



Article

# Resources Management Techniques and Benefits in Tertiary Institutions

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**Abstract:** This paper discuss the concept of resources, resources management techniques and benefits of resources management in tertiary institutions in Nigeria. The paper is a position that depends on secondary data. The secondary data that were collected from government documents, print resources and online publication. Content analysis was used to narrow the literature to the theme of the study. The paper revealed that resources are very important to the realization of tertiary institutions' goals and resources management aids effectiveness and efficiency in the institutions. The paper identified the benefits of resource management in tertiary institutions to include; reduction in resources wastage, optimization of time resources planning, minimization of risks, improvement in institutional performance, effective communication, effective forecasting, reduction in turnaround time and maximization of resources efficiency and improvement in quality and attainment of institutional' goals. The paper also listed resource allocation, resource utilization, resource forecasting and resource leveling are some of the resources management techniques and material/physical resources; financial resources; time resources; human resources; and supporting resources-light as some of resources management techniques available in tertiary institutions.

**Keywords:** Tertiary Education, Resources Management, Problems

## 1. Introduction

The word tertiary, simply means of the third rank or order, and tertiary level of education in Nigeria, based on the aforementioned meaning, implies that tertiary education in Nigeria is the third order of education which can also be referred to as higher education [1]. Tertiary education is synonymous with higher education in Nigeria. This is the aspect of education that is in charge of producing the output required by the society for national development [2]. Tertiary education is an educational system designed to solve local, national and international pressing problems [3]. Tertiary education also called post-secondary education, is any level of education pursued beyond high school, including undergraduate and graduate credentials. These credentials encompass certificates, diplomas or academic degrees. Tertiary education is specialized education in a specific field, taken on after finishing high school. Tertiary education is non-compulsory and provided in a specialist institution, usually a college, polytechnic or university. This form of education may be delivered virtually or at a distance [4].

Tertiary education refers to all formal post-secondary education, including public and private universities, colleges, technical training institutes, and vocational schools. Tertiary education is instrumental in fostering growth, reducing poverty, and boosting shared prosperity. A highly skilled workforce, with lifelong access to a solid post-secondary education, is a prerequisite for innovation and growth: well-educated people

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are more employable and productive, earn higher wages, and cope with economic shocks better [5]. Tertiary education can be defined as the planned and organized system of learning designed for the total development of individuals and the total transformation of the society through the utilization of teaching, research and provision of community service [6]. Tertiary education fosters individual development and growth as well as impacts positively on the society at large [7]. Tertiary education is higher educational institution saddled with the responsibilities of transforming the individual and the society through active engagement in teaching, research and provision of community services [8].

The realization of tertiary education goals depends on the availability of adequate human and material resources. Resources are essential to the management and administration of tertiary education. Resources provides means to the realization of tertiary education programme. Noted that to realize educational goals and objectives of the institution and school system, equipment and physical facilities are not only essential but are also of immense value [9]. Apart from the acquisition of these equipment and facilities, proper maintenance of them must be taken seriously. All materials and non-material factors that are necessary and are contributive to the attainment of goals in any institution are regarded as resources. The human component of resources interacts with certain facilities and equipment at certain time to bring about production of output. The quality and quantity of this output are to a greater extent dependent on the quality and quantity of resource input and the manner of processing. By implication therefore input and output are significantly responsive to administration [10].

Tertiary institutions appear to be insignificant about effective resources management. Resources mostly allocated to the various tertiary institutions across Nigerian tertiary institutions seems poorly managed. Lamented of many abandoned infrastructural facilities and cars litter across many higher institutions in Nigeria and called on management of these institutions to adopt leadership styles that will help to put these resources to maximum usage [11]. Observed that there are many abandoned projects in Zamfara State, Federal University Gusau in North West geo-political zone of Nigeria [12]. In the North-central geo-political zone, University in specific is home to many uncompleted and abandoned projects which are reducing the quality and quantities of the volume of infrastructure facilities that the various higher institutions are supposed to have deployed for the implementation of teaching and research. Reported that there are many uncompleted projects in the Federal University of Petroleum Resources, Effurun (FUPRE), Delta State [13]. It is based on this observation that this paper seeks to examine resources management in tertiary institutions in Nigeria.

## **Literatures Review**

### **1.1 Concept Resource Management**

Resource management is the process of planning out and scheduling organizational team's resources to optimize utilization and ensure project success. A resource can include everything from equipment and financial funds to tech tools and employee bandwidth – basically, anything that helps you complete a project. Effectively managing institution' resources ensures every project is well-equipped and every team member is appropriately allocated, paving the way for successful project completion. Resource management is the process of planning and scheduling your team's resources and activities—essentially anything that helps you complete a project. Developing a resource management plan can give you visibility into team member workloads. Learn how to manage resources and improve team performance [14].

Resource management, or resource planning, is the process by which businesses plan, schedule, and allocate resources in order to achieve the highest organizational value. Those resources can be intangible, such as skills and time, or tangible, such as equipment, materials, and finances. Resource management means planning so that the right resources are assigned to the right tasks at the right time. Managing resources involves creating

schedules and setting budget for people, projects, equipment, and supplies [15]. Resource management is a fundamental aspect of any organization's performance. In simple terms, resource management refers to the efficient use and control of all resources available to an organization in order to achieve its goals. Resource management is the management of the resources in an organization. It is the process of identifying, collecting and tracking all the resources to achieve a goal. You can also refer to it as resource planning or simply planning [16]. From the above, resources management is the process of planning, allocating, and monitoring resources to effectively and efficiently achieve organizational objectives. It involves managing resources such as people, materials, equipment, and finances, to ensure that they are utilized in the most optimal way to meet business goals. This process can encompass various aspects such as project management, budgeting, scheduling, and human resource management. Proper resources management can lead to improved performance, higher productivity, and better decision-making within an organization.

## 1.2 Benefits of Resource Management

The resource management process is crucial to the success of any tertiary institutions because it reduces cost and wasted effort. By following resource management techniques, educational institutions can have insight on what's required to implement the school curriculum and deliver quality education, as well as the skills to make it happen regardless of external factors.

1. Resource management assists to eliminate waste in educational institutions with proper resource management, School leaders can maximize resource efficiency in different departments and units and ensuring that none of the equipment, space, or material procured or invested in goes unused.
2. Resource management in schools helps to optimizes time with resource planning to ensures the teachers and non-teaching members understand their roles and spend their time on their official assignments and functions that add the most value to the school goals and programme. Instead of saying yes to everything, school resource managers can schedule and prioritize projects based on real-time data.
3. Resource management in schools helps to minimizes risk: School manager' poor resource allocation can lead to situations where a schools does not have enough available resources (e.g. labour, instructional resources, learning materials, school plants, facilities) to meet its school objectives or fulfill its obligations. Resource management reduces this risk in school administration.
4. Resource management in schools helps to improve school performance: Resource management in schools helps to school administrators to ensure teachers used resources allocated to them for teaching and learning implementation well and this help to improve school performance. Effective resources management in school improve students' academic performance.
5. Prevents miscommunication mishaps among team in the school. School leaders will be able to better manage stakeholders and ensure that they are kept informed about what's going on with school programme and plans. With effective resource management, school administrators can avoid scope creep by managing expectations up front. Additionally, school leaders will be more accountable for school projects and have a better understanding of how they are progressing.
6. Resource management in the educational institutions will help better forecasting. Effective resources management in schools will help give a clearer understanding of how teaching and learning stage by stage be implemented. School administrators will be able to better manage risk by identifying potential issues early on and planning for them.
7. Resources management in schools will help to reduces turnaround time. Effective resources management will help leaders avoid bottlenecks in implementing school programme and in allocating tasks to teachers. It will support effective delivery of teaching

in the schools. It will ensure that schools are able to deliver the right results on time and without wasting any money or resources.

8. Effective resources management help to maximizes resource efficiency in higher institutions. Higher institutions leaders will be able to ensure that their lecturers and non-teaching staff has everything they needs to succeed (including the right number of resources) in implementation of teaching, research and provision of community services. It will lead to better management of academic programme budgets and making sure they're being used effectively.

### **1.3 Types of Resources in Tertiary Institutions**

Effective resource management is pivotal in steering any organization toward its goals. This process involves a strategic approach to managing various essential resources. Here, we focus on three fundamental types: human, financial, and material resources. Each category plays a unique role in the broader spectrum of resource planning and is a crucial component of any resource management plan, Martins. Noun listed material/physical resources; financial resources; time resources; human resources; and supporting resources-light as resources available in tertiary institutions.

## **2. Materials and Methods**

### **Material/Physical Resources**

These are the tangible resources that can easily be seen and observed in any institution. In fact they are the more pronounced resources without which any production can be done. The physical resources include the structure, the machines, raw materials, vehicles, and other tools, which can facilitate organizations; processing and dissemination of organization product. The physical resources are not the same in all organization. In educational system, the physical resources would include the classrooms/lecture rooms, staff offices, vehicles, health centers, library, laboratory, and so on, which directly or indirectly contribute to the achievement of goals. Bajah maintained that it is not the availability of these resources alone that guarantees effective performance of school, but their adequacy and effective utilization. Martins noted that material resource management involves the efficient planning, sourcing, and utilization of physical resources required for business operations. It encompasses inventory management, purchasing, and supply chain optimization to support the entire project lifecycle, from initial planning to final delivery.

### **Financial Resources**

This is indeed a more critical element with which other factors of administrations are created, maintained and sustained. It can be regarded as the life-wire of any system. In school administration, funds are necessary for the procurement of facilities, equipment, electronics and communication gadget needed for effective performance. Apart from this, funds are needed to pay the salaries of administrative, academic and non-academic staff. A robust financial allocation for institutional administration would not only enhance good attainment but its sustainability. Plan and policy implementation are responsive to funds availability. In short, funds are needed for the acquisition of fixed and current assets and to settle current liabilities and expenditures incurred in the course of administration. Martins opined that financial resource management is the process of planning, organizing, directing, and controlling financial activities such as procurement and utilization of funds. It involves making smart decisions about allocating financial resources to various projects or departments [17].

### **Time Resources**

Time is considered as one of the scarce resources known to man, Adedeki. The significance of time over all other resources is its non-recoverable nature. Once used, it cannot be called back. Time utilization or the use of the time refers to the proper allocation

of time to the various stages and tasks of administrative activities. In other words, time utilization could be explained in the framework of doing the right thing at the right time in the work place. Identifying time, and other resources necessary for the accomplishment of the task. Time is the most expensive of all resources [18]. The application of hours of duty to organizational activities is to ensure equal combination of time with other resources. The use of time is one of the parameters to measure an effective administration. It determines the degree of productive activities and its proper use makes for effective discharge of responsibilities. Fafunwa said time is the major index to measure the successful completion of an academic programme. In summary, time utilization affords administrator the opportunity of getting the best from every minute spent in their programme.

### **Human Resources**

The major proposition of Human Capital Theory is that investment in human component of production resources would yield the best optimal returns to any system. With this background, it could be pertinent to consider human factor as an “Armstrong” of any organizational effectiveness. Human resources is not only responsible for planning, organizing, coordinating, controlling, manipulating and maintaining other forms of resources, its administrative and forecasting ability placed it ahead of other forms of resources. The availability of human resources is not only required in institutional administration, but also their quality and quantity must be considered if effective and efficient administration is to be guaranteed. According to [19] all activities of any institution are initiated by the person that makes up that institution. Plant, offices, computer, automated equipments, and all else that a modern firm uses are unproductive except for human effort and direction. Human beings design or order the equipment; they decide on where and how to use computer; modernize or fail to modernize the technology employed, they secure the capital needed and decide on the accounting and fiscal procedures to be used. Every aspect of an institution’s activities is determined by the competence, motivation and general effectiveness of its human resource. There must also be arrangement for manpower development [20]. This becomes imperative in order to improve their quality. It is noteworthy that the quality of educational system depends on the quality of personnel, Hallak.

### **Supporting Resources**

These are resources that contribute to the effectiveness and efficiency of the combination of other resources earlier discussed. Apart from facilitating their organisation, supporting resources also help in the processing of input to output and in the transfer of both the material and human resources from one place to another. They include electricity, which generates power for most machines and electronics, water, refrigerator, fans, cars, etc.

### **Information Technology**

The significant role of ICT in Administration had been discussed in unit fourteen. Information and communication are vital resources in any establishment more particularly for planning, policy making and decision making. Apart from enabling the public to be aware of the existence, activities and products of any organisation, information and communication serve as means of getting the feedback from the public, clienteles and consumers. Some of the information communication technologies in school administration include the global system for mobile communication (GSM) telephone, intercom, television, overhead and film projector, internet/radio, cable, etc. All these enhance quality communication within and outside. Other resources for institutional administration include: calendars, journals, periodicals, reference books, year planner, consumable items, cabinets, files, etc All of these combine to influence effective performance of administrators on daily basis.



### 3. Results and Discussion

#### Data Analysis on Resource Management Techniques in Tertiary Institutions

There are many resources management techniques. Some of these techniques includes; resource allocation, resource utilization, resource forecasting and resource leveling

##### Resource allocation

Resource allocation is more than just allocating resources to tasks and projects; it's the process of choosing the best resource based on the project team's skills and capacity. After all, good resource management isn't just about making sure you have enough resources; it's about making sure you have the right resources for the right projects. Resource allocation can help you achieve this by strategically matching your team's strengths, capabilities, and resource capacity to the specific demands of each project, Martins.

##### Resource forecasting

Resource forecasting is a resource management process that involves proactively predicting the resource requirements for future projects and initiatives. You can identify these needs by relying on past trends and project metrics, as well as your team's current capacity Resource allocation. Resource allocation is more than just allocating resources to tasks and projects; it's the process of choosing the best resource based on the project team's skills and capacity. After all, good resource management isn't just about making sure you have enough resources; it's about making sure you have the right resources for the right projects. Resource allocation can help school achieve this by strategically matching team's strengths, capabilities, and resource capacity to the specific demands of each project, Martins. Whereas many resource management techniques concern themselves with allocating resources in the present, resource forecasting predicts the resources needed in the future and creates a resource management plan to account for them. Using your current capacity, upcoming projects, and external trends, accurate forecasting solutions help project managers identify future conflicts and opportunities to ensure your resource allocation and utilization are aligned with your long-term goals. At its simplest level for small businesses, resource management is about making sure that a company is using its talents and materials wisely and effectively, Shopify.

##### Resource utilization

Resource utilization involves using tools like utilization reports and time tracking software to identify your team's capacity over a specific period of time. It's a capacity planning technique that allows you to identify whether project resources are being underutilized or over allocated, so you can better manage workloads. Resource smoothing is a resource management solution that relies on scheduling. That is, resource smoothing attempts to meet a specified deadline while avoiding peaks and valleys on the resources. While resource leveling is focused on achieving the right amount of each resource, the goal of resource smoothing is a constant rate of resource demand and/or resource utilization over time, Shopify.

##### Resource leveling

Resource leveling is a resource management solution designed to combat shortages or over allocation by leveraging underutilized resources. For example, this might mean shifting work from one team member's plate to another who has similar skills and additional capacity. Or, it could mean taking advantage of skill sets that typically aren't utilized, like having a website content writer create social copy, Martins. Resource leveling is a resource management technique designed to avoid shortages or excess inventory by keeping the stock of project resources at a level that avoids both problems. Specialized resource management software can help determine that level with tools that use real-time data to provide resource forecasting and risk management. Resource leveling also used in

reference to the time it takes to complete a project. With leveling, the start and finish dates are adjusted so that they mesh with resource availability. Leveling might extend the project timeline, but with a view toward eliminating excess costs along the way, Shopify.

### Findings

This paper discovered that resources are very important to the realization of tertiary institutions' goals and resources management aids effectiveness and efficiency in the institutions. The paper identified the benefits of resource management in tertiary institutions to include; reduction in resources wastage, optimization of time resources planning, minimization of risks, improvement in institutional performance, effective communication, effective forecasting, reduction in turnaround time and maximization of resource efficiency and improvement in quality and attainment of institutions goals. The paper also listed resource allocation, resource utilization, resource forecasting and resource leveling are some of the resources management techniques and material/physical resources; financial resources; time resources; human resources; and supporting resources-light as some of resources management techniques available in tertiary institutions.

### 4. Conclusion

This paper discuss the concept of resources, resources management techniques and benefits of resources management in tertiary institutions in Nigeria. The paper concluded that resources are very important to the realization of tertiary institutions' goals and resources management aids effectiveness and efficiency in the institutions. The paper identified the benefits of resource management in tertiary institutions to include; reduction in resources wastage, optimization of time resources planning, minimization of risks, improvement in institutional performance, effective communication, effective forecasting, reduction in turnaround time and maximization of resources efficiency and improvement in quality and attainment of institutional' goals. The paper also listed resource allocation, resource utilization, resource forecasting and resource leveling are some of the resources management techniques and material/physical resources; financial resources; time resources; human resources; and supporting resources-light as some of resources management techniques available in tertiary institutions.

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