected decrease in vehicles repair/maintenance costs. In 2010, only 8 implementation actions were taken and the rate of compliance was only 15 percent. This also shows that the cost of vehicle repairs/maintenance was as high as ₦113,489,662 (One hundred and thirteen million, four hundred and eighty nine thousand, six hundred and sixty two naira). In the year 2011, the policy implementation actions increased to 13, compliance rate increased correspondingly, to 19 percent and the annual cost of repair/maintenance decreased to ₦100,231,531 (One hundred million, two hundred and thirty one thousand, five hundred and thirty one naira). In the following year (2012), a total of 22 steps were taken towards implementation of the policy, and this led to an increase in compliance rate to 28 percent and the corresponding decrease in vehicles repair/maintenance cost to ₦ 81,429,458 (eighty one million, four hundred and twenty nine thousand, four hundred and fifty eight naira). In 2013, 35 policy implementation steps were taken and 43 percent compliance rate was recorded. There was corresponding decrease in the vehicles repair/maintenance cost to a much lower ₦15,082,249.00 (fifteen million, eighty two thousand, two hundred and forty-nine naira).

For 2014, there were 31 policy implementation steps/strategies taken, 36 percent policy compliance rate and a corresponding decrease in vehicles repair/maintenance cost to ₦33,766,399.00 (thirty three million, seven hundred and sixty six thousand, three hundred and ninety nine naira). Lastly, in 2015, only 5 months record of repair/maintenance cost was available. The records show that between

January and December, 2015, 38 implementation steps were taken; rate of policy compliance was 52 percent and from January to May, the sum of ₦3, 824, 022.00 was spent on vehicles repairs/maintenance. From the forgoing, it is clear that with increased actions/steps towards the implementation of the policy on the use of vehicles, there is always improvement in the policy compliance rate and decrease in the amount of money spent by the University in running the fleet.

Research question 2 (How effective is the policy on use of vehicles in the management of the fleet?) can be answered thus: The University Policy on the use of official vehicles is very effective in the management of fleet. However, its effectiveness is a function of the consistency of its implementation steps/actions/strategies. For research question 3, “Is the current rate of compliance to the policy on use of public vehicles responsible for the increased spate of vehicle failure and subsequent condition of un-serviceability?”, Table 8.2.6.2 shows that vehicle failure (un-serviceability) in the University of Port Harcourt is primarily a function of the rate of compliance to the University policy on the use of official vehicles. This is so because efficiency of fleet improve alongside with improvement in policy compliance, as indicated by the attendant cost of vehicle repairs/maintenance.

Research Question 4 (How knowledgeable are the drivers and their principals about the rules and regulations guiding their use of university vehicles?) is addressed in Table 8.2.6.3.

Table 8.2.6.3: Rate of awareness of vehicle users regarding the University vehicle policy

Question	Responses			Percentage		Total
	Yes	No	Total	Yes %	No %	%
Are you aware of the provisions of the University policy on the use of University vehicles?	52	105	157	66.9	100	

From Table 8.2.6.3, the level of awareness of University vehicle users about the provisions of the policy on their use of vehicle is a paltry 33.1%. The percentage of unawareness is very high at 66.9%. This explains why compliance rate is low, as one is not expected to comply with a rule that he/she does not know about.

Research Question 5: Kindly suggest best measures for the improvement of the management of University fleet.

Table 8.2.6.4: Suggested measures for improvement in University fleet management

Measures	Responses	Total Responses	%
Controlled maintenance/servicing	46	157	29.3
Regular retraining of drivers	58	157	37
Compulsory completion & submission of movement register & logbooks	23	157	14.6
Stern disciplinary measures against Defaulters	26	157	16.6
Others (specify)	4	157	2.5

From Table 8.2.6.4, respondents suggested five measures for the improvement of the management of the University fleet. Most respondents suggested regular retraining of University drivers (58 respondents or 37 percent) of total responses. This is followed by the suggestion of control in maintenance/servicing of vehicles (46 respondents or 29.3 percent) of total responses. Stern disciplinary measures against defaulters had 26 respondents or 16.6 percent of the total respondents. Respondents gave 4 other different suggestions, as follows:

1. Create more awareness on the provisions of the policy.
2. Establishment of annual reward scheme for accident-free drivers.
3. More serious compliance monitoring & evaluation (no sacred cows).
4. Monetise the vehicle for users (allotees) who do up 4 years in office.

Table 8.2.6.5: Proximity of user residence to designated parks

S/N	Questionnaire on Policy Compliance Rate	RESPONSES				
		SA	A	D	SD	N
A	You reside within the University campus	46	44	26	22	19
B	You reside within the University host community	66	37	16	24	14
C	You reside outside the University host community	62	47	19	26	3
D	No specific/definite residence at the moment	5	21	67	40	24
	Total	179	149	128	112	60

Table 8.2.6.5 addressed research question 1 by frequency and percentage rate. Residing within the university campus had 46 respondents strongly agree, 44 agree, 26 disagree, 22 strongly disagree and 19 neutral, with a percentage representation of 29.30%, 28.03%, 10.20%, 16.56%, 14.01% and 12.10% respectively. Residing within university host community had 66 respondents strongly agree, 37 agree, 16 disagree, 24 strongly disagree and 14 neutral, with a percentage representation of 3.18%, 13.38%, 42.68%, 25.48% and 15.87% respectively.

Always liaising with the transport officer for the routine maintenance/servicing of the vehicle showed responses of strongly

agree 62, agree 47, disagree 19, strongly disagree 26 and neutral 3, with a percentage representation of 39.49%, 29.94%, 12.10%, 16.56% and 1.91% respectively. Stringent of the University policy on official vehicle users showed responses of strongly agree 66, agree 37, disagree 16, strongly disagree 24 and neutral 14, with a percentage representation of 42.04%, 23.57%, 10.19%, 15.29% and 8.92% respectively.

Table 8.2.6.6: Policy compliance rate

S/N	Questionnaire on Policy Compliance Rate	RESPONSES				
		S.A	A	D	S.D	N
11	You service/repair the official vehicle in the University accredited service centre without liaising with the Transport Unit	7	15	45	77	13
12	You service/repair the official vehicle using your trusted private auto-mechanics	62	50	18	24	3
7	Your official vehicle is usually parked at the car pool after work	12	18	50	69	8
10	Your personal convenience matters in the choice of park for your official vehicle	66	48	15	20	8
	Total	147	131	128	190	32

Research question 1 was further addressed by Table 6 showing frequency and percentage of policy compliance rate: Service/repair of the official vehicle in the University accredited service centres without

liaising with the Transport Unit showed responses of strongly agree 7, agree 15, disagree 45, strongly disagree 77 and neutral 13, with a percentage representation of 4.46%, 9.56%, 28.67%, 49% and 8.29% respectively. Service/repair the official vehicle using your trusted private auto-mechanics showed responses of strongly agree 62, agree 50, disagree 18, strongly disagree 24 and neutral 3, with a percentage representation of 39.49%, 31.84%, 11.46%, 15.28% and 1.91% respectively. Parking official vehicle at the car pool after work showed responses of strongly agree 12, agree 18, disagree 50, strongly disagree 69 and neutral 8, with a percentage representation of %, 7.64%, 11.46%, 31.84%, 43.94% and 5.09% respectively. Personal convenience matters in the choice of park for your official vehicle showed responses of strongly agree 66, agree 48, disagree 15, strongly disagree 20 and neutral 8, with a percentage representation of 42.04%, 30.57%, 9.55%, 12.73% and 5.09% respectively.

Analysis of hypotheses

Hypothesis One: There is no significant relationship between policy implementation strategies and the rate of compliance by the vehicle users in University of Port Harcourt.

Table 8.2.6.7: Table of values for hypothesis 1 - Percentage rate of policy compliance & policy implementation actions taken from 2010 to 2015

S/No.	Policy compliance rate (%)	Policy implementation actions taken (%)
Year 1 (2010)	15	8
Year 2 (2011)	19	13
Year 3 (2012)	28	22
Year 4 (2013)	43	35
Year 5 (2014)	36	31
Year 6 (2015)	52	38

Source: Record of monthly return of completed logbooks, Record of daily permissions for non-return of vehicles, vehicle movement register.

Table 8.2.6.8: Extract from SPSS table of simple regression for Policy Implementation Strategies and Rate of Compliance by Vehicle Users.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
1	.981 ^a	.962	.953	3.09280	1.949

a. Predictors: (Constant), Policy Implementation Actions

b. Dependent Variable: Policy Compliance Rate

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	972.572	1	972.572	101.676	.001 ^b
	Residual	38.262	4	9.565		
	Total	1010.833	5			

a. Dependent Variable: Policy Compliance Rate

b. Predictors: (Constant), Policy Implementation Actions

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.183	3.049		1.372	.242
1 Policy Implementation Actions	1.142	.113	.981	10.083	.001

a. Dependent Variable: Policy Compliance Rate

From the regression tables, the model summary showed a strong and positive correlation between policy implementation strategies and the rate of compliance by the vehicle users in University of Port Harcourt. The value of the co-efficient of the correlation (R) was 0.981, showing that the strength of the relationship between the variables under study is 98.10%. The co-efficient of determination (R^2) showed a value of 0.962 which indicated that about 96.20% of the variation in the rate of compliance by the vehicle users was explained by changes in the policy implementation strategies. The remaining 3.80% is accounted for by other factors not covered in this study.

The computed t-statistics for the study showed t-computed as 10.083. Using the conventional 5% level of significance, the critical value of t-statistic at 4 df is 2.32. Since the t-calculated is greater than

t-critical value ($10.083 > 2.32$), null hypothesis was rejected and alternative hypothesis was accepted. Thus, there was a significant relationship between policy implementation strategies and rate of compliance by vehicle users in University of Port Harcourt.

F-computed was 101.676, while the critical value at 5% level of significance was 10.13. Since F-computed is greater than F-critical ($F_{1,3} = p < 0.05$), the model was significant and so the predictor variable (policy compliance strategies) constituted a fairly good model and significantly predicted the rate of compliance by the vehicle users.

The linear regression model formula can be stated as follows:

$$PCR = 4.183 + 1.142PIA + \mu.$$

This means that the expected increase in policy compliance rate is 1.142 units for each element of policy implementation actions taken.

Hypothesis Two: There is no significant relationship between policy compliance rate and the proximity of vehicle user's residence to University of Port Harcourt parks.

The extracts from SPSS version 20 software print out for regression result of policy compliance rate and the proximity to vehicle users residence is shown in the table below:

Table 8.2.6.9: Extract SPSS table of simple regression for Policy Compliance Rate (RPCR) and Proximity of Vehicle Users Residence to University parks.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.636 ^a	.404	.206	39.59106

a. Predictors: (Constant), PVUR: Proximity of Vehicle Users' Residence to University Parks.

b. Dependent Variable: Policy Compliance Rate (RPCR) by Vehicle Users.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F
1	Regression	3190.844	1	3190.844	2.036
	Residual	4702.356	3	1567.452	
	Total	7893.200	4		

a. **Dependent Variable:** RPCR: Response on Policy Compliance by Vehicle

b. **Predictors (Constant):** PVUR: Proximity to Vehicle Users' Residence

Coefficients^a

Model		Unstandardized Coefficients		Standardize	T	Sig.
		B	Std. Error	d Coefficients Beta		
1	(Constant)	64.313	46.461		1.384	.260
	PVUR	.488	.342	.636	1.427	.249

a. **Dependent Variable:** RPCR: Response on Policy Compliance Rate by Vehicle Users

b. **Constant:** PVUR: Proximity of Vehicle Users' Residence to designated University Parks.

From the regression tables, the model summary indicated that there was a strong and positive correlation between rate of policy compliance by vehicle users in University of Port Harcourt and the proximity to vehicle users' residence. The value of the co-efficient of the correlation (R) was 0.636, showing that the strength of the relationship between the variables under study was 63.60%. The co-efficient of determination (R^2) showed a value of 0.404, showing that about 40.40% of the variation in rate of compliance by the vehicle users in University of Port Harcourt was explained by factors of proximity to vehicle user residence to designated University parks. Other factors not covered in the study accounted for the remaining 59.60%.

The computed t-statistics was 1.427. Using the conventional 5% level of significance, the critical value of t-statistic at 4 df is 2.32. Since the t-critical value is greater than t-calculated value ($2.32 > 1.427$), null hypothesis was accepted and the alternative hypothesis was rejected. That is, policy compliance rate by vehicle users in University of Port Harcourt to the policy on daily return of vehicles was significantly related to the proximity of vehicle user residence to University parks.

From ANOVA table, F-computed was 15.815, while the critical value at 5% level of significance was 10.13. Since F-computed is greater than F-critical ($F_{1,3} = 15.815, p < 0.05$), the model was significant and so, the predictor variable (rate of compliance by vehicle users) constituted a fairly good model and significantly predicted proximity of vehicle user residence to University parks. The overall implication is that the model was good for policy making. The linear regression model formula can be stated as:

$$RPCVU = 64.313 + 0.488PVUR + \mu$$

This means that the expected increase in policy compliance rate was 0.488 units for each element of proximity to vehicle user residence.

Summary of findings

From hypothesis 1, increase in actions/steps taken to enforce/implement the policy increased policy compliance rate and decreased vehicle maintenance/operational costs. Also, there was a strong and positive correlation between policy implementation strategies and the rate of compliance by the vehicle users in University of Port Harcourt. The value of the co-efficient of the correlation indicated that the strength of the relationship between the variables under study was 98.10%. The co-efficient of determination (R^2) showed a value of 0.962 which indicated that about 96.20% of the variation in the rate of compliance by the vehicle users was explained by changes in the policy implementation strategies. The computed t-statistics for the study showed t-computed as 10.083. At 5% level of significance, the critical value of t-statistic at 4 df is 2.32. The t-calculated is greater than t-critical value ($10.083 > 2.32$). Again, F-computed was 101.676, while the critical value at 5% level of significance was 10.13. This indicated that the model was significant and so the predictor variable (policy implementation strategies) constituted a fairly good model and significantly predicted the rate of compliance by the vehicle users.

From the foregoing, the following deductions were discernible:

Poor quality of drivers undermines operational efficiency

Many of the drivers were illiterate, lacking the basic competence necessary for proper documentation. Such abilities of a professional driver to register movements properly, fill the log book, read the condition of vehicle through its intelligent transport system (signals and metering system) were lacking. These were the manifestations of poor quality and improper recruitment considerations. Many drivers also lacked the basic understanding of the concept of defensive driving

and would rather engage in quarrels and fights (road rage) over what they assumed to be their rights.

Truancy and lack of integrity hampers effective service evaluation

Insincerity on the part of drivers has been noted as a serious issue that negatively impacts fleet management in the University of Port Harcourt. Many drivers hardly told the truth, especially when involved in major crashes that did not require the towing of the vehicles they drove. They were also in the bad habit of diverting major part of the monies meant for fuelling to their private uses, and diverting vehicles from official assignments to personal engagements.

Many drivers are careless about the use of university vehicles

Carelessness/negligence was another habit that hampered the operational efficiency of the university vehicles. This category of drivers hardly engages in pre-driving and post-driving checks. This led to avoidable vehicle breakdowns and consequent increased down-times and high operating costs.

Repair of vehicles by quacks increases overall depreciation rate and maintenance cost

Many allottees of University vehicles use road-side technicians with doubtful professionalism to fix university vehicles. This was more so in the case where they did not want to report accidents or faults arising from their carelessness or abuse of such vehicles. So, they would not comply to the rule that clearly states that allottees/drivers should liaise with transport officer for repair/maintenance of university vehicles. The use of quacks led to higher degree of damage over time, as they only fixed immediate causes, whereas the remote causes of damages were always ignored. There are also cases of outright damage to vital

parts by unprofessional auto-technicians in the process of repairs. Exchange of superior parts of vehicles with inferior ones constituted some of the issues.

Reckless use of University vehicles by unauthorized persons

High rate of depreciation of University vehicles has been observed. This has led to exorbitant and highly increased cost of maintenance of vehicles. (See “On Annual Cost of Vehicle Repairs and Maintenance”). Users of the vehicles were reckless. Where stiff penalties and other policy enforcement steps were frequently taken, recklessness was seriously curtailed.

Policy implementation strategies impact on compliance rate

From the analysis of hypothesis 1, increase in number of warning letters, suspension from duties, surcharges, quarries, etc, issued to drivers for breach of rules produced proportionate increase in policy compliance rate and relative decline in negative behaviour on the part of drivers. To save cost of running the University fleet needed stiffer penalties for defaulters.

Place of residence of vehicle users partly influence their compliance rate to the policy on daily return of vehicles

From the analysis of hypothesis 2, there was a relationship between the allottee place of residence and ability to comply with the policy that stipulated that the official vehicles should be returned to the central parks after each day’s use. Many users were willing to comply with the directive, but would not because they would be inconvenienced by it, as they do not live on campus.

Road crashes involving University vehicles mainly caused by over-speeding

Because some drivers divert the official vehicles to other locations when sent on errands by their principals, they spend substantial part of the time/period for the official assignment on their personal engagements. After this, they would wish to make up for the time spent outside the official assignment by over-speeding. This led to avoidable crashes.

Recommendations

It is imperative to make the following recommendations for drastic improvement of the efficiency of the University fleet to reduce operating costs, down-times and save lives:

Enhanced drivers' recruitment considerations

There should be well tailored and suitable recruitment qualifications. The emphasis on National Drivers' Licence and Trade Test Certificates alone does not guarantee good products of recruitment. It has become necessary to establish stringent but apposite recruitment screening exercise for prospective drivers. Emphasis should now be placed more on competence than paper qualification. Such exercises should test the literacy level (ability to read and write), integrity/sincerity, and limit of patience and the understanding of the Federal Highway Code. Illiteracy on the part of drivers manifests in their inability to engage in proper documentation, such as filling of fuel coupon, filling of logbooks, filling of movement registers, incident report writing, effective reply to queries and inability to read information from the intelligent transport system. It has been observed that drivers' recruitment in the past has been majorly influenced by influential members of staff. This recourse to god-fatherism gives the benefitting drivers the assurance that their benefactors would always intervene when punishment for insubordination is meted out to them. This therefore, calls for a stiff

penalty against undue patronage by senior members of staff. It is instructive to note that illiteracy on the part of the drivers hampers the likelihood of proper usage assessment, as they do not keep useful records.

All Vehicles to be serviced by Accredited Agents

The use of incompetent road-side mechanics and other quacks technicians to repair/maintain University vehicles should stop. All requests for repair/ servicing should be channeled to the transport unit. This will regulate operations and guarantee the use of quality spare parts and recommended oil for servicing. Penalties should be meted out to allottees who, for the reasons of hiding their recklessness, engage unaccredited auto technicians for repair/maintenance of University vehicles. Where an allottee is found to have caused substantial damage to university vehicle through his/her recklessness or misuse of official vehicle, the concerned allottee should be surcharged for the repair. This should also apply to all drivers and should be enforced strictly.

Review and Publicity of Policy/ Terms & Conditions of Allocation

It has been observed that many allottees do not have adequate knowledge of the university rules and regulations/policy governing their allocation and use of University vehicles. It is therefore, recommended that every allocation letter should come with a copy of the University policy on the use of official/utility vehicles. Allottees should sign for collection of the documents. On the other part, drivers should also be given regular briefing on the provisions of the policy.

Use of Speed Limiting Devices

Speed limits should be enforced on all University vehicles to reduce crashes resulting from over speeding. This can be done by installation of speed limiting devices on the vehicles. The speed should not exceed 100km/ph for cars, mini-buses and sports utility vehicles; while that of trucks, tractors, long buses (coaster) and other heavy-duty vehicles should not exceed 80km/ph. This can be achieved if management of the University approves and mandates the transport unit to enforce it.

Compulsory return of Vehicles during weekends and Public Holidays

It is one of the findings of this research work that much of the misuse of University vehicles takes place during the weekends and public holidays. It is therefore necessary to enforce the compulsory return of allocated vehicles to the parks at the close of work every Friday, and on the evenings preceding public holidays, except where express permission has been granted by the transport unit on very cogent grounds. Users of University vehicles have ample time to travel out of the state during the weekends for unofficial purposes, but prefer to use the official vehicles instead of their private ones.

Preference should be given to Allotees of University vehicles and Transport Officers in Staff Housing Allocation

This research work has revealed that the failure of vehicleusers to comply with the policy on daily return of vehicles to the designated University parks is mainly due to the distance between their residences and the parks. It is quite inconveniencing for the principals (allotees) and their drivers to park in the University and then take taxis to their various homes. It is equally inconveniencing for drivers to drop off their principals in far-flung locations only to return to the University to park the vehicles and then find their own ways home; considering the

heavy traffic usually experienced at the peak hours of traffic (4pm) during which these workers go home. To this end, it is recommended that special preferences be given to users of official vehicles when housing allocation is being made for available accommodations. The boys-quarters attached to the main staff quarters should be recovered for the drivers attached to such officers. It is also imperative to accommodate at least a Transport Officer or Transport Supervisor in the residential quarters, so as to be on ground to monitor daily use of University vehicles, especially the signing for, and prompt return of vehicles at around 6pm daily. This has become necessary because cases of manipulation of past day's records have been noted.

Recovery and use of University Auto-workshop and Filling Station

The University has an automobile workshop at Delta Park but it has gone comatose due to inadequate patronage and poor management. The cost of repairs/maintenance of University fleet by contractors is high. This can be drastically reduced if the University's automobile workshop is recovered and revived, qualified technicians hired and placed on University's payroll under the Transport Unit, and a spare parts warehouse established and manned by and inventory officer. Replacement parts are cheap when procured in such large quantity as the University always use in a short period. All collection of parts must be authorized by the Transport Unit and proper records kept by the Vehicle Inventory Officer, who would also recover the bad/replaced ones for proper accounting. This move will also guarantee the quality of spare parts used on university vehicles.

Conclusion

University policy on use of public vehicles has not been effective in the overall management of University fleet because the rate of compliance to the policy is low and only a little is being done to enforce strict compliance. Therefore, the goals/objectives of the University policy on the use of vehicles have not been substantially met. The current rate of compliance to the policy is responsible for constant vehicle failures and consequent relapse to unserviceable state. Drivers and allottees of University of public vehicles in the University lack adequate knowledge of the provisions of the policy, otherwise called rules and regulations. This has seriously impacted compliance rate, as no one is expected to observe a rule he/she is unaware of.

The factors that hamper operational efficiency of the university fleet range from: drivers' illiteracy, truancy/insincerity, non-compliance to policy by allottees and drivers, inadequate knowledge of the rules by operators of the vehicles, distances between residences of users and University parks, poor health condition of vehicle users, allottees attitude to the vehicles ("*Na gofment property*" mentality), use of quack, cheap technicians, etc. The University policy on use of official vehicles needs to be reviewed to provide for issues observed over the years. Transport Unit lacks the powers to revoke allocation or even sanction allottees.

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