

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI COLLEGE OF ARCHITECTURE AND PLANNING**

**DEPARTMENT OF BUILDING TECHNOLOGY**

**STRATEGIES FOR EFFECTIVE DISPOSAL OF GOODS AND EQUIPMENT  
IN PUBLIC INSTITUTIONS**

**BY**

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**(B.Ed Technology)**

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## DECLARATION

I hereby declare that this work is my own work towards the Master of Science degree and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## DEDICATION

This work is dedicated with love to the following personalities:

My dear wife Mrs.Japhlet Koduah Mensah ,

Our son, Andrews

My Parent, Mr. & Mrs. Koduah Mensah



## ABSTRACT

Proper procurement of public goods and services is imperative for good economic management and addressing leakages of government funds. As a result, the public procurement and disposal of public assets should not be taken lightly. The disposal of goods and equipment are important parameters for gauging the efficiency of service delivery and development interventions in a country. The purpose of this study was to develop strategies for effective disposal of goods and equipment in public institution(s). The study adopted qualitative approach where relevant literature survey was used to collect data and used content analysis for the analysis of data. The journals used were twenty seven (27) and four (4) Public Procurement Acts were considered from Neighboring Countries and other relevant document(s). The study revealed that there were existing practices of disposal of goods and equipment. However, the study came out with these strategies; the institutions should code all asset when they procured goods and equipment into their outfit to determine longevity of the asset(s), professional independent body should examine every asset when they are due for disposal, certificate of disposal should be issued by standing disposal committee, methods of disposal should be approved by the head of institution, economic returns and finally, asset disposal plan that would be effective , efficient and economical in all government institution(s). The study recommends that, the institution(s) should train workers to become expert to do regular maintenance of electronic gadgets to curb frequent disposal of goods and equipment, developing disposal framework for all public institution(s) to make use of when the need arises, recycle goods and equipment when they are reducing to scraps and finally the officials of the institution shall not be allowed to use public asset when they are not on official assignment. It is expected that the strategies developed in this study will assist state institutions to disposal of goods and equipment effectively in order to achieve value for money.

Key words: Disposal, Goods, Equipment, Strategies.

# KNUST





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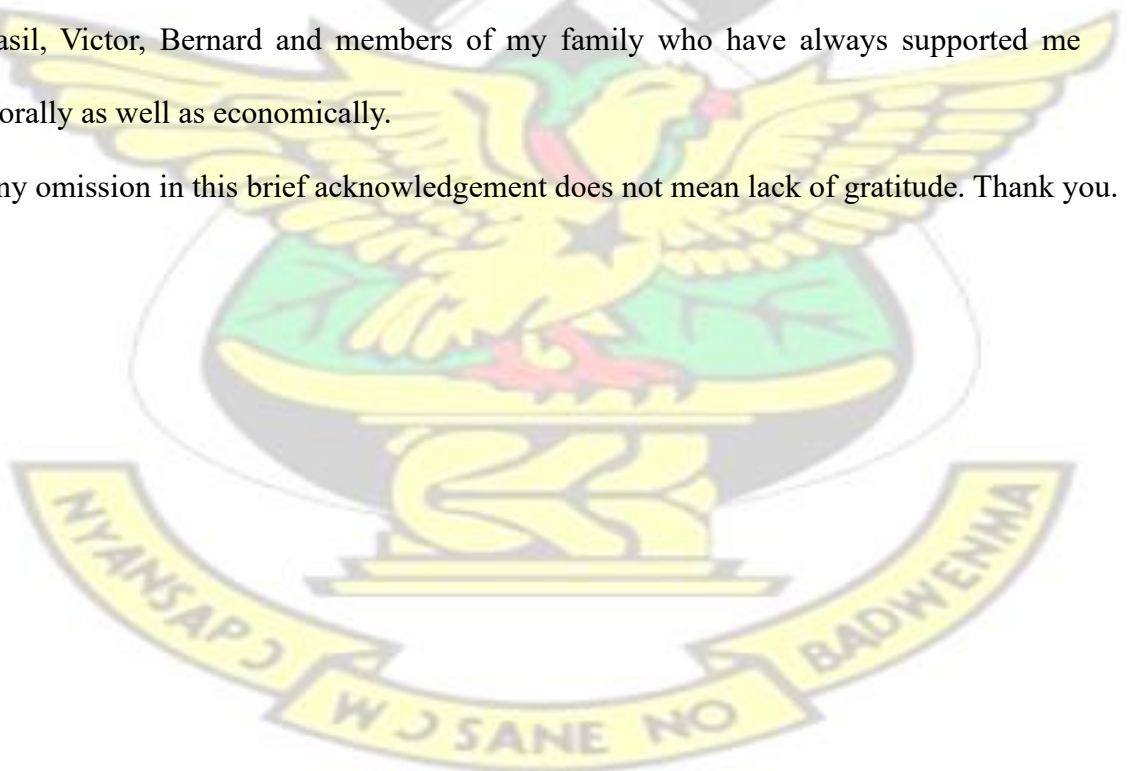
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### **LIST OF ABBREVIATIONS**

CSIR	Council for Scientific and Industrial Research
PPA	Public Procurement Act
GDP	Gross Domestic Product
ICAC	Independent Commission against Corruption
BICC	Bonni International Center for Conversion
WEEE	Waste Electrical and Electronic Equipment
IT	Information Technology
FDA	Food and Drugs Authority
GAR	Government Asset Register
HRM	Human Resources Management
SDC	Standing Disposal Committee
RDA	Right Disposal Authority
NAP	Normal Administrative Practice
DOF	Department of Finance
PPDA	Public Procurement of Disposal Assets
QDA	Qualitative Data Analysis

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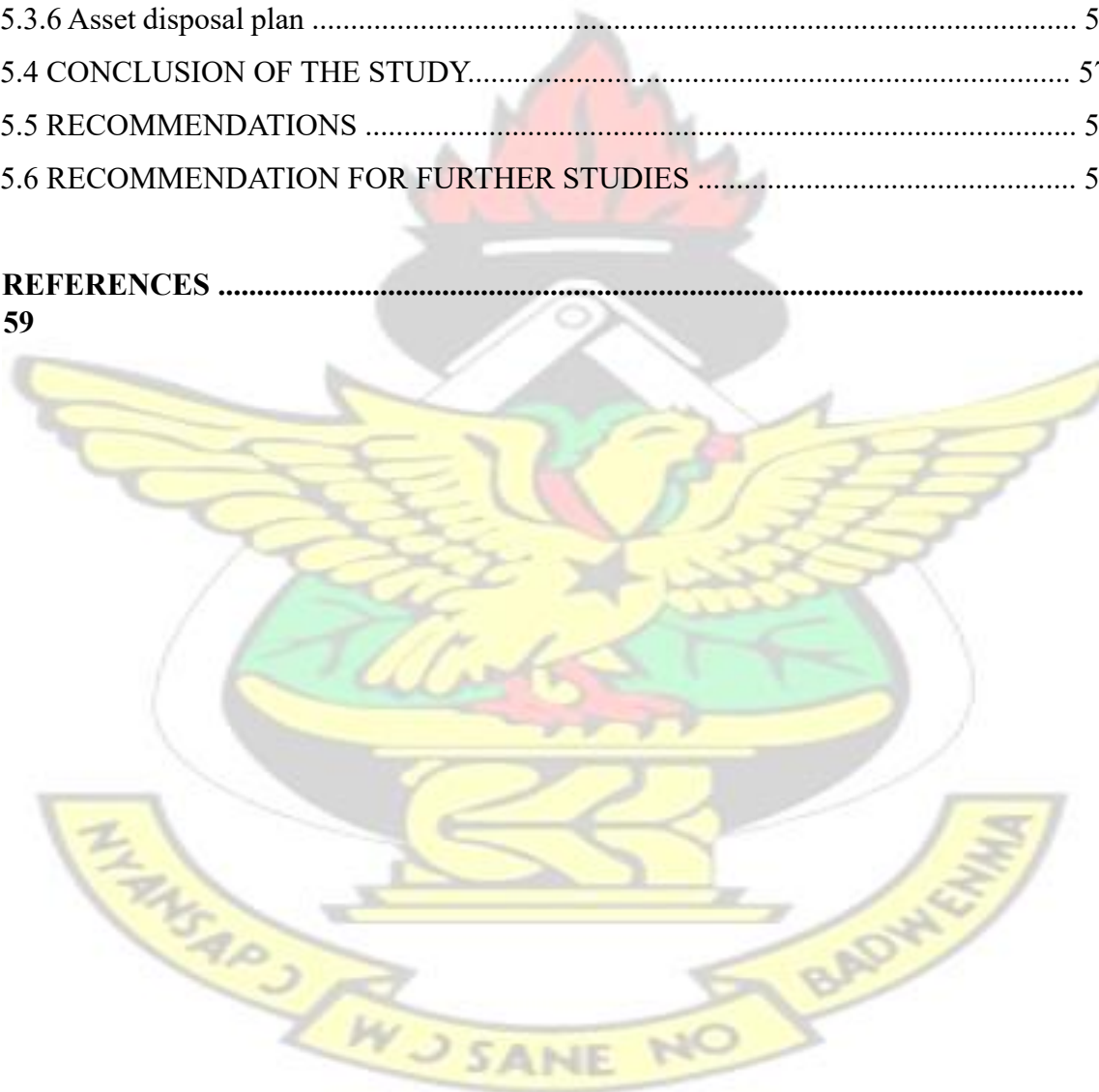
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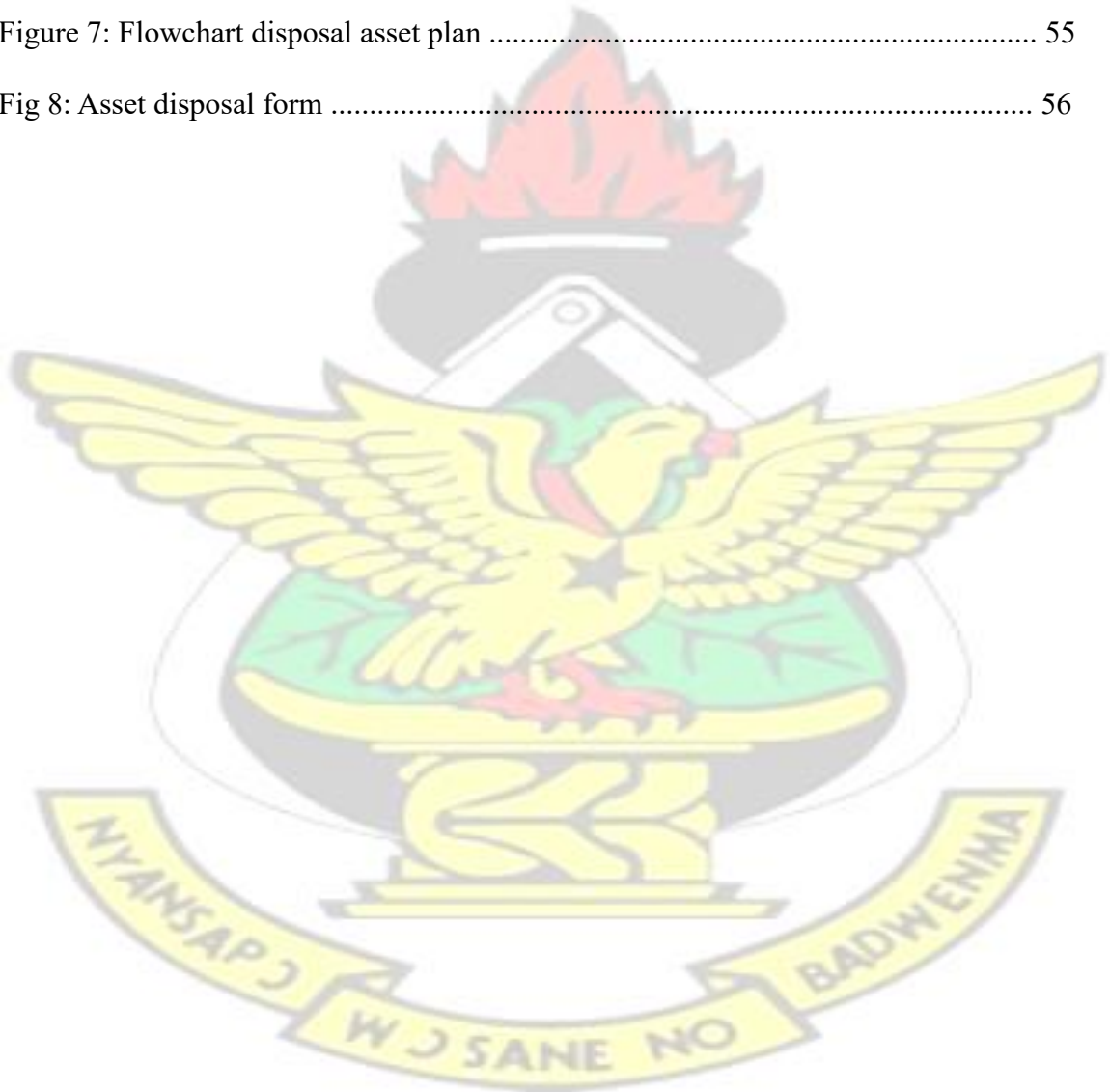
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## **CHAPTER ONE**

### **GENERAL**

#### **INTRODUCTION**

##### **1.1 BACKGROUND OF THE STUDY**

The government remains the biggest entity that does procurement and disposal on a large scale in the country, public procurement and disposal is big business that attracts a myriad of players and stakeholders (Ondiek and Ochieng, 2013). The funds dedicated to purchasing of supplies and disposal if spent effectively and efficiently would benefit all those who obtain supplies and services from the government, however the correct public purchasing and disposal procedures when followed correctly play a major role in making the government responsive and responsible to the needs of the citizens, increasing the national income and spurring development and even leading to the achievement of the Millennium Development Goals (MDGs) (ibid).

Disposal of stores is one of the most important functions of materials management in any organization (Osibanjo, 2007). This has become necessary as the equipment and other items tend to become surplus, obsolete, and unserviceable, over a period of time due to its long usage. The disposal of this type of stores is needed to be done on periodic basis (CSIR, 2007). Goods to be disposed of still have value for money in them and even when they undergo wear and tear and may still have financial value for the institution in question.

Furthermore, to get value for money in disposing of goods and equipment methods the disposal could generate huge sum of money if the following methods resale, trade in,



auction and disposal should be based on a fair market value for each surplus item(Ibid). The price established will be based on current market value and condition of the equipment as well PPA Act 663(2003). Hence most institutions want to work to the best of human resources and would remain obsolete or be competed out of business if those institutions fail to keep pace with the speed of information technology. Disposal of goods and equipment by Procurement Entities under projects financed from the Public Funds of the Republic of Ghana are carried out in accordance with the procedures laid down in the Public Procurement Act, 2003 Act (Act 663).

According to PPA (2003), the Government of Ghana spends 18.2% to 25.5% of Ghana's Gross Domestic Product (GDP), on goods, services and works to assist in effective delivery of services to the citizenry. However, significant proportion of this expenditure are expended on goods, many of which need to be disposed off, which other departments can make use of such goods to improve services, because many institutions do not follow laid down procedures of disposing goods to obtain value for money. According to study conducted by Willoughby (1989 ) integrated material management ought to be viewed from holistic perspective, the actions of planning ,acquisition ,control and disposal should be performed in such a way that facilities, personnel and capital are optimized, while providing appropriate customer service levels ( Kathawala and Nauo1989) .

To this extent the disposal function, must be regarded as an incidental task, that has gained substantial importance due to a better recognition of the key benefit it can generate in an organization ( Pyke and Peterson1998). On the other hand research has

shown that goods are disposed off based on the following factors; if it is out of order, goods used for two periods, unusable and defective goods (Takayoshi Shinkuma 2006). Hence, the research is based on reviewing various disposals of goods and equipment thereby developing strategies for effective disposal of goods and equipment in the educational institutions.

### **1.1 STATEMENT OF PROBLEM**

The government continues to incur huge losses in the field of public procurement supplies and disposal over the years, the citizens' confidence towards public Procurement and disposal has been eroded significantly, portraying a negative attitude by the public towards these procedures. Surplus stores, expired inventory, unserviceable equipment dead-stock, scrap and obsolescence continue to pile up in public stores, scrap yards and offices (Ondiek, 2013). This is an eyesore to the public in whose name procurement and disposal is done. The public constitutes the taxpayers and they are the ones who contribute what the government spends they therefore deserve better. In essence, their confidence has been shattered arising from the foregoing state of sorry affairs (Ochieng, 2013).

Consequently, disposing of goods and equipment should be carefully planned and conducted in a way that obtain value for money for the institution involved and to reduce opportunities for exploitation by dishonest individuals, employees, private person organization. (ICAC, 2005). There are two main problems facing the disposal officer who must dispose off expired goods or used ones which always end up for the state paying judgment debt to wrong people. The first situation is on the strategies used for effective disposing of goods and equipment in state institution(s) in order to achieve

value for money. The second situation is determining whether the goods and equipment to be disposed are due for and who to assess the damage asset, who shall approve for disposal and what mode shall it be done and when? Hence, this research is intended to answer these questions.

## **1.2 AIM OF THE STUDY**

The aim of the study is to develop strategies for effective disposal of goods and equipment.

## **1.3 RESEARCH QUESTIONS**

- What are the existing practices of goods and equipment disposal at institution(s)?
- What are the factors affecting disposal of goods and equipment?
- What are the strategies for disposal off goods and equipment?

## **1.4 OBJECTIVES OF THE STUDY**

The research seeks:

- To identify the existing disposal practices of goods and equipment; □ To examine factors affecting goods and equipment disposed of; and
- To develop effective strategies for disposal of goods and equipment at institution(s).

## **1.5 JUSTIFICATION OF STUDY**

Most industries, factories, private organization as well as public institutions disposed off goods and equipment without considering the public procurement Act 663 (section

84).However, the public procurement Act was passed to facilitate fairness, transparency, accountability ,competition and value for money for disposal of goods and equipment. However, because good practices and procedure are not followed in disposing of goods and equipment this has led to losing chunk of money instead of using it as a medium to generate funds. This research work seeks to identify factors affecting disposal of goods and equipment, how to enhance the existing disposal practices where necessary and develop strategies for effective disposal of goods and equipment. The disposing of goods and equipment in public institutions would be generating some funds, or could be beneficial to other departments if good practices and procedures are followed. It could also be transferred to other second cycle and probably basic schools if the function of the goods and equipment cannot be used by the department of institution disposing of the assets. More so, many experts would also get some work to do because, they would determine the state of asset in various institutions, whether they are due for disposal or not. Having developed effective disposal strategies, public officials will find it very difficult to misuse public asset when they are not on official assignment. This will protect state asset as well as achieving value for money.

## **1.6 THE SCOPE OF THE STUDY**

The scope of the study was to cover all the Public sectors in Ghana; however it was limited to Public Educational Institution(s).The disposal practices at institutions in the country leaves much to be desired, because many a times state asset are left under the mercy of the weather meanwhile these assets have no fault.



## **1.7 METHODOLOGY OF THE STUDY**

The study adopted literature survey approach, where secondary source of data was collected and content analysis was used to analysis data. The secondary source of data used has been evaluated and has been collected from relevant literature and internet sources.

## **1.8 ORGANIZATION OF THE STUDY**

The study comprises five chapters: chapter one looks at the introduction of the study, background, statement of problem, objective of the study, research questions, and justification of study ,methodology, scope of the study ,limitation of the study, and organization of the study. And the chapter two gives literature related to the topics of the study. The chapter three will talk about the set of interviews that will be used in the analyses. Chapter four presents, and analyses the results of the survey of interviews that will be conducted. Finally, chapter five provides a summary of the major findings, conclusions and recommendations, and also raises issues requiring further research investigation in future.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter examines the existing literature on strategies for effective disposal of goods and equipment in institution(s) .It highlights on the practices of disposal of goods and equipment and it further stressed relationship in developing effective strategies for disposal of goods and equipment.



## **2.2 OVERVIEW OF DISPOSAL OF GOODS AND EQUIPMENT IN PROCUREMENT**

Under section 85 of the Public Procurement Act 663(2003) which talked about how disposal procedures should be carried out holistically to achieve value for money in using the Act. In the past very little thought was given to what happened to goods and equipment when it came to the end of its useful life either through age and deterioration or through becoming obsolete. Often the cost of reclamation of goods was not worth the bother, and the equipment was disposed off by being dumped, buried or sunk. There is greater consciousness today that if these matters are thought about at the design stage, disposal, recycling, and reuse can be economic, avoiding the need to use primary materials (Thai,2001) .

Public procurement is an important function of government (Thai, 2001). It has to satisfy requirements for goods, works, systems, and services in a timely manner. Furthermore, it has to meet the basic principles of good governance: transparency, accountability, and integrity (Wittig, 2003; Callender & Schapper, 2003). Another main principle of government is to achieve value for money in procurement (DOF, 2001). However, public procurement has been a neglected area of academic education and research, although governmental entities, policy-makers, and public procurement professionals have paid a great deal of attention to procurement improvements and reforms (Thai, 2001).

## **2.3 DEFINITION OF DISPOSAL**

Disposal means the divestiture of public assets including intellectual property rights and goodwill and any other rights of a procuring and disposing entity by any means

,including sale, rents lease, franchise, auction, or any combinations however classified other than those regulated by the Public Enterprise Reform and Divestiture State. (PPDA, 2003).Van der et,al (1976), argued that disposal is any event, act, forbearance or operation of law that results in the creation, variation, transfer or extinction of an asset. Whilst, the dictionary definition of disposal is ‘the act or means of getting rid of something’ (Hanks et al.1979). Disposal of asset is the withdrawal of asset from use upon the completion of its useful life (Obaidullah, 2006).Therefore, disposal as any event getting rid of public asset through the law of the state, in creation, variation, and transfer to the state agency in need of the asset.

### **2.3.1 Disposal of Goods and Equipment**

Although there is no unanimous definition of disposal of goods and equipment, for the purpose of this study goods means objects of every kind and description including raw materials, products and equipment and objects in solid, liquid or gaseous form, and electricity, as well as services incidental to the supply of the goods if the value of those incidental services does not exceed that of the goods themselves (GOJ,2010).

Goods is a term of flexible context and meaning and extends to all tangible items( encyclopaedia of American law ,2008).

### **2.4 SOME FACTORS AFFECTING DISPOSAL OF GOODS AND EQUIPMENT**

According to CSIR (2007) disposal of stores is one of the most important functions of materials management in any organization. This has become necessary as the equipment and other items tend to become surplus/obsolete, unserviceable etc. over a

period of time due to its long usage. The disposal of this type of stores is needed to be done on periodic basis.

The Public Procurement law explains that disposals are done based on: required to be disposed of under a particular policy; no longer required due to changed procedures, functions or usage patterns; occupying storage space and not being needed in the foreseeable future; reaching their optimum selling time to maximize returns; no longer complying with occupational health and safety standards; found to contain hazardous materials; and/or beyond repair but able to be sold for scrap Act 663(2003). Sturt (2009) argued that for disposal on reasons of an asset may be as a result of either the asset becoming redundant, obsolete or inefficient, replaced by an upgrade, becoming unserviceable or beyond economic repair, damaged, stolen or missing, or surplus to requirements before disposal is done.

Shinkuma (2007) remarked that goods and equipment could also be choosing between repairing them or disposing them when they are out of order, defective used goods. Chiya and Balakrishnan (2007) agreed that in disposing items follow; the laid down policy and approval authority for disposal of inventory Items (e.g. defective or obsolete items). Specify the disposal methods, such as donation or sale of usable items, or disposal as waste and the considerations to ensure consistency in approval of disposals; Lay down the procedures for checking of inventory items before approval of disposal and the witnessing process, design a standard form for requests and approval for disposal of inventory items, Raise requests for approval of disposal using the standard disposal form. Approve the request for disposal and inspect the conditions of items before authorization. Conduct spot-checks while the disposal is in progress (e.g. on the items and quantity).

Antrekowitsch (2006) says in disposing items first, verify the approval given before releasing the items for disposal and require the receiving staff to acknowledge receipt. Update the inventory movement records without delay and send copies to the accounts section. If the items are to be disposed off by sale, seek price quotations from buyers through competitive means, document the offers properly and finally update the accounting records according to disposal records. According to Pieter and Siemon (BICC, 1996 ) a number of specific reasons for disposal of equipment are mentioned in official dutch documents: Redundancy—disposal of material that was originally planned to be kept in service for a considerably longer period, but that has become redundant as a result of the new defense policy. This includes both relatively new equipment (such as Leopard 2 tanks of about 10 to 15 years old) and older equipment already close to obsolescence (such as 25-year-old, but upgraded, Leopard 1 tanks), but for which replacement is no longer considered. Disposal due to changes in tasks—for example, drastic reductions in heavy equipment such as tanks, tracked armored vehicles (partly replaced by wheeled armored vehicles), heavy artillery and fighter aircraft (more emphasis is now placed on airlift capability and attack helicopters). Obsolescence material that has reached the end of its useful life within the dutch armed forces and is replaced by more modern equipment. Of course, this is an ongoing process normal to every army. As the Dutch armed forces are designated for use in operations demanding technologically advanced weapon systems, obsolescence within the Dutch defense structure does not necessarily mean obsolescence per se. High exploitation cost—in a few cases, equipment is phased out due to the high costs involved in operating its, either within the Dutch force structure or because the systems have just become too expensive to operate and maintain.



Five journals were reviewed which were all secondary data under the factors affecting disposal of goods and equipment. According to Shinkuma (2007), disposals are effected based on the goods which are out of order that means the goods and equipment cannot perform as they were been designed for. He also says that goods and equipment which are defective, this means that there is something wrong with the assets. Chiya and Balakrishnan (2007) agreed that goods and equipment are disposed off when they are obsolete and defective. Antrekowitsch (2006) disposes of goods and equipment of a Government Agency if updating the inventory of the institutions. This suggests that new goods and equipment are received and there is not enough space for the firm. From (CSIR, 2007) disposal of stores are necessary if the equipment and other items tend to become surplus/obsolete, unserviceable etc. the guidelines for disposal of goods and equipment, PPA-Ghana also examines of disposal items based on these reasons; if they are no longer required due to change in procedures, functions or usage patterns, occupying storage space and not needed in the foreseeable future, reaching their optimum selling time to maximize returns, no longer complying with occupational health and safety standards, found to contain hazardous materials, and /or beyond repairs but be able to be sold for scarps. Act 663(2003).

**Table 1: Summary of the factors affecting disposal.**

Findings of the factors	authors
<ul style="list-style-type: none"> <li>• Surplus</li> <li>• Obsolete</li> <li>• unserviceable</li> </ul>	CSIR(2007)



<ul style="list-style-type: none"> <li>• Required to be disposed under particular policy. □ No longer required due to change procedures □ Function or usage patterns.</li> <li>• Occupying storage space and not being needed in the foreseeable future.</li> <li>• Reaching their optimum selling time to maximize returns.</li> <li>• No longer complying with occupational health and safety standards.</li> <li>• Contain hazardous materials.</li> <li>• Beyond repairs.</li> </ul>	Act 663(2003)
<ul style="list-style-type: none"> <li>• Becoming redundant</li> <li>• Obsolete and inefficient</li> <li>• Unserviceable</li> <li>• Replaced by an upgrade.</li> <li>• Damaged.</li> <li>• Stolen or missing part</li> <li>• surplus</li> </ul>	Sturt (2009)
<ul style="list-style-type: none"> <li>• Out of order</li> <li>• Defective goods</li> </ul>	Shinkuma(2007)
<ul style="list-style-type: none"> <li>• Lay down policy and approval authority for disposal of an inventory items.</li> <li>• Defective goods.</li> <li>• Obsolete items.</li> </ul>	Chiya and Balakrishnan(2007)
□ Update inventory	Antrekowitsch (2006)
<ul style="list-style-type: none"> <li>• Redundancy.</li> <li>• Changes in tasks.</li> <li>• Obsolescence</li> <li>• High exploitation cost</li> </ul>	Pieter and siemon(BICC,1996)

### 2.3 EXISTING PRACTICES OF DISPOSAL OF GOODS AND EQUIPMENT

Matsuto et, al (2004) remark that the Sources of property determine their method of eventual disposal. Approved disposal methods are handover to another government agency, donation to another non-profit, sell or scrap. When disposal actions are complete, scan copies of relevant paperwork and upload into disposal committee to

complete the retirement process. The disposal committee will not permit retirement of an item until disposal documentation is uploaded. There are some practices that exist in the procurement activities; the Republic of Nigeria PPA (2007) operates on the following practices: (a) Open Competitive Bidding shall be the primary source of receiving offers for the purchase of public property. (b) Methods of disposal shall include: sale and rental, lease and hire purchase, licenses and tenancies, franchise and auction. (c) Planning of disposal is compulsory and shall include valuation by independent professional. (d) Disposal must be integrated into budget of procuring entity and be timed to take place at a most economically advantageous time. (e) Responsibility for disposal shall be shared between the procurement unit and the tenders' board disposal of University properties can only be undertaken with the approval of the Vice- Chancellor. The disposal process is controlled through Asset Management Services, who will normally liaise with an approved Real Estate Agent to ensure that an appropriate method of disposal is chosen which maximizes the University's financial returns in the disposal of the property, in addition, Action to dispose of University assets by any method must be initiated on the Asset Disposal Request form. The form must be completed, authorized by the School or Section Head, and forwarded to the Asset & Property Officer in Asset Management Services prior to initiating disposal action. (Smith,2004), Waste electrical and electronic equipment(WEEE)-compliant disposal; license to carry waste; certificate of transfer for collections; audit of outcomes for processed equipment; data security from basic data wiping or disk destruction, through to certified military specification multi-pass data wiping, and even disk shredding on site; return of money from equipment with residual value; a level of professionalism and social responsibility that matches your own when dealing with the IT waste.(Boddington,2012).

Bernstein (2011) also used the following when disposing drugs: Follow any specific disposal instructions on the drug label or patient information that accompanies the medication, do not flush prescription drugs down the toilet unless this information specifically instructs you to do so, take advantage of community drug take-back programs that allow the public to bring unused drugs to a central location for proper disposal. Call your city or county government's household trash and recycling service to see if a take-back program is available in your community. The Drug Enforcement Administration, working with state and local law enforcement agencies, is sponsoring National Prescription Drug Take Back Days ([www.deadiversion.usdoj.gov](http://www.deadiversion.usdoj.gov)) throughout the United States, if no instructions are given on the drug label and no take-back program is available in your area, throw the drugs in the household trash, but first: take them out of their original containers and mix them with an undesirable substance, such as used coffee grounds or kitty litter. The medication will be less appealing to children and pets, and unrecognizable to people who may intentionally go through your trash, Put them in a sealable bag, empty can, or other container to prevent the medication from leaking or breaking out of a garbage bag.

(Bernstein 2011) offers some additional tips: before throwing out a medicine container, scratch out all identifying information on the prescription label to make it unreadable. This will help protect your identity and the privacy of your personal health information, do not give medications to friends. Doctors prescribe drugs based on a person's specific symptoms and medical history. A drug that works for you could be dangerous for someone else, when in doubt about proper disposal, talk to your pharmacist (FDA, 2011). Officers do not retire items whose useful life and current value have reached zero if the item is still serviceable and is still useful for performing. Spruzina (2006).Wing

commanders shall ensure items are no longer economically repairable or are no longer required for the performance of works' missions in another unit within the wing. Additionally, wings shall contact the disposal officer to determine whether items can be utilized by another unit in the department.

Khongkrapan (2010) prior to the disposing off an of equipment item, the department shall notify its respective College/School/Unit to determine whether the equipment item can be utilized within a College, School, or Unit. Each Dean's office or Unit shall retain a record of their ultimate disposition of each equipment item for audit purposes. Upon approval to dispose of the equipment by the College, School, or Unit, the department shall use the appropriate disposal business procedures outlined by UVM Surplus Disposal. Approval is required to sell or transfer movable equipment outside the University's surplus disposal business processes. The department shall provide Cost Accounting Services with sufficient details of the pending sale or transfer. Upon approval, Cost Accounting Services shall provide guidance to the department to ensure proper sale procedures, provide competition to the extent practicable and result in the highest possible return (Ibid).

In the course of the study of practices for disposals nine (9) journals were so far considered which the study touched. According to PPA of Nigeria (2007) in disposing of goods and equipment, the following practices are adopted by them, there shall be open competitive bidding of receiving offers for the purchase of public property, the methods of disposal shall include sales and rental ,lease and hire purchase ,the planning of disposal is compulsory and shall include valuation by independent professional, disposal must be integrated into budget of the procuring entity and be timed to take



place at the most economically advantageous time, and disposal shall be the responsibility for the procurement unit and Tender Board. They further added that if the equipment and goods are for the University of Nigeria then the Vice –chancellor has to approve any items before they disposed of. According to Smith (2004), the best practices of disposal must be pass through or controlled by Asset Management Services who would liaise with an approved Real Estate Agent to ensure that an appropriate method of disposal is chosen which would maximize the University's financial returns in the disposal of the property, in addition , disposal forms must also be completed which is authorized by the school or the section head and forwarded to the Asset & Property Office in Asset Management Services prior to initiating disposal action. Boddington (2012) also believed that in disposing of electronic equipment license and certificate has to be sought from the certified military specification multi-pass data, before disposal could be effected. Bernstein (2011) had different approach when disposing of drugs, first, follow the instructions on the drug label and used. Drugs should be flushed in the toilet but the community should bring unused drugs to central location for proper disposal, moreover, he also stressed that before throwing out a medicine container, scratch out all identifying information on the prescription label to make it unreadable. Spruzina (2006) disposal of goods and equipment when items are no longer economically repairable or are no longer required for the performance of work. Before disposal the section head has to contact the disposal officer to determine whether items can be utilized by another unit in department. Khongkrapan (2010), sees disposal practices in this form, prior to the disposal of equipment, the department shall notify its respective college /school/unit to determine whether the equipment item can be utilized within the college, school or unit. Each Dean's office or unit shall retain a record of their ultimate disposition of each equipment



item for audit purposes. Upon approval to dispose off the equipment by the College, School, or Unit, the department shall use the appropriate disposal business procedures outlined by University's Surplus Disposal. Approval is required to sell or transfer movable equipment outside the University's surplus disposal business processes. The department shall provide Cost Accounting Services with sufficient details of the pending sale or transfer. Upon approval, Cost Accounting Services shall provide guidance to the department to ensure proper sale procedures provide competition to the extent practicable and result in the highest possible return.(ibid).

**Table 2: Summary of the existing practices of disposal**

Findings of the practices	Source of findings
<ul style="list-style-type: none"> <li>• Sources of property determines their method of eventual disposal.</li> <li>• Handover to another government agency.</li> <li>• Donation to another non-profit organization.</li> <li>• Sell or scrap.</li> </ul>	Matsuto et,al(2004)
<ul style="list-style-type: none"> <li>• Open competitive bidding.</li> <li>• Sale or rental, lease and hire purchase.</li> <li>• Planning of disposal by professional.</li> <li>• Integrated into budget of procuring entity.</li> <li>• Responsibility of disposal shall be shared by procurement unit and tender board.</li> </ul>	PPA,Nigeria Act 1999(2007)
<ul style="list-style-type: none"> <li>• Disposal process is controlled by asset management service.</li> <li>• Form must be completed and authorized by section head.</li> </ul>	Smith(2004)
<ul style="list-style-type: none"> <li>• Certificate of transfer for collection.</li> <li>• Audit of outcomes for processed equipment.</li> <li>• Return of money from equipment with residual value.</li> <li>• A level of professionalism and social responsibility.</li> </ul>	Boddington (2012)
<ul style="list-style-type: none"> <li>• Follow instruction on drug label.</li> <li>• Do not flush prescription drugs down the toilet.</li> <li>• Allow the public to bring the unused drugs to a central location for proper disposal.</li> <li>• Scratch out all identifying information on the prescription label to make unreadable.</li> </ul>	Bernstein (2011)



settings, including those with limited resources where staff may be reluctant to throw away supplies, such as disposables, which are seen as ‘still functional’ and valuable. Proper management of waste products helps to keep the health facility clean and tidy, prevents the spread of disease, reduces the risk of injury, and prevents re-sale and re-use. Incorrect management of waste places waste handlers, health workers and the community at risk of infection and injury.

Asset Disposal (2010) has these disposal strategies as: departments should identify surplus property assets as part of their asset planning processes and develop and implement processes for disposing of these assets. The Government Asset Policies include requirements to maximize the opportunities for inter-agency transfer of property owned by the Government. Agencies should ensure that strategies to address the disposal of government employee housing surplus to departmental requirements are implemented in accordance with the Government Employee Housing Management Framework. Surplus properties should be: recorded on the Government Asset Register (GAR) as soon as practicable after the decision is made that the property is surplus maintained on the GAR for a minimum period of 30 calendar days. These requirements are intended to ensure that other State agencies have sufficient time to express their interest in the property. Departments seeking additional properties to meet service delivery requirements should regularly monitor the GAR for suitable properties. It is more efficient from a whole-of-Government perspective for the State to reallocate surplus property assets to satisfy the needs of other State agencies than to purchase additional properties from the private sector.

### **2.4.1 Interagency Transfers**

To maximize the use of assets to meet community and government needs, interagency transfers should be given priority over the sale of assets to the private sector. The transfer of a surplus property to another government agency should usually occur on a market-value footing. Disposal Policy: Inter-agency Transfer\_outlines a number of exceptions that allow a property to be transferred at less than market value. Departments should ensure that transfers of buildings are appropriately reflected in their asset registers and financial systems. It is also important that due diligence and other requirements are addressed at the disposal stage to ensure that adequate information is available to inform a new owner of their responsibilities. The NonCurrent Asset Policies for the Queensland Public Sector mandates specific requirements to account for and report on the disposal of government building assets.

### **2.4.2 Open Market Disposal**

Disposal of assets on the open market should seek to maximize the return to the Government from the sale. A valuation is required when selling government property or assets. This valuation should be used as a benchmark for the sale and should be undertaken by a valued registered in Queensland. Sale through public competition (public auction or public tender) is preferred and should be used wherever possible to ensure that the maximum return to government is achieved.

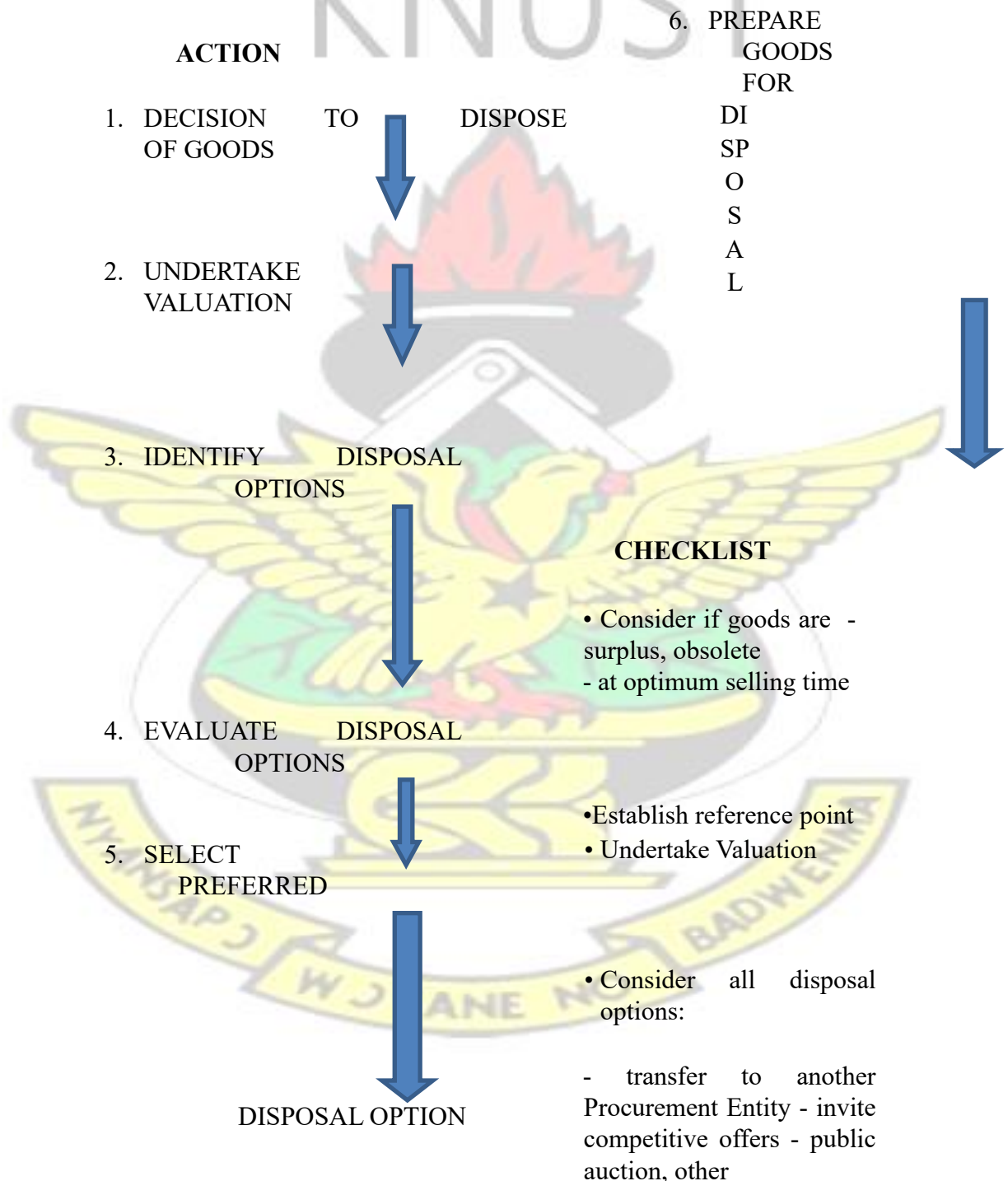
### **2.4.3 Private Treaty Disposal**

Disposal by private treaty is occasionally used by the State as an alternative method of property disposal to the more common process of auction or tender. Strategic Asset Management Framework Asset Disposal Private Treaty disposal of surplus properties



occurs only where it is practically necessary and/or commercially advantageous to the State and not contrary to the best interests of the community. A private treaty is a formal agreement between a government agency and a private individual/company concerning the transfer of a property at a price and on terms privately agreed between them.

### THE DISPOSAL PROCESS FLOWCHART



- Examine costs and benefits of each disposal method

- Evaluate costs and benefits by:

- the type, condition of goods - offers from other entities - the nature of recipient market - time and resource issues

- Ensure that goods are cleared of

- material unfit for disposal • Perform any necessary repairs

- Store in a secure location

#### 7. DISPOSE OF GOODS

- Manage and monitor those

- undertaking the disposal • Record in asset register as per

Financial Administration Act, 2003 (Act 654)

#### 8. TREAT REVENUE FROM DISPOSAL

- Deal with as per Act 654

#### 9. REVIEW DISPOSAL PROCESS

- Seek continuous

- Evaluate performance against government disposal goals improvement

**Figure 2: The disposal flowchart of PPA of Ghana, Act 663(2003)**

## 2.5 DISPOSAL IS DIVIDED INTO THE FOLLOWING CATEGORIES

Butts and Labrecque (2013), have categories disposal under different properties, these

are;

### **2.5.1 Ordinary Properties**

(a) These properties shall be placed on the market by Real Estate and Land Management. The sale of market properties may be achieved through:

(i) Direct marketing by staff; (ii) listing contracts with licensed real estate brokers; (iii) public tenders; or (iv) proposal call methods.

(b) Determination of the achieving market value will be supported by appraisal or through the receipt of sufficient offers over an appropriate exposure period.

(c) Approval of final conveyances shall be under delegated authority or by approval of Council as required.

### **2.5.2 Economic Development Properties**

(d) These properties viewed by Council to be strategic may be disposed through individually recommended processes contained in the Surplus Properties Report, and may include referral to a special committee or task force of HRM created for the purpose of overseeing the strategic use and disposal of a property.

### **2.5.3 Community Interest Properties**

(e) Properties with this potential will be advertised by staff, led by Grant Program Staff, with support of Community and Recreation Services, after being the subject of a public information meeting in the area of the property. After advertising the opportunity to submit proposals, non-profit organizations will have 90 days to submit a written proposal for the use of the property. Submissions should set out:

(i) The name, composition and legal status of the group, its purpose and management structure, including office-bearers; (ii) the nature of the activities proposed;

(iii) a financial statement; (iv) a business plan for the first five years; and (v) a clear statement of the terms the group is prepared to offer for the purchase or lease of the property.

(f) All submissions received on or before the last day of submissions will be evaluated by a cross-disciplinary staff committee, including finance and community resources expertise, enlisted by the Grants Program staff for content compliance, viability, compensation, and for benefit to the Municipality.

(g) Staff will report to Council on the submissions received and the evaluation by staff, including the advisability of a Buy-Back Agreement and the terms of any suggested Buy-Back Agreement.

(h) Council may determine to select a submission which would be considered on the basis of the Charter, the statutory mandate for Council being whether Council considers the non-profit organization to be carrying on an activity that is beneficial to the Halifax Regional Municipality. (i) Council will also consider the overall context of the disposal, including:

(i) the market value of the property as appraised; (ii) the Planning Strategies of the area of the property; (iii) the benefit of any cost saving to the Municipality; (iv) the consequences, beneficial or otherwise, to the community or the Municipality as a whole; (v) the beneficial considerations of any submission against the benefit to the Municipality of selling the property at market value; and (vi) whether or not a BuyBack Agreement is a condition of a sale.



j) If Council decides to consider the disposal at less than market value, if a property is worth more than council must first hold a public hearing respecting the sale and advertise as perse.

The Council shall advertise the public hearing at least twice, in a newspaper circulating in the Municipality, the first notice to appear at least fourteen days before the hearing.

(5) The notice of the public hearing shall include the date, time and place of the hearing, the location of the real property or a description of the tangible personal property, the estimated value of the property and the purpose of the sale.

(k) The resolution of approval for sale requires passage by at least a two-thirds majority of the Council present and voting.

(l) In the event that Council rejects any or all non-profit organizations' submissions to purchase at a less than market value, Council may direct staff to proceed to sell the property at market value.

Remnant properties (2) Staff will negotiate the sale of such parcels with any interested abutter of such lands and at such price as supported by appraisal or set by Council directly or through policy adopted by Council.

#### **2.5.4 Extraordinary Properties**

(3) This category of properties will be dealt with as required by legislation, common law, or contract that governs any disposal by the Municipality, and may be omitted from this policy.

Surplus Stores – Items that are in working order but are not required for use in a particular Section/Division/Institute and stock lying in stores for more than five years shall be deemed as surplus unless there is any good reason to treat them otherwise. ii)

Obsolete Stores – Items in working order but cannot be put into use effectively being

outdated due to change in technology/design. iii) Unserviceable stores – Items which are not in working order, outlived its normal span of life and are beyond economic repair. iv) Scrap- Process waste, broken & any other item not covered above but has got resale value. v) Empties – Empty containers, crates, bottles, plastic jars, drums etc(Anon,2007)

## **2.6 STRATEGIES FOR DISPOSAL OF GOODS AND EQUIPMENT**

The standing Disposal Committee (SDC) would decide one of the following modes of disposal:

By gift to Education Institute within the State ii) by transfer to other CSIR Labs. iii)

By public action iv)By limited tendering v)By press tender (Anon,2007).According to

PPA,Act663(2003) disposal options are:(i) Transfer to government departments or other public entities, with or without financial adjustment; Disposal of obsolete and surplus items shall be by (ii) sale by public tender to the highest tendered, subject to reserve price; (iii) sale by public auction, subject to a reserve price; or (iv) destruction, dumping, or burying as appropriate

A decision to dispose of an asset may be based on one or more of the following: while, PPA, Act 1999(2007) the means of the disposal of public assets shall include sale and rental; lease and hire purchase licenses and tenancies; franchise and auction; transfers from one government department to another with or without financial adjustments; and (f) offer to the public at an authorized variation.General Service and Administration (GSA, 2006), annual report came out of special code of disposal of goods and equipment. The codes are mixed with numbers and alphabet; 1 stands for new/unused equipment, which is in new condition or unused condition and can be used immediately without modifications or repairs. 4 represent unusable equipment which shows some wear but can be used without significant repair. 7 denote repairable goods which are

unusable in its current condition but can be economically repaired. X stands for salvage which has value in excess of its basic material content, but repair or rehabilitation is impractical and/or uneconomical. S also denotes scrap equipment which has no value except for its basic material content.

Smith (2004), also carried out disposal through the methods as follows: Sale by Tender, Two tendering options are available - either internal tender within the University where offers are accepted from individuals, or internal and external tender where advertisements are placed in the newspaper and offers are accepted from the general public. Factors to be considered when deciding whether to offer the goods for tender and the method of tender include, The value of the asset to be disposed; The general attractiveness to the wider group of buyers and the prospect of increasing the net sale value compared to an alternate method of sale. Goods which are up for tender remain within the Budget Centre. It is the Budget Centre's responsibility to provide a contact person to deal with any enquiries and to make arrangements for potential bidders to view the goods. An Asset Disposal Request form for all tenders must be lodged with the Asset & Property Officer in Asset Management Services, who will arrange advertising of the tenders. In the case of external tenders, the Budget Centre will be responsible for advertising costs. Tenders will be open for 14 days. Once the tender is closed, a tender committee is formed to open the tenders and record the details. The committee consists of: Director Asset Management Services or nominee and a budget Centre representative. Once the committee has met, the Budget Centre is advised of the tender results and approves the final disposal. The successful bidder is advised by letter from Asset Management Services. The purchaser is required to pay the purchase price to the Cashier and must present the receipt to the Budget Centre for collection of the goods. Sale by Auction or Direct Sale This method may be used if:

The items have been unsuccessful at tender; the items are valued at less than the cost of disposing of the goods through tender; It is reasonable to believe the item will not attract tenders; or the offer received is equivalent to what would be received at tender. The Asset & Property Officer may inspect goods to be disposed of through sale by auction or direct sale to ensure that they are of minimal value. If it is considered that the timing and effectiveness of disposing of assets via auction is not economical, disposal via direct sale can be considered by the Director of Asset Management Services. The Asset & Property Officer will then make a recommendation to the Director, Asset Management Services, who must approve disposal by these methods. An Asset Disposal Request Form must be lodged with the Asset & Property Officer before disposal can be finalized. Trade in If appropriate, assets may be traded in on the purchase of a new item. An Asset Disposal Request form must be authorized by the Head of School or Section and forwarded to Asset Management Services for all items traded in. Details of the trade should also be noted on the purchase order for the new item purchased. Salvage some unsalable items may have reusable components and the Budget Centre may arrange for removal of these prior to the item being scrapped. Alternatively, some items may no longer be functional and may be held for spare parts. In these cases a correctly authorized Asset Disposal Request form should be completed and forwarded to the Asset & Property Officer, advising that the item is no longer functional and that it should be removed from the Asset Register. Scrapping of assets is undertaken when it is considered uneconomical to proceed with disposal by any other means. Budget Centers are required to lodge an Asset Disposal Request form authorized by the Head of the School or Section, which details the method by which the items will be scrapped. The Asset & Property Officer will then remove the asset from the asset register. The



Asset & Property Officer can assist with determining the most appropriate procedure for scrapping the asset. Donation Approval for the donation of University assets is required from the Executive Director, Finance and Administration Services prior to the donation taking place. Donations to organizations must be —at arm's length—, such as to another educational body, library or community organization.

According to Victoria (2010) 'All agencies will use the right disposal authority (RDA) for Records of Common Administrative Functions and for some agencies this may be the only Disposal Authority required. In some agencies the RDA for Records of Common Administrative Functions may be used in conjunction with an agency or sector specific RDA. Some agencies will use the RDA for Records of Common Administrative Functions and a general RDA (e.g. schools and local government). In some agencies, a Single Instance Disposal Authority may be required in addition to any RDAs. All agencies will use Normal Administrative Practice (NAP) to dispose of some records they create or manage.

In order to find solution to the strategies for disposal of goods and equipment ,the literature survey done at the chapter two of the study ,which comprises five (5) different journals that talked about strategies would be considered; each writers' view , review the differences and similarities address short falls and filled the gaps .

Smith (2004) also carried out disposal through the methods as follow: Sale by Tender, Two tendering options are available - either internal tender within the University where offers are accepted from individuals or internal and external tender where advertisements are placed in the newspaper and offers are accepted from the general

public. Factors to be considered when deciding whether to offer the goods for tender and the method of tender include, The value of the asset to be disposed;

The general attractiveness to the wider group of buyers and the prospect of increasing the net sale value compared to an alternate method of sale. Goods which are up for tender remain within the Budget Centre. It is the Budget Centre's responsibility to provide a contact person to deal with any enquiries and to make arrangements for potential bidders to view the goods. An Asset Disposal Request form for all tenders must be lodged with the Asset & Property Officer in Asset Management Services, who will arrange advertising of the tenders. In the case of external tenders, the Budget Centre will be responsible for advertising costs. Tenders will be open for 14 days. Once the tender is closed, a tender committee is formed to open the tenders and record the details. The committee consists of: Director Asset Management Services or nominee; and a budget center representative. Once the committee has met, the Budget Centre is advised of the tender results and approves the final disposal. The successful bidder is advised by letter from Asset Management Services. The purchaser is required to pay the purchase price to the Cashier and must present the receipt to the Budget Centre for collection of the goods. Sale by Auction or Direct Sale This method may be used if: The items have been unsuccessful at tender; the items are valued at less than the cost of disposing of the goods through tender; it is reasonable to believe the item will not attract tenders; or the offer received is equivalent to what would be received at tender. The Asset & Property Officer may inspect goods to be disposed of through sale by auction or direct sale to ensure that they are of minimal value. If it is considered that the timing and effectiveness of disposing of assets via auction is not economical, disposal via direct sale can be considered by the Director of Asset Management Services. The Asset & Property

Officer will then make a recommendation to the Director Asset Management Services, who must approve disposal by these methods. An Asset Disposal Request Form must be lodged with the Asset & Property Officer before disposal can be finalized.

**Trade in** If appropriate, assets may be traded in on the purchase of a new item. An Asset Disposal Request form must be authorized by the Head of School or Section and forwarded to Asset Management Services for all items traded in. Details of the trade should also be noted on the purchase order for the new item purchased. Salvage some unsalable items may have reusable components and the Budget Centre may arrange for removal of these prior to the item being scrapped. Alternatively, some items may no longer be functional and may be held for spare parts. In these cases a correctly authorized Asset Disposal Request form should be completed and forwarded to the Asset & Property Officer, advising that the item is no longer functional and that it should be removed from the Asset Register. Scrapping of assets is undertaken when it is considered uneconomical to proceed with disposal by any other means. Budget Centers are required to lodge an Asset Disposal Request form authorized by the Head of the School or Section, which details the method by which the items will be scrapped. The Asset & Property Officer will then remove the asset from the asset register. The Asset & Property Officer can assist with determining the most appropriate procedure for scrapping the asset.

**Donation** Approval for the donation of University assets is required from the Executive Director, Finance and Administration Services prior to the donation taking place. Donations to organizations must be —at arm's length—, such as to another educational body, library or community organization. It is the responsibility of the Head of the School or

Section to ensure that these transactions take place —at arm's length. The Asset & Property Officer must be advised of the donation on an Asset Disposal Request form authorized by the Head of School or Section.

**Table 3: Summary of the strategies of disposal.**

Findings of strategies	Sources of findings
<ul style="list-style-type: none"> <li>• By gift to educational institutions.</li> <li>• Transfer to other CSIR laboratory.</li> <li>• By public auction.</li> <li>• Limited tender.</li> <li>• Press tender.</li> </ul>	Anon (2007)
<ul style="list-style-type: none"> <li>• Transfer to government department.</li> <li>• Sale by public tender to the highest tendered.</li> <li>• Sale by public auction.</li> <li>• Destruction, dumping or burying.</li> <li>• Donation.</li> </ul>	PPA, Act 663 (2003)
<ul style="list-style-type: none"> <li>• Sale and rental.</li> <li>• Lease and hire purchase licenses and tenancies □</li> <li>• Franchise and auction.</li> <li>• Transfer from one government to another.</li> <li>• Offer to the public at an authorized variation.</li> </ul>	PPA, Nigeria Act 1999 (2007)



<ul style="list-style-type: none"> <li>• Sale by tender.</li> <li>• Two tendering options are: either internal tender within the university where offers are accepted from individual or external tender where advertisement are placed in the newspaper and offers are accepted from general public.</li> <li>• Goods which are up for tender remain the budget center.</li> <li>• Tender are for open for 14 days.</li> <li>• Asset disposal request form must be lodged with the asset and property officer.</li> <li>• Trade in .</li> <li>• Disposal request form must be authorized by the section head.</li> <li>• Item is no longer functional and that it should be removed from the asset register.</li> <li>• Donation to educational body, library or community organization.</li> </ul>	Smith (2004).
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## 2.7 POLICY PROCEDURES FOR DISPOSAL PROCESS

1. If a piece of equipment is identified by the department administration responsible for the equipment as being obsolete, damaged, beyond repair, completely depleted/used, or junk and the department wishes to dispose of the equipment, they must follow the steps below; Obtain written authorization to dispose of the equipment from the department chair; Complete the Disposal/Transfer/Sale of Inventory Equipment form; Transmit the completed form to fixed asset department. The fixed assets department would review the request and if approved they would request the department to remove all equipment tags from the equipment and send the tags to the fixed asset department.

Transfer process: The transfer of equipment involves transferring equipment from one department/unit to another or from the university to another organization. To request a transfer of equipment from one department to another or the relocation of equipment the department requesting the transfer or relocation must complete a disposal/transfer/sale of inventory equipment form,

2. The Fixed Asset Department will then record the transfer/relocation in the Banner system. 3. Transfer to another entity – Usually used when a researcher or faculty move to another university. The Disposal/Transfer/Sale of Inventory Equipment form should be completed and forwarded to the Fixed Asset Department, 4. Transfer from another university - The department receiving the equipment must notify Fixed Asset they must provide a description, original receipts and an estimate of the fair market value of the equipment. Inventory Control will enter the asset into the Banner system if the value is greater than GHC 2000. Sale Process: Equipment will only be sold once it is determined that the equipment has no value to any department within the university. Sale proceeds will be recorded to the university general funds, or to sponsored projects if applicable. 1. Before any equipment is sold, the procedures for disposal of equipment must be followed. The department requesting a sale must complete the Disposal/Transfer/Sale of Inventory Equipment form and forward to Inventory Control. A. For the sale of inventory equipment purchased with sponsored funding see policy on disposal for equipment purchased with federal funds. It is also expected that the asset disposal principles will assist in evaluating the continued ownership of all assets. In essence, one only holds assets where they contribute directly to an agency's core business. a Core business is defined as activities that contribute to the achievement of the outcomes an agency is tasked to deliver on behalf of Government. b. Assets are to be disposed where not meeting the above definition; for example, where property is leased to third parties (government or private sector), or for other commercial-type activities unrelated to the outcomes expected by Government. In addition to the above, ongoing ownership of assets must be dependent on meeting either or both of the following principles: a. Asset financial performance should meet, or exceed, industry measures such as the long-term yield on property

investment (expected rate of return from the cash flow generated from the property over a specified time), compared with the benchmark rate. The benchmark rate used should be developed in consultation with the Department of Treasury and Finance, and be based on cost of funds (Western Australian Treasury Corporation long-term borrowing rate); - plus a premium to allow for risk; and- plus a further premium, that reflects the scarcity of capital funds and the availability of other capital investment projects that demonstrate higher internal rates of return. b. Public interest considerations for retention can be demonstrated (such as where a property has Significance to the State, strategic significance for future infrastructure development or where market failure is likely) (Victoria, 2010).

## **SUMMARY**

The summary of the policy was that in every institution there was some policy which the authorities made sure were followed when it comes to the disposal of asset. Some of the policies are: completion of the disposal form; departments reviewed request and approved by section head to remove all equipment tags from the asset and send the tags to the fixed asset department. More so, relocation of equipment the department requesting the transfer or relocation must complete disposal equipment form. In addition, the ownership of assets must be dependent on meeting both asset financial performance and industrial measures as long -term yield on property investment.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter explains the methodology used to conduct this research. The chapter is concerned about how the data were collected and used. It is organized in the following order; the introduction which is followed by the research design adopted for the study. The methodology section is an important component of the research that essentially maps out the methods used during the research work. On the basis of research problem and objectives, this study used the descriptive method of data analysis, and qualitative data. The purpose of this work is to develop strategies for effective disposal of goods and equipment which would be based on existing practices of disposal. Causes of disposal, mode of disposal and finally develop strategies for disposal.

#### **3.2 PHILOSOPHICAL POINT OF THE STUDY**

The research methods are the techniques and procedures used within an overall methodological stance, based on assumptions and values the researcher possesses. These assumptions are usually defined within the orthodoxy of ontology and epistemology. Blaikie (1995) has defined these terms as follows: Ontology is —the claims or assumptions that a particular approach to social enquiry makes about the nature of social reality, in other words —claims about what exists, what it looks like, what units make it up and how these units interact with each other. Epistemology is: —the claims or assumptions made about the ways in which it is possible to gain knowledge of this reality, whatever it is understood to be; claims about how what exists may be known. In explaining the link between methodology and methods, Cagliano (2003) has suggested that one determines the other: —no technique is selfvalidating;



its effectiveness, i.e. its status as a research instrument making the world tractable to investigation, is, from a philosophical point of view, ultimately dependent on epistemological justifications. This view has developed after Bovet and Marta (2000) who suggest that —the choice of a method embodies a variety of assumptions regarding the nature of knowledge and the methods through which that knowledge can be obtained, goods and equipment cannot be piled up in stores where new goods and equipment need to pave way for facilities. There should be a paradigm shift of leaving the old way of doing things and rather adopt strategies that sustain procurement pillars, that talk about value for money, fairness, accountability, transparency and non-discriminatory manner. The

Epistemology branch of philosophy which deal with how individuals define what is right; positivism and interpretive (Straubert and Carpenter, 1999). There are two main methods of these assumptions namely; positivism and interpretivist, which with quantitative and qualitative. The study adopted the qualitative which is interpretivist paradigm on the other hand, view social world as one that individuals create, modify and interpret the environment within which they function. In essence, the understanding is that this interaction of individuals and the environment can produce knowledge of phenomena under investigation through the accumulation of verified facts; scientific knowledge is established (Bryman, 1992; c.f. Osei-Hwedie, 2010). In effect the research is on the proposition of the identification factors affecting disposal of goods and equipment and practices of disposal for developing strategies to assist institution to carry disposal process effectively.

### **3.3 DESIGN INSTRUMENT OF RESEARCH**

This study adopted a literature survey research approach to develop strategies for effective disposal of goods and equipment in the public institutions. Survey research is a scientific social research method that involves sampling literature to answer some questions (Babbie, 1990). A literature survey is defined as —the documentation of a comprehensive review of the published and unpublished work from secondary sources of data in the areas of specific interest to the researchll (Hart, 1998). This section of the study examined the literature on a number of disposal of goods and equipment. The broad area of survey research encompasses any measurement procedures that involve critical literature survey. A "survey" can be any form, a paper-and-pencil feedback form or one-on-one in-depth interview Trochim (2006), but for this research paper-and pencil feedback form was adopted

### **3.4 DATA COLLECTION**

Data collection is nothing more than planning for and obtaining useful information on key quality characteristics produced by the study (Brassard, 2010). However, the data collected assisted the researcher to plan and obtain useful information about the study that gave smooth running of analysis of the study. Collecting quality data revealed what is occurring in the study (Scholtes, 2003). .Data collection needs techniques that provided its overall appropriateness to the research, along with other practical factors, such as: expected quality of the collected data, estimated costs, predicted non response rates, expected level of measure errors, and length of the data collection period (Lyberg and Kasprzyk, 1991). The most popular data collection techniques include: surveys, secondary data sources or archival data, objective measures or tests, and interviews (Kerlinger, 1986). Secondary data was used to collect data for the study where

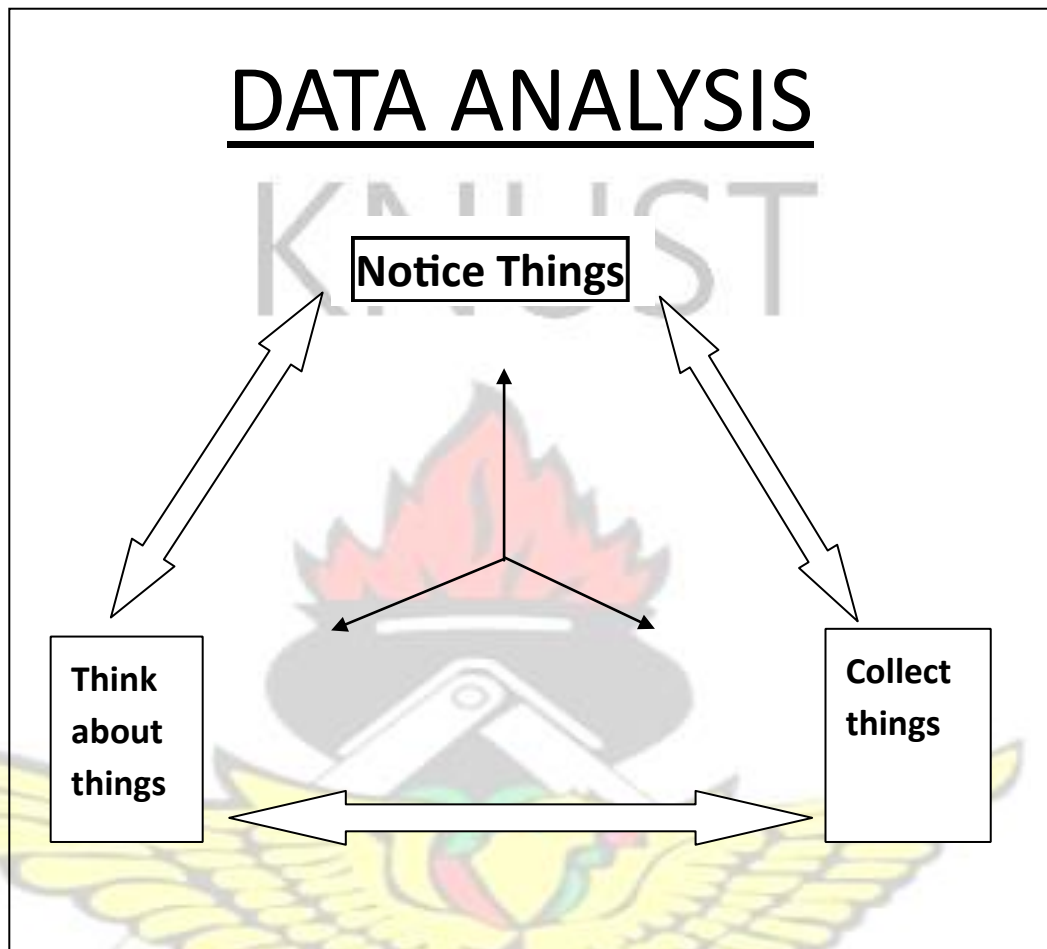
literatures related to the objectives were critically considered for preparing bar chart which has been discussed at chapter five of the study.

### 3.5 DATA ANALYSIS

The aim of this process was to assemble or reconstruct the data in a meaningful or comprehensible fashion (Jorgensen, 2007). In the analysis, journals with the same content were put under one heading or assemble in a certain group for drawing of bar chart. A similar idea was expressed by Charmaz (2002). For Charmaz, who worked in the —grounded theory‗ tradition, the disassembling and reassembling occurs through the —coding‗ process codes serve to summarize, synthesize, and sort many observations made of the data. Coding becomes the fundamental means of developing the analysis. Researchers use grouping to pull together and categorize a series of literature of like ideas to draw bar chart. Analyzing qualitative data is essentially a simple process. It consists of three parts: Noticing, Collecting, and Thinking about interesting things. Figure 1 represents the process and the relationships among its parts. (Freidson, 1975)

**Figure 3: The data analysis process**

1. The Data Analysis Process



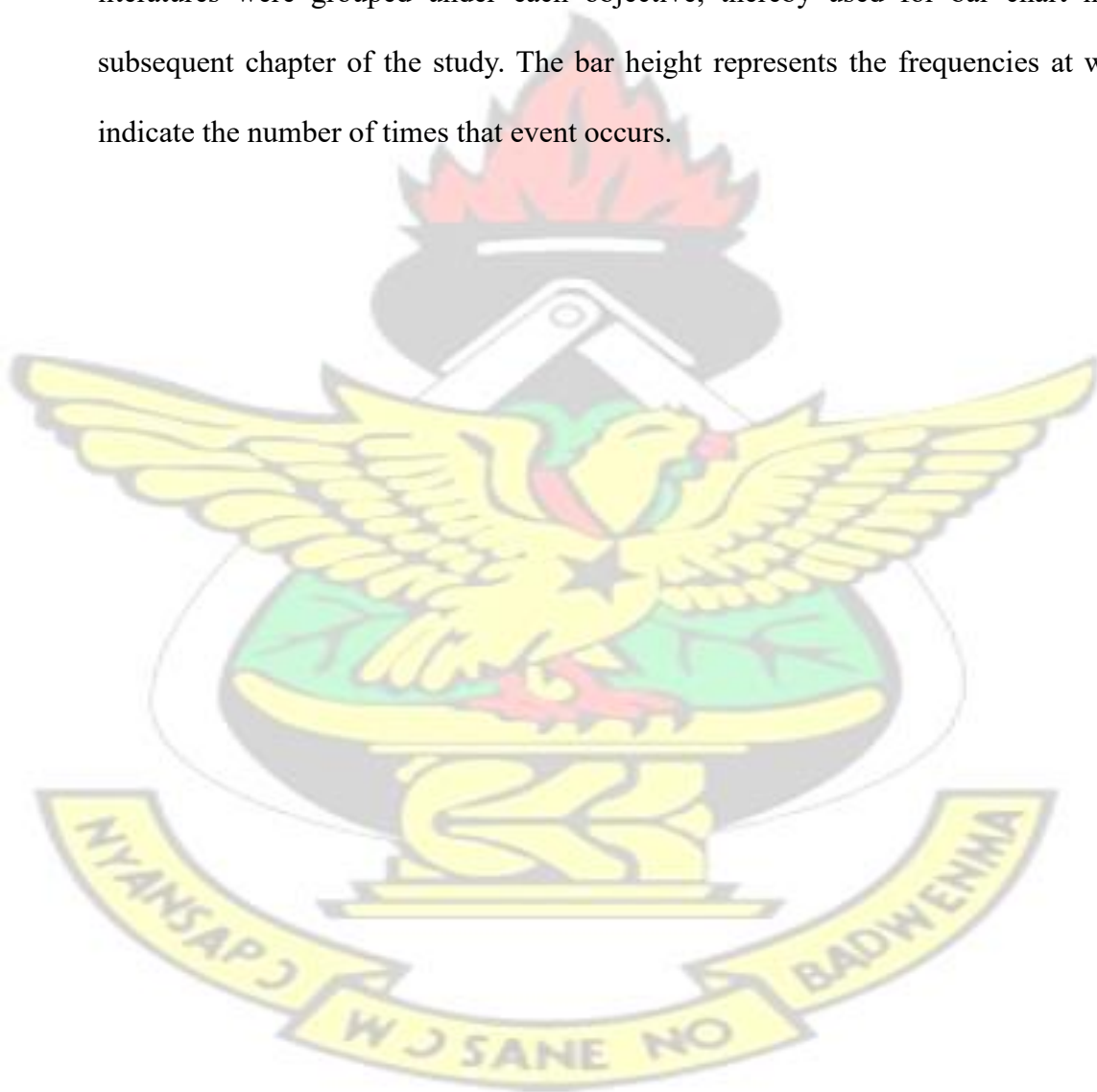
As Figure 1, Gibbs et al (2002) suggest the QDA process is not linear. When you do QDA you do not simply Notice, Collect, and then write a report. Rather, the process has the following characteristics:

- **Iterative and Progressive:** The process is iterative and progressive because it is a cycle that keeps repeating. For example, when you are thinking about things you also start noticing new things in the data. You then collect and think about these new things. In principle the process is an infinite spiral.
- **Recursive:** The process is recursive because one part can call you back to a previous part. For example, while you are busy collecting things you might simultaneously start noticing new things to collect.



- **Holographic:** The process is holographic in that each step in the process contains the entire process. For example, when you first notice things you are already mentally collecting and thinking about those things.

At first the data may appear to be a mass of confusing, unrelated, accounts. But by studying and grouping (often I group the same materials several times just after collecting them), the researcher begins to create order (Charmaz, 1983). Various literatures were grouped under each objective, thereby used for bar chart in the subsequent chapter of the study. The bar height represents the frequencies at which indicate the number of times that event occurs.



## **CHAPTER FOUR**

### **DATA ANALYSIS AND INTERPRETATION**

#### **4.1 INTRODUCTION**

In this study, secondary data was collected to develop strategies for effective disposal of goods and equipment in public institutions. In finding out this, the following objectives were outlined to guide the study. In the first place, the study sought to identify factors affecting disposal of goods and equipment; and to identify existing practices of disposal of goods and equipment in public institution(s).

In this chapter, the results of the data analysis are presented and interpreted in line with the research objectives and the research questions. The following was used to analyze data: The chapter focuses on the analysis and interpretation of data that was collected for this study. According to De Vos (1998) data entails that, the analyst break down data into constituent parts to obtain answers to the research questions and objectives. The analysis of research data does not in its own provide the answers to the research questions.

The purpose of interpreting the data is to reduce it to an intelligible and interpretable form so that the relations of research problems can be studied and tested, and conclusion drawn. On the other hand, when the researcher interprets the research results, he studies them for their meaning and implications. (De Vos, 1998.).The next section discusses the characteristic of the sample in order for the findings to be clearly understood.

#### **4.2 DESCRIPTION OF THE SAMPLE**

As stated from the first chapter, the aim of the study is to develop strategies for effective disposal of goods and equipment. The researcher employed literature survey, data was collected by using internet search which were assessed from different sites.

## 4.3 MAIN RESULTS

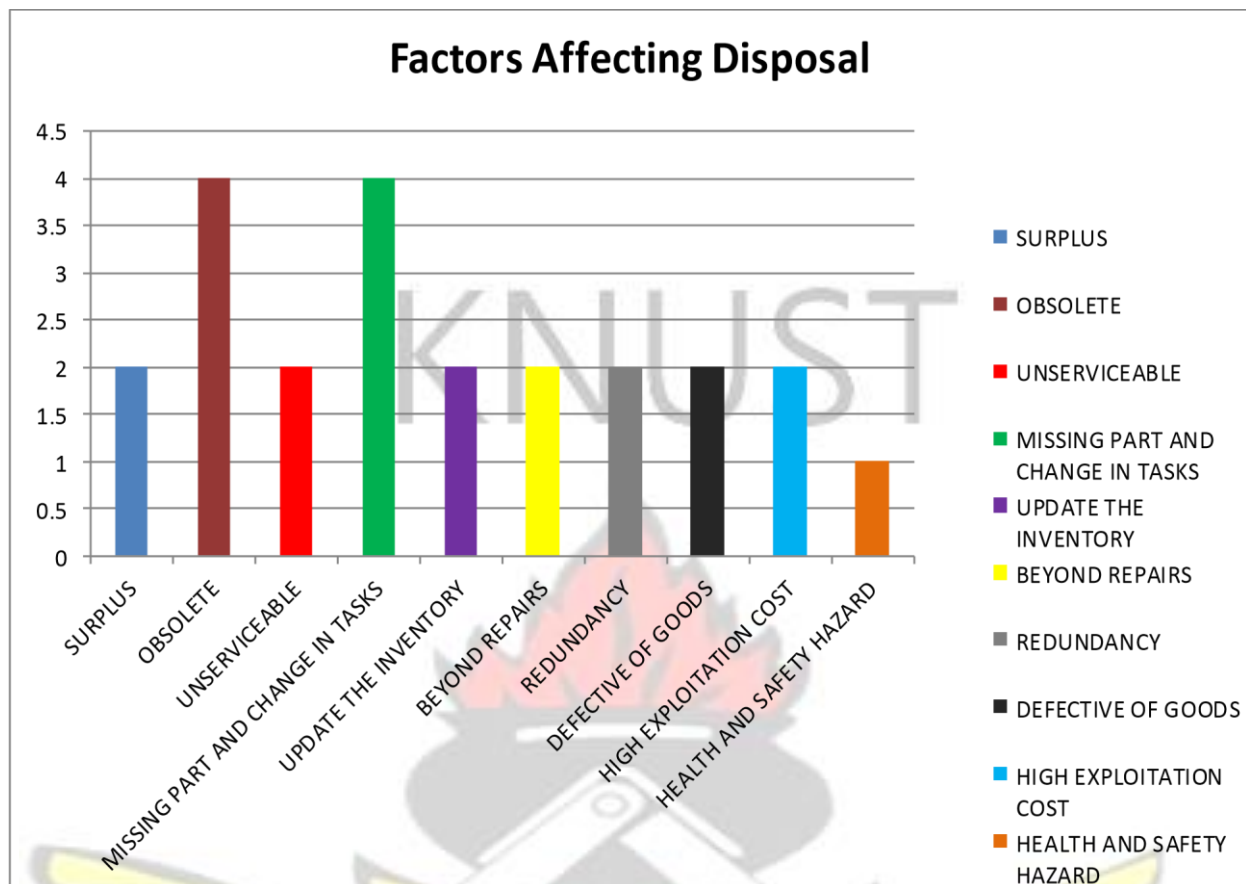
### 4.3.1 Data Analysis and Interpretation

In answering objective one and question one(1) of the study on factors affecting disposal of goods and equipment , six (6) journals were used and out of that two (2) considered surplus of goods and equipment as factors that affect disposal, four(4) sees obsolescence as factors for disposal ,unserviceability were two (2), usage or function pattern, missing part and change in tasks were also four (4), update the inventory were two (2) ,beyond repairs were two(2),redundancy were also two(2), defective of goods were two (2) ,high exploitation cost were two (2)and poisoning health and safety hazard also were one (1) in all. The figure 1 represents the graphical picture of the data.

**Table 4: Factors affecting disposal**

Factors of disposal	Number of factors
Surplus	2
Obsolete	4
unserviceable	2
Missing part and change in tasks	4
Update the inventory	2
Beyond repairs	2
redundancy	2
Defective of goods	2
High exploitation cost	2
Health and safety hazard	1

Source: Field Data



**Figure 4: Bar chart showing factors affecting disposal**

Source: Field Data

### 4.3.2 Existing Practice for Disposal of Goods and Equipment

In the research processes eight (8) journals were found under practices and with that two(2) authors formed committee to complete retirement process before disposal is effected, four(4) of the journals also have forms that need to be filled and authorized by head of department or section head, three (3) of the journals also talked about the evaluation of the equipment by the independent professional to determine its inefficient before approval is granted, a journal also touched on the need for procurement unit and the tender board shared the responsibility of disposal of goods and equipment, another writer also have the view that for the tertiary institutions Vice Chancellor has to give the approval through the Asset Management Service before disposal must be effected, Bernstein(2011) argued that prescription drugs do not flush down the toilet but rather

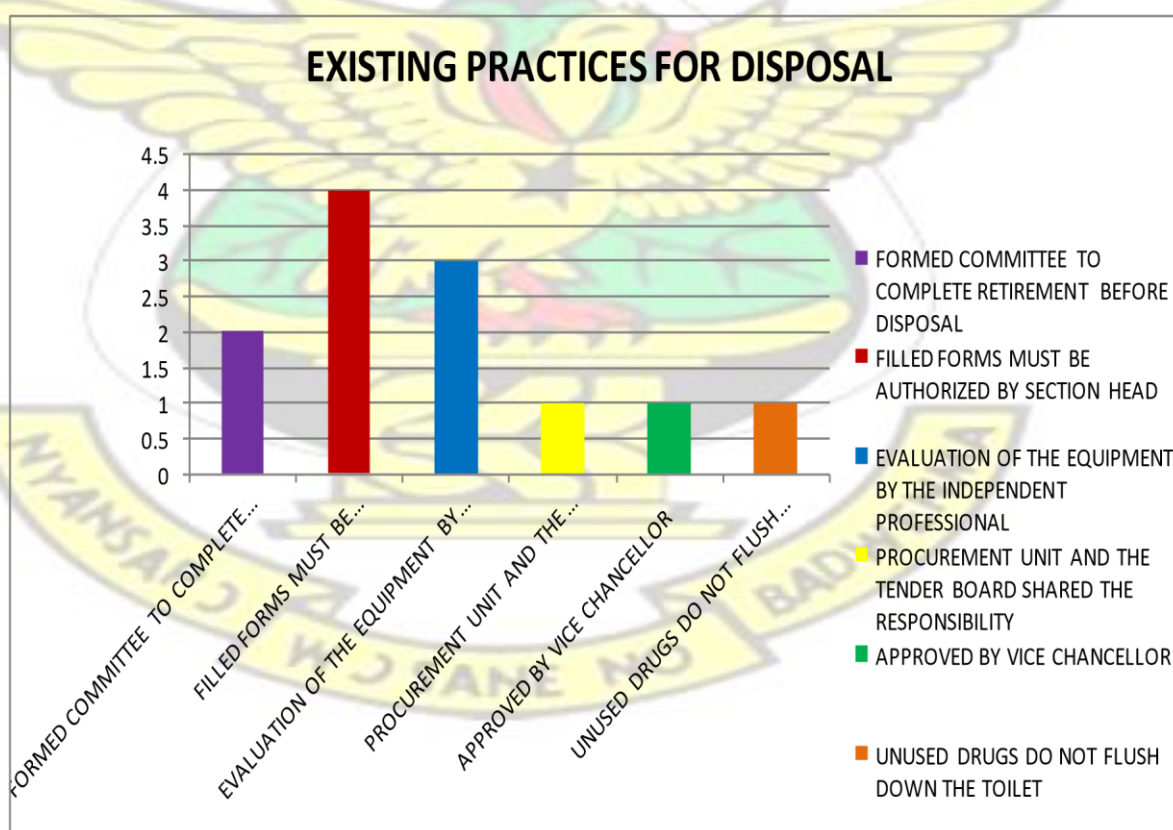


bring unused drugs to a central location for proper disposal. The bar chart (figure 2) below gives pictorial presentation of the funding.

**Table 5: The existing practices for disposal.**

Existing practices of disposal	Number of practices
Formed committee to complete disposal processes	2
Filled forms to speed up disposal	4
Evaluation of equipment	3
Procurement unit and the tender board	1
Approved by vice chancellor	1
Unused drugs do not flush	1

Source: Field Data



**Figure 5: Bar chart showing existing practices of disposal.**

Source: Field Data

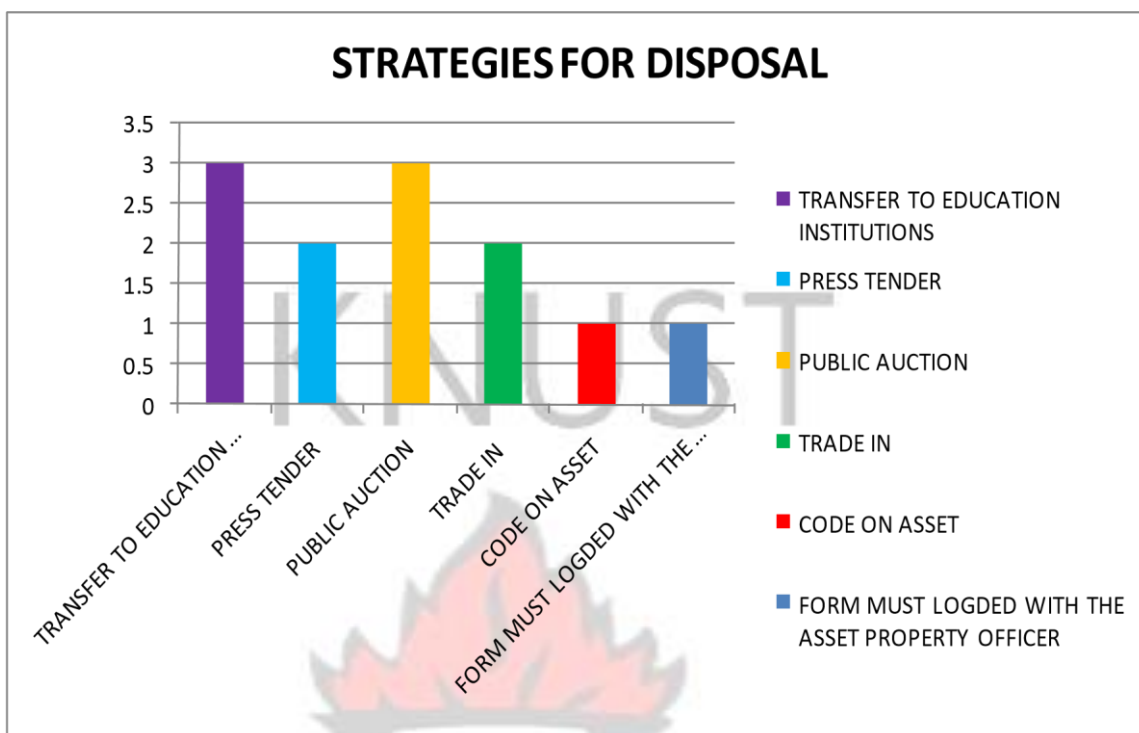
### 4.3.3 Strategies for Disposal of Goods and Equipment

Four (4) journals were read under the strategies for disposal of goods and equipment and these are analysis drawn from the writers: three (3) of the writers say the goods and equipment should be transfer to educational institutions within the state, two (2) of the journals also with the view that disposal by press tender three (3) writers had that the strategy should be public auction two (2) of the journals also have that trade in should be the strategy in order to achieve value for money, one the journals also thought of code on asset would determine the disposal maturity time for the asset to be disposed of two (2) of the writers are with the view that asset disposal form must lodged with the Asset Property Officer that had been approved by head the department or section head. The graph below gives the pictorial view of the funding.

**Table 6: Strategies for disposal.**

Strategies for disposal	Number of strategies
Transfer to education agencies	3
Press tender	2
Public auction	3
Trade in	2
Code on asset	1
Formed must lodged with register	1

Source: Field Data



**Figure 6 : Bar chart showing Strategies for Disposal** Source: Field Data

#### 4.4.1 Summary of the Data Analysis

The summary of the data analysis of research question revealed that factors affecting disposal are many but the literature used highlighted ten (10) main factors which at least one is being practiced at all government institution(s) and nine (9) journals used so far obsolete and missing part appeared four times in different journals, health and safety hazard appeared once and the rest of the factors appeared twice. And the existing practices of disposal of goods and equipment eight (8) captured filled forms which must be authorized by the head of department occurred four times ,followed by the evaluation of the equipment independent professional also occurred three times and then a committee to complete the disposal processes had two times and the rest got one each. The strategies for disposal of goods and equipment four main journals were used for the analysis and three of the journals used transfer of equipment to educational

institution(s), three for public auction, press tender and trade in were two, code on asset and formed must lodged with asset property office appeared once. The height of each bar indicates the occurrences of the practices and how it is being done. More so, the width of each bar is the same but that has not much impact on the analysis.

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## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATION**

#### **5.1 INTRODUCTION**

In this chapter, the main findings with regard to the research questions are summarized and general conclusions based on the findings of the studies presented in this dissertation are described. Furthermore, the strengths and limitations of this dissertation are considered and recommendation for further research outlined.

#### **5.2 REVIEW OF OBJECTIVES**

The objectives of the study were achieved through the review of literature related to each objectives set at chapter one of section 1.4. Relevant literature revealed factors affecting disposal and others were revealed practices of disposal. Finally, strategies were identified through literature.

#### **5.3 CONCLUSION AND FINDINGS OF THE STUDY**

For the research question one (1) factors affecting disposal of electronic goods and equipment were as follows:

- a. Surplus of the goods and equipment at the stores;
- b. Obsolete of equipment;
- c. Unserviceable of the equipment or asset;
- d. Missing part and change in tasks of the equipment;
- e. Update inventory or space for new goods and equipment
- f. Beyond repairs or beyond economic repairs ( when the cost of repairing goods and equipment overestimated the brand new item when being damaged then it calls for disposal.)

- g. Redundancy;
- h. Defective of goods;
- i. High exploitation cost; and
- j. Health and safety hazard (if goods and equipment cause threat to human health then they need to be disposed of).

On the research question two (2), the existing practices of the goods and equipment disposal at institution(s) were as follows:

- a. Formed committee to complete forms of disposal;
- b. Filled forms must be authorized by the head of department or section's head;
- c. Procurement unit and tender board shall be responsible for the disposal processes;
- d. In the case of tertiary institution the Vice Chancellor shall approved the disposal form before disposal; and
- e. Form must lodged with the asset property officer.

On the research questions three (3), what can be done to develop effective strategies for disposal of goods and equipment, in answering the question these were the outcome?

- a. Transfer equipment and goods to educational institution(s);
- b. Used press tender ;
- c. Public auction;
- d. Trade in;
- e. Donation;
- f. Code on asset; and
- g. Certification.

To develop effective strategies for disposal of goods and equipment in state institution(s), having reviewed literature of various authors, these were the six main strategies deduced from the review:

- Coding all asset of the institution(s);
- Professional independent body;
- Certification of disposal assets;
- Methods of disposal;
- Economical return(s); and
- Asset disposal plan.

### **5.3.1 Coding all asset of the institution(s)**

In procurement practice ,there are objectives of every board which in Act 663(2003) section 2 some of the objectives read that public procurement is carried out in a fair, transparent and non- discriminatory manner, therefore the researcher was with the view that all asset of the institution(s) shall be coded immediately the goods and equipment are bought .This coding would check the longevity of the asset whether property is due for disposal or not ,and this could be done manually to generate the code for every equipment . This is how the code would be obtained first the month in which the equipment was bought would be first capital letter of the month, for instance a month of January would be J, followed by the year that is 2013 for example and the life span of the asset or the gadget, assuming the life span of any asset is ten (10) years and put on the goods and equipment which was acquired for the institution(s). Having generated code like J2013-10, that reads January, 2013 –Ten, meaning that the asset was bought January 2013 and the life span or cycle is 10years.after generating the code the Asset Manager would put on record and equipment or the asset could only be written off or disposed off if its output lessens its input and is three years to its life span. As it has been one objective of procurement practices value for money is paramount.

### **5.3.2 Professional independent body**

Disposal procedures and guidelines were some areas in procurement activities that cause every state so much, in order to curb this menace there shall be the need of forming professional independent body or committee at each institution(s) to check the attitude of some public officials who intentionally dispose of state assets or property without any malfunctioning of assets but because of their personal interest. The body formed shall constitute professionals who are experts in the asset that are due for disposal would examine every asset strength and weakness based on professionalism and experience. The body should make use of all relevant document related disposal of asset and would see to it that all procedures are well exhausted before they grant approval for disposal to be effected.

### **5.3.3 Certification of disposal asset**

Certification is very important in terms of authenticity and genuine deal, for that matter disposal of goods and equipment as a public servant there is a need to justify why the asset or property needs to be disposed off. Every head of department or section head has to meet independent professional body and explain why asset needs to be disposed of, if the panel found wisdom or convinced that the asset is due for disposal then certificate should be issued to that asset. In issuing certificate to department whose assets are due for disposal of goods and equipment would also check accountability and transparent which would achieve value for money in any state institution(s). The independent body shall record the certificate number and remove code of that asset from the institution's record book.



#### **5.3.4 Methods of disposal to be adopted**

Disposal of goods and equipment in procurement process has so many methods or mode / forms but for the purposes of this study, the researcher has the view that, there is the need to adopt three of the practices, here are: transfer any asset deemed not to be functioning properly to a sister department/institution(s) whose operations need high technological gadget to work with to other department whose work did not need much sophisticated equipment to work with. A public auction sale is also adopted because when a public auction sale is used no public servant could pick item for disposal without paying the amount worth the asset or the goods on sales. Furthermore, fairness, transparency and non- discriminatory manner have all been achieved. Sale by public tender is also very good method to be adopted because all interested party would get same opportunity to tender for the asset on a nondiscriminatory manner but the asset would be given to highest tendered.

#### **5.3.5. Economic returns of disposal**

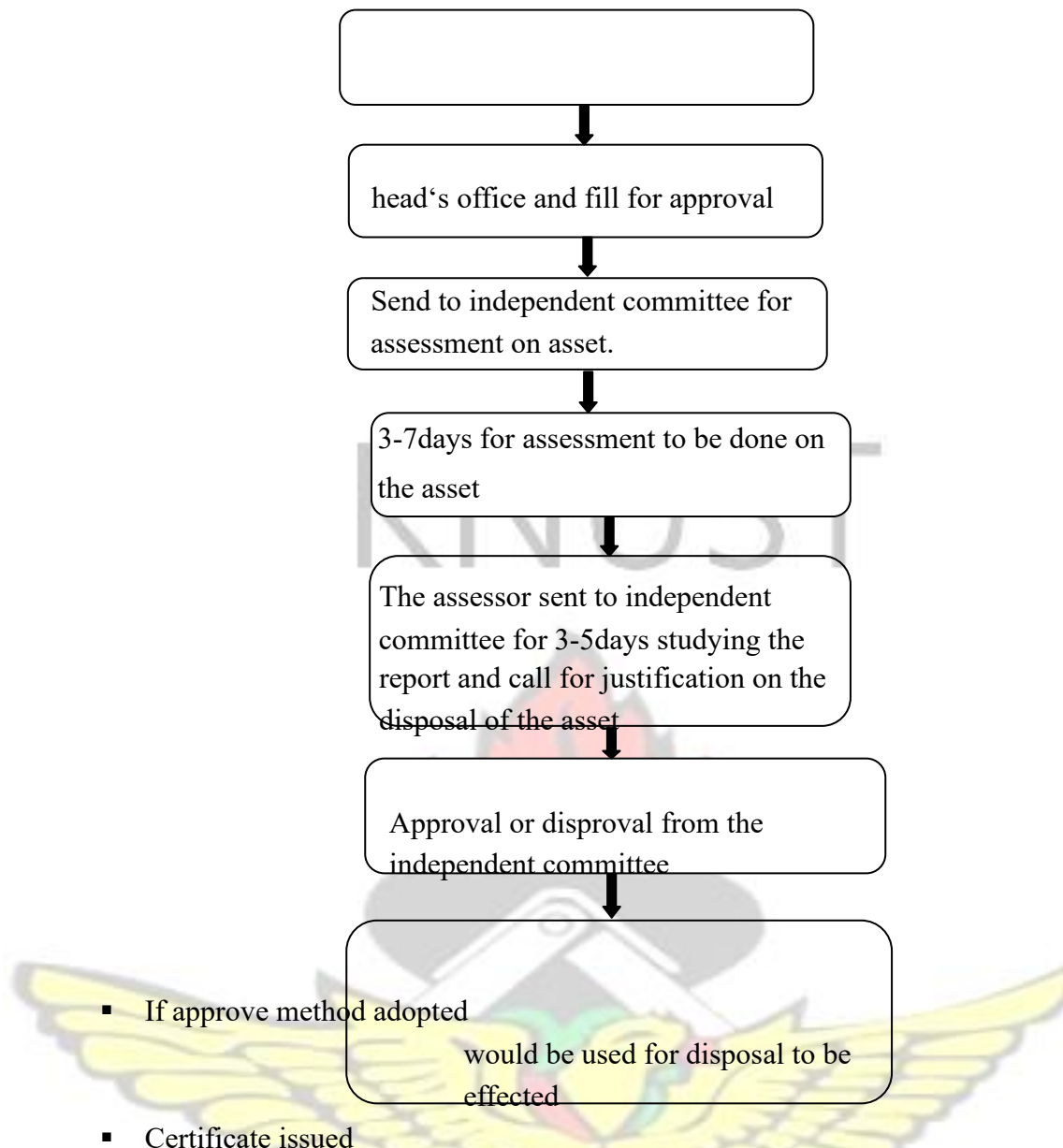
In disposing of goods and equipment in any state institution(s), there should be an assessment on the equipment to determine value of returns before that asset should declare as disposal goods by professionals in the independent body to achieve the maximum financial returns to the institutions or government.

#### **5.3.6 Asset disposal plan**

The asset or goods and equipment disposal plan has seven (7) steps which give the summary of the disposal procedures:

Identify the asset or goods to be disposed of.

Pick a form from departmental



**Figure 7: Flowchart disposal asset plan**

Source: Author's Construct

### Assets Disposal Form

To be used for all non-property assets. Approval is sought to dispose of the following asset:

<b>Description</b>	.....
--------------------	-------



read; a. to identify factors affecting disposal of goods and equipment; b. to identify the existing practices of goods and equipment and to develop effective strategies for disposal of goods and equipment at institution(s).

The research finding revealed that under the objectives were as follows: Surplus of the goods and equipment at the stores, obsolete of equipment, unserviceable of the equipment or asset, missing part and change in tasks of the equipment, update inventory or space for new goods and equipment, beyond repairs or beyond economic repairs, redundancy, defective of goods, high exploitation cost and health and safety hazard. Under objective two, these were the findings; formed committee to complete forms of disposal. filled forms must be authorized by the head of department or section's head, procurement unit and tender board shall be responsible for the disposal processes, in the case of tertiary institution the Vice Chancellor shall approved the disposal form before disposal, form must lodged with the asset property officer. Finally, the strategies for effective disposal of goods and equipment in public institution(s) drawn from the research are coding all assets of the institution(s), professional independent body, and certification of disposal assets, methods of disposal, economical return and asset disposal plan for the realization of the study.

## **5.5 RECOMMENDATIONS**

- Train workers to become expert to do regular maintenance of electronic gadgets in any state institution(s) to curb frequent disposal of goods and equipment.
- Developing disposal framework for all public institution(s) to make use of when the need arises.
- Recycle goods and equipment when they are reducing to scraps or lose market value entirely rather than dispose of.



Officials of the institution shall not be allowed to use public asset when they are not on official assignment.

## 5.6 RECOMMENDATION FOR FURTHER STUDIES

As disposal procedures should be carried out holistically to achieve value for money, there must be a greater consciousness on the disposal of goods and equipment since most of the public entities are suffering from a greater loss of improper disposal of assets. To improve and reform procurement practices in country, there must be academic research on the laid down procedures on assets disposal in order to sustain the strategies found in the study, there should be further study in the best way to implement the strategies for effective disposal of goods and equipment in the state in institution(s).

## REFERENCES

- A.S. De Vos (1998). Research at grass root, For Social Science and Human Services Profession. US.
- Arcelus, F.J. and J.E. Rowcroft, (1991), *Inventory policy with freight discounts and disposals*, *International Journal of Operations and Production Management* 11, 89-93.
- Arcelus, F.J. and J.E. Rowcroft,(1992), *All-units quantity-freight discounts with disposals*, *European Journal of Operational Research* 57, 77-88.
- Archives New Zealand 2008, *Guide to Implementing a Disposal Schedule*, Archives New Zealand, Wellington, New Zealand, viewed 18 March 2010, <<http://continuum.archives.govt.nz/files/file/guides/g10.pdf>>.
- are shaping their supply chain through the Internet. *International Journal of*
- Babbie E. (1990), *Survey Research Methods*, 2nd ed. California: Wadsworth Publishing

- Ballantyne, D., & Varey, R. J. (2006). *Creating value-in-use through marketing interaction: the exchange logic of relating, communicating and knowing. Marketing Theory*, 6(3), 335-348.
- Bennett, S.A., 1985, *Reduce costs with materials management*, *Management Quarterly* 26, 46-48.
- Bernstein, P.T. and T. Kumpe,( 2011), *Toward the factory of the future*, *McKinsey Quarterly* 40-49.
- Blaikie, N. (1995). *Approaches to Social Enquiry*, Polity Press, Cambridge.
- Bovet, D. and Marta, J. (2000). *Value Nets: Breaking the Supply Chain to Unlock*
- Brassard, M. (2010). *The Memory Jogger, A Pocket Guide of Tools for*
- Brown, R.G.,( 1977), *Materials management systems* (Wiley-Interscience, New York).
- Brown, R.G., (1982), *Advanced service parts inventory control* (Materials Management Systems, Inc., Norwich, VT).
- Bryman A.(1992) Quantitative and Qualitative Research:further reflections on their integration, in Brannen, J.(ed.) *Mixing methods : Qualitative Research*,Aldershot, UK: Avebury.pp.55-78
- Butts and Labrecque (2013),*Disposal of Surplus Real Property Council report*.
- C. Sturt (2007),*Policy and Procedure for the disposal of an Asset*. Charles Sturt University.
- Cagliano, R., Caniato, F. and Spina G. (2003). *E-business strategy: How companies*
- Callender, G. & Schapper, P. (2003). —Public Procurement Reform in Australia: A Federal-State Evaluation. International Research Study of Public Procurement. In *Proceedings of International Research Study of Public Procurement* (pp. 48-61), 10-12 April, Budapest, Hungary.
- Charmaz, Kathy (2002) "The grounded theory method: An explication and interpretation", in *Contemporary field Research: A Collection of Readings*, Robert M. Emerson, ed., Boston: Little, Brown and Company, 109-128.

*Continuous Improvement*, pp. 14 - 16. Methuen, MA: GOAL/QPC.

Das, C., 1984, *A unified approach to the price-break economic order quantity EOQ problem*, *Decision Sciences* 15, 350-358.

Defra (2007), *Securing the Future;uk government sustainable procurement action plan incorporating the government responses to the of sustainable procurement task force*.London

Denzin, N. J., & Lincoln, Y. S. (Eds.). (2000). *Handbook of Qualitative Research (2nd ed.)*.Thousand Oaks, CA: Sage Publications.

Department of Finance (DOF) (2001). *Strategy for the Implementation of eProcurement in the Irish Public Sector*. Dublin, Ireland:

Freidson, Elliot (1975) *Doctoring together: A Study of Professional Social Control*, Chicago:University of Chicago Press.

Gadde, L.-E., Huemer, L., &Håkansson, H. (2003).*Strategizing in industrial networks*.

General Services Administration (GSA, 2006).*Personal Property Disposal Guide (PPDG)*,[www.gsa.gov/apo](http://www.gsa.gov/apo).

Government of Ghana (2003), *The Public Procurement Act 663 and Disposal Procedure guidelines*.

Government of Jamaica (GOJ,2010).*Handbook of Public Sector Procurement Procedure*. volume 2 of 4.

Government of Uganda (GOU) (2003). *The Public Procurement and Disposal of Public Assets Act 2002*. Republic of Uganda, Kampala.

Gibbs, G.R (2002). *Qualitative Data Analysis Explorations with NVivo*. Buckingham; Open University press

H. Antrekowitsch, M. Potesser, W. Spruzina, and F. Prior,—*Metallurgical recycling of electronic scrap*,<sup>1</sup> The Minerals, Metals and Materials Society (TMS), 2006, pp. 899-904.



- Håkansson & A. Waluszewski (Eds.), *Knowledge and Innovation in Business and Industry: The importance of using others* (pp. 79-108). London: Routledge
- Meta-Analysis. *Journal of Marketing*, 70(4), 136-153.
- Hanks, P., Long, T.H. and Urdang, L. 1979. *Collins Dictionary of the English*
- Hart, C (1998). *Doing a Literature Review : Releasing the Social Science Research Imagination*: London. Sage Publication Inc.
- Hidden Profits*, John Wiley & Sons, New York. Asset Disposal (2010) Strategic Asset Management - Best Practice Guidelines First Edition published as Disposal Planning .
- Independent Commission Against Corruption (I.C.A.C., 2005), *Disposal of Goods and Property-New South Wales (NSW) Industrial Marketing Management*, 32(5), 357-364.
- Jorgensen, Danny L. (2007) *Participant Observation: A Methodology for Human Studies*, Newbury Park, CA: Sage Publications.
- Kathawala, Y. and H.H. Nauo, 1989, *Integrated materials management a conceptual approach*, *International Journal of Physical Distribution and Materials Management*, 19, 9-17.
- Krueger L. and Neumann W. (2006), *Social Work Research Methods: Qualitative and Quantitative Approaches*, New York, Pearson Education.
- L. Xianbing, T. Masaru, and M. Yasuhiro. —*Electrical and electronic waste management in China: progress and the barriers to overcome. Journal of waste management and Research*, vol. 24, 2006, pp. 93-100. Language, William Collins Sons & Co. Ltd, London. London: Sage
- M. Smith (2004) Asset Disposal Policy, University of Tasmania, *Asset Management Service Council of Scientific & Industrial Research* (CSIR, 2007). Disposal of Stores. RAFI MARG DELHI. Food and Drugs Administration (FDA, 2011), Consumer Health Information. U.S., [www.fda.gov/consumer](http://www.fda.gov/consumer).
- McKee, A. (2003). *Textual Analysis: A Beginner's Guide*. London: Sage.



- N. N. Tippayawong, and P. Khongkrapan, “*Development of a laboratory scale air plasma torch and its application to electronic waste treatment.*” *International Journal for Environmental Science and Technology*, 2010, 6(3), pp. 407-411.
- Obaidullah N. (2006). Disposal of fixed assets.
- Ondiek Benedict Alala (Phd) and Fredrick Ochieng Deya (Phd) (2013), *international journal of innovative research & development*. vol.2.issue 6. www.ijird.com. , Dept of Accounting and Finance Kabianga University College , Kenya
- Operations and Production Management*, Vol. 23, No. 10, pp. 1142-1162.
- Osei-Hwedie, M. (2010) Strategic Issue of Innovative Financing of Infrastructure Project Delivery, Unpublished Thesis (MSc), Kwame Nkrumah University of Science and Technology, Kumasi-Ghana
- Osibanjo. O. and Nnorom. I.C. (2007), *The Challenge of Electronic Waste (e-waste) Management in Developing Countries*, *Waste Management & Research*, 25, pp 489-50 Oxford.
- Payne, A. F., Storbacka, K., & Frow, P. (2008). *Managing the co-creation of value.* *Journal of the Academy of Marketing Science*, 36(1), 83-96. Performance: A Comparison of European and Chinese results using the IMP Data Base. *Australasian Marketing Journal*, 13(2), 49-49-60.
- Pieter D. Wezeman and Siemon Wezeman (1996) *Bonn International Center For Conversion (B.I.C.C.)* .Paper 5 Dutch Surplus Weapons.
- Public Procurement Act (2007), 2007 Act No 14, of the Federal Republic of Nigeria.
- R. B. Balakrishnan, K. P. Anand, and A. B. Chiya. — *Electrical and electronic waste: a global environmental problem.* *Journal of Waste Management and Research*, vol. 25, 2007, pp. 307-317
- Scholtes, P.R., et al (2003). *The Team Handbook*, pp. 5-38 - 5-42. Madison, WI:
- Silver, E.A., D.F. Pyke and R. Peterson, 1998, *Inventory management and production planning and scheduling* (Wiley, New York).
- Smith, M., Thorpe, R., & Lowe, A. (2004). *Management Research*.

Streubert, H.J. and Carpenter, R.D. (1999) *Qualitative Research in Nursing: Advancing the Humanistic Imperative*. 2<sup>nd</sup> Ed. Philadelphia: Lippincott Williams & Williams *Suid-Afrikaanse Reg*, 3rd edition,

Sykes, J.B. 1983. *The Concise Oxford Dictionary*, 7th edition, Clarendon Press,

T. Matsuto, C. H. Jung, and N. Tanaka, —*Material and heavy metal balance in a recycling facility for home electrical appliances.*” *Journal of waste Management*, vol. 24, 2004, pp. 425-436.

Thai, K. V. (2001). —*Public Procurement Function in Operations.*” *Journal of Public Procurement*.

Thai, K.V. (2001). —*Public Procurement Re-examined.*” *Journal of Public Procurement*, 1 (1): 9-50

Tippayawong, and P. Khongkrapan, —*Development of a laboratory scale air plasma torch and its application to electronic waste treatment.*” *International Journal for Environmental Science and Technology*, 2009, 6(3), pp. 407-411.

Trochim, M.K. (2006), *Social Research Methods*. Available at <http://www.socialresearchmethods.net/kb/survey.php>.

Van der Merwe, N.J. and Olivier, P.J.J. 1976. *Die Onregmatige Daad in die West's Encyclopedia of American law* (2008) edition 2.