



RELIABILITY OF STOREKEEPERS' DISCRETION ON STATIONERY MANAGEMENT DECISIONS IN PUBLIC SERVICE ORGANISATIONS

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ABSTRACT

The study is persuaded by concerns for improved performance in inventory management in Public Service Organisation, recognising all components/entities to be contributory to its ultimate output. Obsolescence, unwanted heap of stock items, have adverse effects on organisational budgets whiles poor quality stock items or their shortages could affect uninterrupted flow of business. An analysis of the reliability of discretion of storekeepers in relation to the above phenomenon is conducted to establish whether they were contributory to the problem. It was observed that, Storekeepers with 10years or more working experience were better at exercising discretion for managing obsolescence, and most store challenges regarding the unwanted heap of stationery, stock quality and issue quantities correlated with poor discretion of storekeepers, especially, those with non-tertiary or equivalent level of education.

Keywords: Quality, Quantity, Inventory management, Shortages, Discretion, Reliability, Obsolescence, Management decisions, Stationery.

1. INTRODUCTION

Developing and providing effective public services that operate and measure up to the purposes they are instituted for has been extremely challenging. There has been a general assumption that public service organisations' services are bedevilled with inefficiencies with many blaming that on the persons, units, departments and agencies constituting the sub-entities of the public service. If these subsystems are not working well, then the ultimate product of the public service organisational systems will not be good enough. The concern for addressing wastage in Public Service as it impacts on budget, drew Izama in a World Bank address to be upfront in saying that, wastage in public expenditure is an issue that permeates Ministries, agencies and districts (Izama, 2007).

In the extreme of public service deficiencies, an analysis of data published by Directorate on Corruption and Economic Crime (DCEC) in Botswana between 1994-2000 prominently cited Storekeepers among many cases of corruption and fraud which they had prosecuted, even as these were junior staff (DEPADM & DESA of United Nations, 2004). Interestingly, in Ghana, Storekeepers have not caught the attention for efficiency and performance, particularly as the radii is constantly fixed on politicians.

Getting the public service and its components working right is the only answer to great performance. Revelations from stores audits have cited payments for stores without evidence of receipts, prepayments for store items not supplied, purchases without procurement plans, unaccounted for store items running into millions of Ghana cedis (The Auditor-General, 2010; Auditor General-Ghana, 2013). Other irregularities noted included purchases not routed through stores, thereby contravening regulatory provisions requiring all store received items to be backed by Store Receipt Vouchers (SRV) or duplicate copy of Local Purchase Order (LPO). Ineffective supervision of Storekeepers was also an issue in the audit reports. The Auditors again unable to ascertain whether store items & fuel were used for official purposes recommended that, evidence of utilisation should be requested.

Storekeepers are not extricated from noncompliance to store regulations, to the extent that it is recommended that Storekeepers are to account for unaccounted shortages. In spite of recommendations for institutions to strictly adhere to provisions in the Financial and Administration Act and the Stores Regulations, not much seems to be happening in this regard. Same report had classified stores matters as one of the continued occurrences of internal control deficiencies and managerial inefficiencies, and that, these were of concern. As per the reports, all these together expose Public Service Organisations (PSOs) to diversion, non-delivery or pilferage of store items.

In other advanced jurisdictions, reports are taken seriously and efforts are made to tackle issues raised in them. In Scotland's effort to improve public services, it responded to Christie Commission (2011) report noting the need to constantly seek to improve performance; reduce costs; to be open, transparent and accountable (Christie Commission, 2011), as components of one of its four key objectives to achieving improved public service reform. It aimed to reform the public services through prevention; greater integration at local level driven by workforce development; and performance focus among other factors, backed by a comprehensive outlook that stretched to knowledge and skills development for even the post 16 years educational system. The people factor has been of critical emphasis. For them, tackling waste, duplication and inefficiency in a decisive manner was a top priority for enhancing value for money in the face of deep budget cuts. It is needless emphasising the integral role stores play in ensuring continuous uninterrupted flow of business in the public service, thus the need to ensure its efficient management.

Wastes associated with the stores systems cuts directly into organisations' budgets. In a compelling management response to mitigate inventory mismanagement and loss risks that were deemed to be recipes for waste, duplication and inefficiency, management agreed to establish inventory procedures and train staff (The Texas A&M University System Internal Audit Department, 2010) to address the matter.

In Saskatchewan's recognition of the role and importance of Storekeepers, they defined qualities a person must have to be an effective and successful performer as a store keeper (Saskatchewan Public Service Commission, 2002). Same source lists Storekeepers' personal attributes to include objective, perceptive, accurate, focused, organised, and attentive to details, among several others.

Much as the store systems in the Public Service need attention, the study recognises the need to accord it a systematic approach that considers the details about the components and processes that make up the store systems and those that interact with them. The study which is the commencement of a chain of studies to be conducted on the store systems examines just an entity within the store system- the Storekeepers and considers their perspective to stores issues and how these may impact on decision making in the stores system.

The study is imperative as decisions regarding stores issues have always involved Storekeepers and concerns raised in several audit reports regarding stores irregularities have not extricated Storekeepers from causes. The study would inform institutions of areas of concern to shape and focus the staff development aspects of packages to improve specific policies, training programmes, strategic plans, and entity processes of the stores system. Staff development as defined as the process of providing opportunities for employees to improve their knowledge, skills, and performance in line with the goals and values of the organisation and in relation to the interests and needs of the employees (Norton, 2008), of which the author recommends that, growth of employee development must be linked to the strategic plan and to the short and long term workforce assets; knowing and understanding the calibre of Storekeepers from a properly research base would be a good point to start from, if a solid inventory system would be built in Ghana.

2. THEORETICAL LITERATURE

2.1. Perception Theory

The goal of perception is to estimate true properties of the world (Hoffman, unknown). Gregory's indirect theory on perception otherwise known as top-down theory proposes that, information and knowledge stored in the brain works downwards, helping us to interpret the basic sensory input (Psychology Factsheets, unknown). This theory sometimes also called "Constructivist theory" argues that; (1) where *sensory input* is unclear, one interprets by dealing with the input as a problem-solving task by depending on knowledge stored in the brain; (2) we actively construct perception; (3) where sensory input is unusual or incomplete, we best guess what we are seeing, which Gregory calls – *hypothesis testing*; (4) visual perception is the result of interaction between; (a) sensory input i.e. 1 above, (b) hypothesis i.e. 3 above, (c) expectations, and (d) stored knowledge. On the fourth argument, he adds that our past experiences affect how we perceive an object or situation.; (5) hypothesis produced could be incorrect, generating "perceptual errors". Gibson's direct perception theory (also known as bottom-up theory) propose that the process of visual perception starts by analysing the basic features of the sensory input and then gradually works up to more complex processing (Psychology Factsheets, unknown). In his case, his arguments are more supported by visual information (as in optical vision) which does not suit our purpose much. However, both cases pay recognise characteristics of entity doing the perception by

way of considering knowledge. Perception has been defined as the process by which individuals organise and interpret their sensory impressions in order to give meaning to their environment (Document Planet, 2012), defines people's behaviour to what they think the reality is, whether right or wrong. The document identifies perceiver, target, and situation as the three factors that influence perception. The *Perceiver* refers to the most prevalent personal characteristics affecting perception of the perceiver, which are attitudes, motives, interests, past experiences, and expectations. *Target* is explained as the characteristics of the target and they include attractiveness, gregariousness, and one's capacity to group things together. The third factor which is *Situation* are the context in which objects or events are seen by individuals and the influence these have on their attention by way of time or other situational factors. Again, these three factors complement Gregory and Gibson's respective theories of Perception by the emphasis they give stored knowledge and experience of the perceiving entity.

As it is impossible for one to assimilate everything that is seen, only certain stimuli are selectively taken –selectivity perception. Selectivity perception is any characteristic that makes a person, object, or event stand out to the extent of leading to the formation of a perception (Document Planet, 2012).

2.2. Discretion Theory

Kelsen, an ancient theorist explains implied discretion to be the inherently indeterminate evaluative language, and acknowledges that, indeterminacy alone does not exhaust the class of vague terms. Discretion is believed to have evolved from two separate ancient concepts, thus, one based on equitable consideration, and the other based on doctrine of sovereignty power (Caytas, 2012), all strongly linked to the legal realm. In examining Hart and Kelsen's theories, Caytas indicates that, in Hart, there is "core of certainty" and a "penumbra of doubt" alternatively called "fringe of vagueness" or "area of open texture", while in Kelsen, there is a frame encompassing various possibilities for application (Unknown A LEFT PHENOMENOLOGICAL ALTERNATIVE TO THE HART/KELSEN THEORY OF LEGAL INTERPRETATION, After 2006). In the penumbra, the writer indicated that it is a matter of discretion, or balancing of conflicting considerations.

In the area of management, Hambrick & Finkelstein, 1987 refer to Managerial discretion as the latitude of options that CEOs have when making strategic choices with discretion quality impacting on industry performance depending on changes in task environment (Hambrick and Finkelstein, 1987; Datta and Rajagopalan, 1996).

2.3. Reliability

Reliability theory has been explained as a body of ideas, mathematical models, and methods directed to predict, estimate, understand, and optimize the lifespan distribution of systems and their components (Barlow and Proschan, 1975). Gavrilov and Gavrilov (2001) simply explain Reliability theory as a general theory about systems failure using predictions (Gavrilov and Gavrilov, 2001). Reliability is broadly defined as, the science of predicting, analysing, preventing, and mitigating failures over time (Bowles, 2001) and proceeds to explain the significance of reliability stemming

from the fact that it impacts on quality of product service or outcome of set objectives. In essence, predictability of outcome is key in measuring reliability. In determining the reliability of information that feeds into decision making, validity, accuracy, verifiability, completeness and neutrality were placed in the hierarchical structure (Gelinis *et al.*, 1993), of which accuracy is fundamental.

2.4. Theories of Decision Making

Several decision making models have been developed by others including Wilson, Saasa, Olso, and Bramley. More commonly referred model is the Rational Comprehensive model which is one of the theories that assumes that, the decision maker rationalises the decision making process by identifying problem, defining his goals, values and objectives and prioritising them, consider alternative solutions in the face of cost and benefit context and ultimately making choice that maximises the attainment of his goals, values, and objectives. This model however assumes one(unitary) decision maker, and also looks at problems as though they were always clearly defined.

In making up for the deficiency of the above model, the Incremental Theory (Lindblom, 1959) was developed. This model that better describes how policy decision makers actually have results in incremental theory holds that, the selection of goals and objectives is intertwined with, though not distinct from, the scientific analysis of the problem. In context, decision makers consider alternatives for dealing with a problem that differs marginally from existing policies, such that, for each alternative, only important consequences are considered, making the problems confronting the decision maker continually redefined. Again, with this theory, it is said that incremental decision making is a remedial, not holistically-devised, nor future oriented.

Having found fault with both the rational-comprehensive model and incremental model of decision making, Etzioni developed the Mixed Scanning approach, which blends the two models by incorporating the broad-based analysis with an in-depth analysis in between times, and recognises the differing capacities of decision makers (Etzioni, 1967).

In considering variables that condition decision behaviour, it was noted that, decision criteria considers evaluative standards and identifies degree of controversy, decision-maker perception, and decision-maker characteristics such as age, education, gender, or income as influencers of a person's decisions (Last, 1995) attributes recognised by earlier references in the study. Same work also noted that person's feelings about the need for decision consensus and consistency was important in decision making. In a study that considered Pathways for Change, Stachowiak posits that for decision making or policy input to receive serious consideration, consistency is important (Stachowiak, 2007). She further adds that inconsistencies in decision making may make choices less beneficial or riskier. In is thereby imperative to ensure that opinions expressed by Storekeepers on matters that define the core essence of inventory management are consistent.

2.5. Inventory Theory

Inventory theory is the sub-specialty within operations research that is concerned with the design of production/inventory systems to minimize cost (Wikipedia Foundation Inc, 2012) and uses

mathematical models extensively in determining these. The essence of the theory is to ensure that demand is met on time, the right quantity ordered or stocked at the right level, keep stock management cost low. Cost may be by way of obsolescence, high holding costs, spoilage undue shortages, over/under ordering, riddance of stock over time among others (Zizler, 2007; Zappone, unknown).

2.6 Conceptual Framework (Store Keepers' Discretion on Stationery Management Decisions)

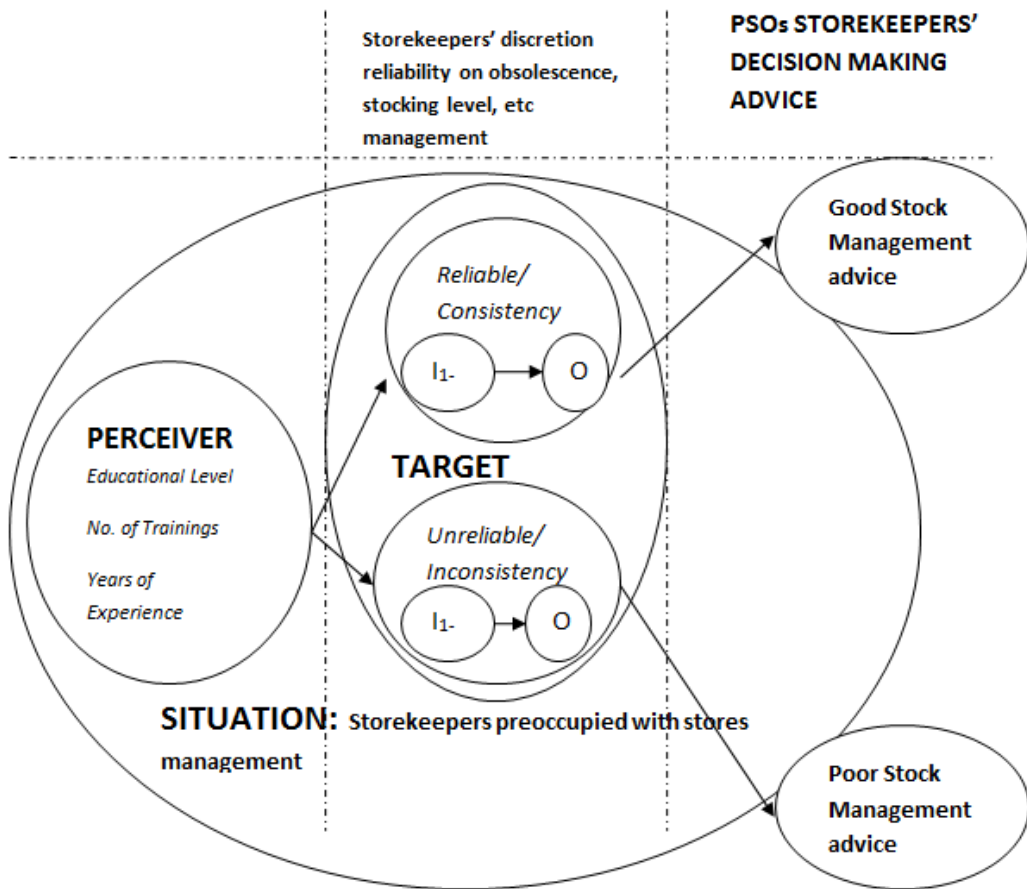
The conceptual framework attempt to establish the linkages among the perceiving entities (i.e. the Storekeepers), the consistency of their opinions about some stock management events (such as obsolescence, stock adequacy, etc), and how these could ultimately affect decisions in Public Service organisations. In showing the interaction among the three factors (perceiver, target and situation) that influence perception in the conceptual diagram, the study picks out persons that are fully preoccupied with storekeeping activities to represent the situation. Out of these, the Storekeepers' characteristics are analysed by way of their educational level, number of trainings on inventory management attended, the years of working experience in the stores are used to depict the perceiver. The target which happens to be stationery management is analysed from the point of knowledge of obsolescence management, knowledge of right quantity availability management, shortage incidences, knowledge or riddance of right stationery items within the context of consistency of responses. Depending on consistency of how the target (stationery items) is viewed, this would automatically inform the correctness of advice to be given on stock items.

The framework then tries to look at the interrelationship among the three factors and how this relates to decision advice quality.

I_{1-n}: Refers to Input discretion on a number of responses to issues

O: Refers to the specific Output situation of the store on specific matters such as obsolescence, quality of items issued, etc

PERCEPTION EFFECT OF STOREKEEPERS' DECISION QUALITY IN PSOs



3. METHODOLOGY

Few studies have explored the area of store management, and much less within the public sector. The study is intended to provide structural practical pointers to solutions for addressing some public service challenges. The population of the study was the Storekeepers of public service organisations in Ghana. Instruments designed were administered with questionnaire to each PSO. A sample of store keepers from 46 different public service organisations was used from 12 different ministerial sectors of the public service. Organisations targeted were the Ministries, Departments and Agencies of the public service. In other words, at least 4 organisations were sampled from each sector, one to the related ministry itself and another to a department or agency of that particular ministry. As some public service organisations are rather usually cautious or so careful about volunteering information, convenience sampling was used to determine the Department or Agencies for each sector ministry alongside the ministries themselves. In each organisation, respondents served with the instruments were Storekeepers of public service organisation. Returned questionnaires from 23 organisations including all the sector ministries and at least one department or agency within it were properly completed and found usable, even though 24 questionnaires were administered.

The study attempts to explore the reliability of discretion of Storekeepers in the course leading to certain store stationery management situations in Public Service Organisations. The study chose stationery as it happens to be the consumable stock common to all PSOs. The study recognises Last's, 1995 model of evaluative standards of decision making, as it was found simple to apply. In assurance of accuracy of storekeeper discretion, the study tests consistency by (Stachowiak, 2007) of logically stringed set of questions whose responses are expected to lead to a certain outcome. For consistency, reaffirmation of questions and logically arrived outcome of responses was used as determinant of its reliability (Gelinis *et al.*, 1993; Last, 1995; Stachowiak, 2007). Inconsistent responses to crosschecking questions were deemed to be inaccurate, and by extension, unreliable discretion to decision making, and the reverse applicable. The crosschecking questions relating to obsolescence, shortages, stock quantities purchased, overstayed stocks in the stores, etc required yes or no responses. The study also attempts to examine the extent to which discretion is applied (whether consistent or inconsistent) was influenced by profile of Storekeepers by way of years of work experience on the job, educational qualification level or number of store officers training programmes attended.

Stationery was chosen as the focus of the study as it pervades as a common stock material for all public service organisations.

Cronbach's Alpha remains the most common measure of internal consistency or reliability using multiple Likert responses, it simply provides the overall reliability coefficient for a set of variables. Cronbach's alpha does not distinguish between questions that reflect different underlying qualities. In the case of the study, it tries to consider consistency of Storekeepers to their own responses, hence the alternate tool. Stata statistical software was employed to do this Storekeepers' discretion reliability analysis using Cronbach's Alpha.

4. ANALYSIS & FINDINGS

4.1. Ordering Discretion on Stationery Stock Shortages in Stores

In conducting this analysis to determine the reliability of storekeepers' discretion on stationery quantity ordered on stationery shortage situations in stores, two broad lines of analysis were conducted; (a) responses that indicated that, there were stationery shortages most of the time; and, (b) those that indicated that, there were no stationery shortages most of the time. In both cases, the reliability test was conducted based on responses to the following questions: (1) if stores is responsible for making requests if stationery items are in short supply; (2) enquired their opinion on whether requisitions for stationery stock items were very high; and, (3) whether right quantities of stationery are bought for required periods.

- a. For analysis on (a) above, at Cronbach's alpha coefficient of 0.415, the test showed that, the reliability of general discretionary ability of such Storekeepers was unacceptable in managing stationery stock shortages. The worst of the responses that led to the poor discretion on stationery shortage management in this regard came from Storekeepers' unreliability of responses to the question (2) "whether requisitions for stationery stock items were very high".

For same category (a) respondents, a further analysis of the possible effect that the number of trainings attended by Storekeepers had on the reliability of the discretion at managing stationery stock shortages revealed that, persons that had had only one training in inventory management were key culprits to these unacceptable discretion with an alpha coefficient of 0.3478. However, Storekeepers that had had 2 trainings had a rather reliable discretion at managing stationery stock shortages with alpha coefficient of 0.7869. The alpha coefficient of Storekeepers that had had 2 or more trainings was 0.7921, indicative that more training on inventory management slightly impacted discretion reliability on managing stationery stock shortages.

It was however observed that, educational qualification and years of working experience in inventory management did not have significant effect on managing stationery stock shortages.

- b. Analysis on category (b) responses did not yield any relevant results.

4.2. Quantity Ordering Discretion on Requisitioning Staff Complaints As Result of Quantity Issued

In assessing the reliability of Storekeepers' discretion on quantity ordering on managing stationery shortages resulting in quantity issued complaints from requisitioning staff, two categories of analysis were conducted; (a) those that responded that, Requisition Officers do not often complain on the quantity of stationery issued.; and, (b) those that responded Requisition Officers often complained on the quantity of stationery issued. The analysis considered responses to the following questions: (1) When stock items are in short supply, does stores make requests?, (2) Are the right quantities bought for required periods?, and (3) Is stores able to supply items most of the time?, given that , (4)requisition officers do not complain on the stationery quantity when issued.

- (a) The analysis to (a) above revealed an alpha coefficient of 0.1356, indicative that reliability of discretion of this category of Storekeepers in avoiding complaints on quantities by requisitioning staff was totally unacceptable. In other words, there were other external possible factors accounting for this shortage prevention. Education, number of inventory management related trainings had, relevance of training to work, and years of working experience in inventory management related areas were not found to be contributory to this phenomenon.
- (b) On the other hand, when questions (1), (2) and (3) were analysed against category (b) respondents, the reliability of the alpha coefficient was 0.7692, indicative that, their discretion was contributory to the staff complaints on stationery quantity issued.

In an analysis to know whether educational level has effects on category (b) respondents' results, it was observed that, Storekeepers with secondary level as highest level of education were excellent contributory factor to the quantity complaints of Requisition Officers, with reliability coefficient of 1.0. Further, it was interestingly observed that, Storekeepers that had had inventory management training they deemed to be "very relevant" to their work were also contributory culprits to the quantity complaint problem

with an alpha coefficient of 0.7619. Another further analysis revealed that, Storekeepers with secondary level education who had indicated that the inventory management training they had had was very relevant were excellent culprit of this problem with alpha coefficient of 1.0. This was indicative that, even as they indicated that the training was very relevant, this did not translate into improving complaints on quantities issues.

4.3. Quality Ordering Discretion on Quality Complaints at Requisition

In conducting an analysis into determining the reliability of storekeepers' discretion effect on quality complaints at requisition, reliability analysis was conducted on two category of responses; (a) respondents that indicated that, Requisition Officers often complained about quality of stationery issued; and, (b) those that indicated, Requisition Officers did not often complain about quality of stationery issued. The two categories were analysed against responses to the following questions; (1) When stock items are in short supply, does store make requests?; (2) Are the right quality of stationery items bought?; (3) Is stores able to supply these items most of the time.

- a. For analysis on category (a) responses, it was observed that, the alpha coefficient was 0.7273. This was indicative that, Storekeepers' discretion was contributory to the quality complaints on stationery items. Further analysis revealed that Storekeepers with secondary highest level of education were excellent culprit to this unfortunate discretion with alpha coefficient of 1.0. A further analysis again revealed that, storekeepers of this category that claimed inventory related training were "very relevant" to their work and had secondary level as highest education were excellent culprit to this problem with an alpha coefficient of 1.0.
- b. No relevant results were found in this regard.

4.4. Discretion on High Stock Obsolescence

In analysing to determine the discretion reliability effect of Storekeeper on high level of obsolescence in stores, two categories of respondents were tagged. (a) Those that indicated that, the store still have a lot of obsolete stationery items in stock; and, (b) those that indicated, the store does not still have a lot of obsolete stationery items in stock. the study analysed the following questions against the above two categories of responses; (1) Whether the right quantity of stationery are bought for required periods; (2) whether the right quality of stationery items were bought; (3) whether items that are received in stores issued quickly; (4) whether some items in the stores are no longer relevant; and, whether obsolete items are removed from the stores annually.

- a. The alpha coefficient to the analysis was 0.703, indicative that, category (a) respondents of Storekeepers' discretion led to high stationery obsolescence. Further analysis reveals that, Storekeepers with highest level of education as secondary level were major contributory factor to this unreliable discretion with an alpha coefficient of 0.857. Storekeepers with diploma level of education had relatively less negative impact on this inaccurate discretion application on managing high obsolescence.
- b. With an alpha coefficient of 0.641, this was indicative that the reliability of their discretion has not likely to be the reason for not having a lot of obsolete stationery items in

stock. Further analysis revealed an alpha coefficient of 1.0 for Storekeepers with secondary level education but had 10 year or more working experience in inventory unit. This meant that, storekeepers with 10years or more working experience exercised excellent discretion at avoiding high stationery stock obsolescence compared to Storekeepers with first degree but had worked for 3-5 years having a rather poor discretion at avoiding high stationery obsolescence with alpha coefficient of 0.691. This was indicative that, in managing stationery stock obsolescence, years of working experience was a better factor than educational level. Again, a further analysis revealed that, Storekeepers with secondary level education who had worked for 10years or more in inventory unit and had had 3 training programmes in inventory were excellently preventive of high stationery obsolescence with alpha coefficient of 1.0. Again, at alpha coefficient of 0.691, Storekeepers with first degree who had worked between 3-5 years and had had two training inventory training programmes were still not better determinants of avoiding high stationery obsolescence, confirming that, years of working experience in inventory area was a key factor in making good discretions on stationery obsolescence.

4.5. Discretion Effects Leading To Unwanted Stationery Items in Stores

In conducting analysis to determine the reliability of Storekeepers' discretion that led to unwanted stationery items situation in stores, two category of response were considered. Thus, (a) respondents that indicated that, there are still a lot of unwanted stationery items in stores; and, (b) those that responded that, there are not still a lot of unwanted stationery items in stores. Responses to the following questions were analysed against the above two categories; (1) whether the right quantities of stationery are bought for required periods; (2) whether the right quality of stationery were bought; (3) whether the items that come to the stores are quickly issued; (4) whether obsolete stationery items are removed from the store annually.

- a. The result of 1.0 was indicative that, Storekeepers' discretion was perfectly contributory to unwanted stationery items in stores. Educational level, years of working experience in inventory area, number of trainings in inventory management and relevance of training to storekeeping work were not contributory factors to this poor exercise of discretion.
- b. At alpha coefficient of 0.233, it was indicative that discretion of this category of Storekeeper respondents was not contributory to preventing unwanted stationery items. Years of working experience did not appear to help in Storekeepers' discretion in this matter of preventing of unwanted stationery wastes. Again, this perhaps meant that other external factors explained the good prevention of high unwanted stationery items in stores.

5. CONCLUSIONS

In stores that endured frequent stationery shortages had Storekeeper with unacceptable discretion, with exception to persons that had had two or more training on inventory related matters. Also, education and years of experience had no effect on stationery shortages.

Discretionary abilities of storekeepers whose stores did not often have complaints on store stationery quantity issued was totally unacceptable regardless of personal attributes of such

storekeepers. In other words the non-complaint regarding quantity issued could not be attributed to their discretion. And where there were complaints for same store item's quantities or quality issued, storekeepers' discretion leading to the situation was consistent, especially with those whose educational level was not beyond secondary school level.

Unreliable discretion of storekeepers was contributory to stores that had high obsolescence of stationery in stock with the situation being more serious with stores managed by persons with secondary or lower level education.

In stores that did not have high obsolescence of stationery, storekeepers with 10years or more working experience make excellent discretion leading to the situation, without recourse to other attributes of storekeepers.

Discretion of storekeepers seriously contributed to unwanted items in stores. In situations where unwanted items were not phenomenal, it was not attributable to reliability of their input, and that, other factors could have possibly contributed to the situation.

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