

Effect of Resource Utilization Techniques on Competitive Advantage of Selected Firms in Nigerian Telecommunications Industry

Ugboko, Lucky Nwakego¹ and Ehugbo, Ikechukwu²

¹Finance Director, Cross River Institute of Technology and Management, Ugep, Nigeria

E-mail: luckyugboko@gmail.com

09062442551

²Department of Business Administration and Management, School of Business and Financial Studies, Cross River Institute of Technology and Management, Ugep, Nigeria.

E-mail: ikechukwuehugbo83@gmail.com

07064352747

Abstract: Resource management arose from the economic theory of scarcity. In order to fulfill organizational goals, the company must make decisions regarding how to plan, schedule, allocate, and govern resources efficiently. Organisations are constantly besieged with the challenge of resource scarcity, compounded with the threat of rivalry and competition, decisions on resource planning, allocation and control are beginning to make the difference between success and failure in the market place. This study therefore, focuses on effect of resource utilization on performance of selected Nigerian telecommunication firms. The study employed Resource-Based Theory. Survey research design was employed. The multiple regressions were used to test the stated hypothesis. The outcome of hypothesis testing revealed that there is a significant and positive relationship between resource planning and firm competitiveness in the Nigerian telecommunication industry at 0.572, furthermore, there is a significant and negative relationship between resource allocation and firm competitiveness in the selected telecommunication firms at -0.118. According to the findings, resource utilisation is a technique for effectively organizing and assigning workers as well as equipment for various projects or services while avoiding idle resources. The study recommended that to improve the level of resource allocation, managers of the selected telecommunication firms should employ work breakdown structure for all the staff so as to identify their area of competence and specialization.

Keywords: Resource Utilization, Firm Competitiveness, Resource Planning, Resource Allocation

1.0 INTRODUCTION

The complexity of competition in today's fast-paced market and the requirement for continuous innovation, resource management, processes and methods have created the need for organisations to formulate strategies in reaching out to customers in unique ways in order to gain competitive advantage. The construct of resources have been applied in different fields of human endeavour, with respect to medicine, economics, ecology, management, computer science and human resources. It is also linked to conceptual frameworks such as sustainability, conservation, stewardship and competition. In relation to economics in general and management in particular, factors of production require effective resource allocation through resource management or utilisation to achieve optimum productivity. The economic theory of scarcity gave rise to resource management. Scarcity refers to the mismatch between finite scarce resources and ostensibly limitless client wants. In this circumstance, people must make decisions about how to properly organize, manage, distribute, and regulate resources in order to meet basic needs and as many additional wants as possible. Scarcity implies that economic decisions have to be made regularly in order to plan, manage and allocate available resources to meet human, organizational and societal needs. Organisations are constantly besieged with the challenge of resource scarcity, compounded with the threat of rivalry and competition, decisions on resource planning, allocation and control are beginning to make the difference between success and failure in the market place. To overcome the challenge of a world where resources are becoming increasingly insufficient, businesses are beginning to be concerned with resource management, that is, efficient resource utilization, exploring alternatives to resource currently in use (resource planning, allocation, scheduling and control), supply security, and implementing new business models (enterprise modelling).

The issue with competitive advantages is that organizations cannot sustain them in perpetuity, as rival firms tend to imitate the product or strategy. Even when efforts to simulate the product do not succeed, changes in technology and technical know-how tend to reduce the lifespan of the competitive advantages. Therefore, to achieve a sustainable competitive advantage, organisations are looking inward in the creative utilization of their internal resources to formulate winning strategies. This research analysed resource utilization techniques as a source of competitive advantage for selected firms in the Nigerian telecommunication industry. The study's goal is to look into the effect of resource planning and allocation on business production.

1.2 STATEMENT OF THE PROBLEM

The major challenge in the Nigerian telecommunication industry seems to be severe competition, intense rivalry and resource scarcity (Proshare, 2017). Even though the subscriber base is very large, many firms in the industry have capitulated and closed shop due to their inability to cope with the intense rivalry and competition in the industry. Companies like Starcomms, Multilinks, Visaphone and NITEL have all become moribund due to their inability to remain afloat in the ever-turbulent waters of stiff competition in the industry. The severe competition arose from the liberalisation and privatisation of the telecommunication industry, which also accelerated economic growth in the sector. The increasing supply of telecommunication services resulted in resource scarcity such as telecommunication spectrums, bandwidths, worldwide interoperability for microwave access (WiMax), high speed downlink packet access (HSDPA), code division multiple access (CDMA) as well as highly skilled technical manpower resulting in the recruitment of expatriate telecoms engineers etc. Moreover, the escalating costs of production as a result of increasing cost of global system for mobile technology (GSM), third generation mobile technology (3G), fourth generation mobile technology (4G), asymmetrical digital subscriber line (ADSL), electronic communication network services (ECNS), public switched telecommunication services (PSTS), value added network services (VANS) etc., also contributed to resource scarcity in the industry. In spite of the urgency of this challenge, most firms in the industry are failing to acknowledge the negative impact that resource scarcity is having on their business in the way they carry-on their operations. They continue to use outmoded planning models and traditional strategies that fail to reflect increasing costs or to mitigate the risk of severe competition. Firms in the industry appear to neglect resource planning which will help to highlight customers' need and allocate appropriate resources. More so, there is little evidence to depict appropriate scheduling, allocation and controlling of resources to enhance product innovation, sales volume and service quality in their daily operations.

1.3 OBJECTIVE OF THE STUDY

The study's major goal is to determine the impact of resource utilization techniques on chosen enterprises in the Nigerian telecoms industry's competitive advantage. The study's objectives are as follows:

1. Investigate the effect of resource planning on innovation of Nigerian telecommunication industry.
2. Examine the impact of resource allocation on productivity of Nigeria telecommunication industry.

1.4 RESEARCH HYPOTHESIS

H_{01} : Resource planning has no significant effect on innovation of selected telecommunication firms' in Nigeria.

H_{02} : There is no significant positive influence of resource allocation on productivity of selected telecommunication firms' in Nigeria

LITERATURE REVIEW

2.1 THEORETICAL REVIEW

This study is anchored on the Resource-Based Theory.

Wernerfelt's (1984) resource-based theory is one of the strategic management theories that is concerned with a firm's ability to launch and implement a plan that is difficult to copy by other competitors in the industry. Moreover, the theory investigates the relationship between an organization's resource utilization and performance and so cannot rely on the assumptions of the environmental model. The environmental model assumptions, according to Rumelt (1984) and Wernerfelt (1984), effectively exclude organization resource heterogeneity and immobility as potential sources of competitive advantage. Barney (1991) proffered a two-faced conceptual definition of sustainable competitive advantage. As a result, he claims that a company has a competitive advantage when it executes a value-creating strategy that no current or potential competitors are following at the same moment. A corporation is considered to have a protracted competitive advantage when it adopts a value-creating strategy that is not being implemented by any current or potential competitors at the same time, and these other companies are unable to duplicate the strategy's benefits. These definitions may need some clarifications. First, these definitions do not necessarily focus on the organization's competitive posture in relation to already existing businesses in its industry. Much more than that according to Baumol, Panzar and Willig (1982), it also covers the firm's potential competitors that maybe gearing to enter the industry at a future date. So, enjoying a sustaining competitive advantage implies implementing a strategy not being simultaneously implemented by any of its current or potential rivals (Barney, McWilliams, & Turks, 1989). Secondly, the definition of sustained competitive advantage refers to in this study is not determined by the period of calendar time during which an organization enjoys the advantage as postulated by Jacobsen (1988) and Porter (1985). Rather, sustained competitive advantage is determined by the possibility of competitive duplication (Grant, 1991). Therefore, a firm is termed to be enjoying sustainable competitive advantage when it continues to exist after efforts to duplicate the advantage have failed (Lippman & Rumelt, 1982; Rumelt, 1984). This implies that it is not the calendar period that defines sustained competitive advantage

but the inability of present and potential rivals to replicate or duplicate the strategy that generated the advantage.

The Resource-based model of an organisation is an important theoretical framework for understanding how competitive advantage in an industry is achieved and sustained over time (Barney 1991; Peteraf, 1993). This theory emphasizes an organization's internal resources as a supplement to strategy's traditional focus on industry structure and strategic positioning within that structure as a determinant of competitive advantage. The investigation of a firm's resources with the goal of achieving a sustained competitive edge over other competing enterprises in the industry is the central concept of the resource-based view (Mahoney & Pandian, 1992). As a result, the theory's philosophical ideology indicates that a firm's competitive advantage can only be achieved by the effective and efficient use of all resources accessible to it (Mahoney, 2001).

2.2 CONCEPT OF RESOURCE UTILIZATION

According to organizational research, resource management is the efficient and effective utilization of an organization's resources when they are needed. Financial resources, inventory, human talents, and production resources are examples of such resources. Processes, approaches, and philosophies for allocating resources have been created in the field of project management. Business profitability is directly related to resource efficiency and optimal resource utilization. Most time, organizations that have difficulties with either or both of these core competencies characteristically experience wastages, cost overruns, schedule delays and unsatisfied customers. The term "resource utilisation" refers to the process of efficiently organizing and assigning employees and equipment for various projects or services while avoiding idle resources. Having knowledge about the availability of resources and when they will be available for the activity is critical for controlling costs and executing project activities smoothly (Project Coordinator, 2017).

According to Pales (2017), some of the most common resource utilization techniques include the followings:

- i. Resource planning or forecasting
- ii. Resource scheduling
- iii. Resource allocation
- iv. Resource control

2.3 CONCEPT OF RESOURCE PLANNING

Resource planning is a process of identifying the present (short term) and forecasting the future (long term) strategy of an organization and developing the necessary steps toward set objectives. It could also be seen as a process consisting of a set of underlying process and procedure that are intended to create a more favorable environment for an organization to achieve a sustained competitive advantage. This is in contrast to traditional tactical planning, which is more defensive in nature and relies on competition to move the project forward (Pearce & Robinson, 1994). According to Pearce and Robinson (1994), strategic resource planning is the process of designing, implementing, and regulating strategy, as well as formally documenting organizational expectations, using systematic criteria and thorough investigation. As a result, it is crucial to recognize that resource planning is critical to an organization's success. Furthermore, as the global business environment is changing and varies in human taste and preference, organizations need to be proactive in using their strength, weakness, opportunities and threat (SWOT) to plan their resource in order to quickly adapt to the changing environment. In both single-project and multi-project companies, resource allocation and planning have always been a problem. Payne (1995) gave a state-of-the-art evaluation of project management for numerous concurrent projects, identifying several issues that were split into five categories: capacity, complexity, conflict, commitment, and context. Engwall and Jerbrant (2003) investigated why resource allocation syndrome is the most common difficulty in resource planning in a multi-project setting. They came to the conclusion that resource allocation syndrome is a reflection of many other organizational issues, including resource planning. Turner, Huemann, and Keegan (2008) investigated the well-being and ethical treatment of employees in project-oriented organizations, concluding that resource planning is an issue in large firms lacking an adequate resource management system. According to Zika-Viktorsson, Sundström, and Engwall (2006), project overload is caused by fragmentation, interruption, and inefficiency induced by switching between responsibilities for separate but concurrent projects. Depending on a few criteria, the issues that arise while planning projects or resources fluctuate slightly. For example, if a corporation is working on a single project at a time, they are unlikely to have the same issues as a company working on numerous projects at once. More complications may occur if the projects share resources with one another. Engwall and Jerbrant (2003) suggest a few mechanisms connected to the multi-project organization's resource allocation dilemma. They looked at two real-world situations in which businesses used a centralized resource planning system to distribute resources to projects based on deadlines. They noticed that there was always some project that was running behind time, making the system's schedule useless. A situation where there are insufficient resources needed for a job results in over commitment. This is a common problem to firms, as most often, they are reluctant to turn down business opportunities, as it would result to lower returns. There are two types of planning procedures: core and enabling procedures (Koskela, Lauri & Gregory, 2002). The ten core activities include scope planning, scope definition, activity definition, resource planning, activity sequencing, activity duration estimates, cost estimating, schedule formulation, cost budgeting, and project

plan preparation. From the output from these processes, organizations plan resources and execute the processes. Furthermore, it is considered that there is a strong causal relationship between management actions and organizational outcomes. By presuming that putting a plan into action is as straightforward as issuing instructions, production planning becomes basically synonymous with action (Koskela & Gregory, 2002). The organization's "VMOSA," or Vision, Mission, Objectives, Strategies, and Action Plans, are defined during the strategic resource planning development process. The organizational dreams are guided by the VMOSA process. It facilitates good ideas by pointing out what has to be done to realize the vision. VMOSA enables the business to concentrate on the short-term goal while maintaining the long-term vision and mission in mind (Nagy & Fawcett, 2011). Government plans and policies for developed and developing countries demonstrate that project resource planning practices in projects done by diverse organizations using various techniques determine whether a project succeeds or fails (Akpan & Chizea, 2002). Project management necessitates a combination of competing human resources with the necessary knowledge, skills, and attitudes. In order for a project or linked enterprises to flourish or fail, thorough resource planning methods are required (Besner & Hobbs, 2011). A large number of project team members must be motivated and participating in project resource planning procedures in order for strategies and policies to get the project team to strategically plan resources for project success (Gibson, Wang, & Chao, 2006).

Building from the above review, resource planning could be seen as the overall program, procedure and action of an organization towards attainment of organizational goals. The resource planning of a telecommunication firm may comprise the human resource, financial resource, time and technological resource of organization. The human resource planning involves identifying and forecasting the present and future employee of an organization base on competency, skills and talent of the employee. Financial resource is a strategic plan of an organization to identify an efficient ways to source and spend fund. Time resource involves the application of identified organizational resource to the right project, at the right place and time that will result to minimization of waste. Technology involves application of electronic or technical means in production, documentation and process of organizational goals at ease and fast way. And an efficient application of these organizational resource planning will result to sustained competitive advantage for the firm.

2.4 CONCEPT OF RESOURCE ALLOCATION

One the resource management technique is resource allocation. Its goal is to even out the stock of available resources, decreasing both surplus inventories and shortages. The required data are: demand for various resources, anticipated by time period as far as is reasonable into the future, as well as resource configurations required in those demands, and resource supply, again forecast by time period as far as is reasonable into the future (Rajaprawin & Shanmugam, 2014). The goal is to attain 100% utilization, however this is extremely unlikely when essential indicators are weighted and limits are in place, such as reaching a minimum service level while limiting costs. Companies that actively and consistently re-evaluate where resources are allocated, according to Atsmon (2016), create greater value and give higher returns to shareholders. The author went on to define dynamic resource reallocation as the process of moving money, talent, and management attention to the areas where they will add the most value. Resources are varied, everything from human, technology, finance, equipment to the materials and other supplies needed for production and services fall under the umbrella of resources. Resource allocation is a management process that involves making decisions about how to best use limited resources in the creation of goods and services. Any factor of production used in the creation of products or services is referred to as a resource. Grimsley considers labor, financial resources such as money, real estate, tools and equipment, technology, natural resources, and machinery to be resources (2013). The distribution of resources is crucial to the operation of a system. It is the selection of resources with care (Sachan, Datta & Arora, 2008). As systems become more flexible in their arrangement and usage of resources, this function will become increasingly more important. Decisions about resource allocation are crucial since they affect a company's worth (Merchant, 1997). The choice of resources, their assignment, and time to accomplish activities while satisfying client, processing, and capacity limitations is referred to as resource allocation. It has a broader scope, as it satisfies both planning and scheduling requirements. The former is the temporal ordering of operations and resources, while the former is the selection of resources and their assignment. Financial resources, physical resources, human resources, and technology resources are the four types of resources.

In an economist's ideal world, which, of course, does not exist, resources are efficiently allocated when they are used to produce goods and services that meet customers' needs and wants at the lowest possible cost of production. Output efficiency refers to the use of fewer resources to produce goods and services, allowing those resources to be put to greater use in other areas of the economy, such as extra production, savings, and investment. It all boils down to producing what people want as cheaply and efficiently as possible.

According to Astmon (2016), executives should follow four key concepts in order to achieve actual value from resource allocation:

1. Granulation: Be wary of the averages' tyranny. A single unit may have multiple business lines or geographic pockets, each with its own set of returns. It is not uncommon to observe a 10 percent drop in one region while another grows by triple digits. In fact,

the variety within a single business unit's granular market segments is sometimes far greater than the variability among big business units. Managers must drill down to the smallest meaningful business where a change in resources will have a significant impact on the company's overall performance (likely more than one percent of total revenues).

2. Focusing on value creation: There are occasions when an investment has a clear business case and you can calculate the net present value of all future cash flows. That's how a project to invest in a new mine or build a new car may appear. In other circumstances, a segment's overall economic profit (profit generated above the cost of capital) may be a good and consistent way to evaluate ongoing value generation. The correct criteria are required to determine which groups deserve more or less money and attention.

3. Overcoming biases: Biases have a big impact on resource allocation decisions. Any exercise in resource allocation must be based on hard data, so that conclusions are based on facts and reasoning. The following are some common approaches for overcoming biases:

i. Committing to a minimum annual reallocation and placing some funds into the bank for new allocations ii. Forcing the prioritizing of possibilities based on their value creation or return on asset

iii. Role-playing scenarios that push CEOs to debate against their natural interests or give resources to unidentified business divisions that may or may not be their own.

4. Agility: Resource allocation should be altered on a frequent basis in this dynamic business climate, especially when important events occur, such as a dramatic drop in oil prices. For investments, some companies use a methodical stage-gating process. When developing new products and services, it's common to defer some of the expenditure until there's proof that it's working. External (demand growth, rival launches, and regulation) and internal (new technology, changes in talent) material risks must be recognized in the strategic planning process, and clear threshold levels must be established at which resource deployment decisions must be reassessed.

2.5 CONCEPT OF COMPETITIVE ADVANTAGE

Competitive advantage is the ability of a firm to differentiate and improve the quality of its product through effective resource utilization. Furthermore, it could also be seen as an ability of a firm to maintain a long-term survival (unique) strategy that is difficult to imitate by other rival firms. Profitability, productivity, and market share have been the focus of previous competitive advantage studies (Kennedy, Harrison, Kalaitzandonakes, Peterson, & Rindfuss, 1997). Competitive advantage is regarded as a prerequisite for high-level performance (Ismail, Rose, Abdullah, & Uli, 2010). A company's ability to improve product quality, cut product costs, or increase market share or profit is referred to as a competitive advantage (Grupe, & Rose, 2010). At the firm level, Porter (1990) defines competitive advantage as productivity growth shown in lower costs or differentiated products with higher pricing. According to Smith (2013), competitive advantage refers to the ability of businesses in one region to compete with businesses in other areas. A company's capacity to discover opportunities, minimize difficulties, and cut costs is defined by Newbert (2008) as a competitive advantage. However, according to Sigalas, Economou, and Georgopoulos (2013), a firm's competitiveness is determined by its capacity to identify opportunities, mitigate risks, and save costs. Competitive advantage, as Esen and Uyar (2012) pointed out, appears to be a relative term. A competitive advantage is a scenario that is defined and measured in comparison to a competitor. The theory of competition is always changing. The operational definition of competitive advantage is a method of employing current resources and taking additional particular activities to keep a company distinct from its competitors while keeping it active and growing (Sachitra, & Chong, 2015). According to the definition, competitive advantage has three characteristics: long survival, difficulty to imitate, and difficulty to recognize (Meutia & Ismail, 2012). Competitive advantage is a management or economics concept that outperforms typical economic indices like profitability, productivity, and market share (Voulgaris, Papadogonas, & Lemonakis, 2013). Traditional indicators, on the other hand, can only reflect quantitative facts from the past. Firms must be operationally efficient, cost effective, and service quality mindful to provide customers with higher value and satisfaction than their competitors (Vilani, 2016). Other factors, including as innovativeness, ethical standards, social responsibility, and employee working conditions, must be examined in addition to financial and market-based metrics (Depperu, & Cerrato, 2005).

2.6 CONCEPT OF INNOVATION

Innovation is one of the major instruments used by an organization to grow its strategies in new markets, to increase the existing market share and to provide sustained competitive advantage for the firm. To maintain long-term growth and sustainability, telecom operators must engage in more creative services that are primarily focused on addressing consumer wants, as well as establish a regulated minimum market pricing. Operators will be able to generate new revenue streams as a result of these initiatives, which

will help to offset the reduction in traditional revenue. Globalization and advancement in technology has triggered the need for innovation in many industries so as to fit in the ever-growing global market competition and continuous change in customer needs and preferences. This has necessitated the need for corporate organizations to consider innovation as an indispensable component of their strategy. Schumpeter (1934), a German economist and political scientist, was the first to characterize innovation as the driving force behind product creation. Vyas (2009) identified five manifestations of innovation in his definition:

1. Development of new items or enhancements to existing products
2. Implementation of a novel industrial process
3. New market entrances
4. Research and development of new raw materials or other inputs
5. Industrial organizations in new forms

Many studies have claimed that innovation is a key factor for firm success and survival (Jimenez & Sanz-Valle, 2011; Bell, 2005; Cho & Pucik, 2005; Gopalakrishnan & Damanpour, 1997; Damanpour, 1996; Fiol, 1996; Wolfe, 1994) and long-term competitive advantage (Jimenez & Sanz-Valle, 2011; Bell, 2005; Cho & Pucik, 2005; Gopalakrishnan (Standing & Kiniti, 2011; Bartel & Garud, 2009; Johannessen, 2008; Mumford & Licuanan, 2004). Innovation, according to Therrien, Doloreux, and Chamberlin (2011), is a complicated phenomenon involving developments in technological processes and systems in which firms seek to acquire and build upon their novel technical competence, defined as a firm's set of resources and how these are transformed by innovative capabilities. Innovation at the firm level could be referred to as (Rubera & Kirca, 2012). In the third edition of the Oslo Manual, product (good or service) improvement or process modification, new marketing strategies, or a new organizational style in business procedures are all defined as innovation (OECD & Eurostat, 2005). Innovation is the process involved in developing an idea about new or existing successful product. In this study, innovation will be addressed as the main indicator of superior performance.

2.7 CONCEPT OF PRODUCTIVITY

The amount of output divided by the volume of inputs is frequently referred to as productivity. In other words, it assesses how effectively production inputs such as labor and capital are utilised in a given economy to generate a certain level of output (Krugman, 1997). Productivity is a crucial source of economic development and competitiveness, and it is used as the basis for many international comparisons and assessments of country performance. Productivity data, for example, is used to look into the effects of product and labor market laws on economic performance. Productivity growth is an important factor to consider when calculating an economy's productive potential. It also enables analysts to calculate capacity utilization, allowing them to assess the state of economies in the business cycle and forecast economic growth. Production capacity is also used to determine demand and inflationary pressures. Productivity, according to Coelli, Rao, and Battese (1998), is a physical rather than a financial measure of output produced per unit, based on data on physical quantities of inputs (labour, kilowatts of energy, and so on) (amount of air-time, megabytes of data etc). It's important to note that productivity is not the same as profit. The latter would include receipts (income) that take price and cost into account. Coelli, Rao, and Battese (1998) went on to say that the rate of productivity growth (typically the difference between output and input growth) is a key measure of a telecom firm's or industry's economic viability. For example, if MTN's productivity growth greatly outpaces that of Airtel, MTN will win more existing and new markets based on price per unit.

2.8 EMPIRICAL REVIEWS

A survey of commercial banks in Kenya was conducted by Njihia and Mwirigi (2014) to investigate the influence of enterprise resource planning systems on business performance. The study's overall goal is to look at how enterprise resource planning variables (financial resource availability, organizational complexities, employee attitudes, regulatory needs, and top management support) affect company success. The study used the Chi-square statistical approach to examine the hypothesis. According to the study, enterprise resource planning variables such as financial available resources, organizational intricacies, work attitudes, regulatory standards, and top management support all influence the practical deployment of an enterprise resource planning system, which affects the firm's performance. According to the findings, firms that install ERP systems should provide systematic training, development, and other necessary support to ensure success in their activities. The study also found that senior management support has an impact on ERP adoption, which in turn has an impact on the firm's performance.

In Kigali, Rwanda, Umulisa, Mbabazize, and Shukla (2015) investigated the influence of project resource planning methods on project performance of Agaseke projects. The goal of this study was to see how project strategic planning (human resource planning, financial resource planning, material resource planning, and man resource planning) affected project performance (service quality).

The research uses a cross-sectional study design that incorporates both quantitative and qualitative methods. The level of association that exists was determined using correlation analysis. The study's sample size is 120 participants. The findings show that project resource planning techniques and project performance have a favorable and substantial association. According to the findings, management should ensure that employees are informed on the organization's strategic plan. This will ensure that they will be able to compete for available career possibilities even if they no longer participate in the Agaseke initiative.

At Sanmina, a contract manufacturing firm in rnsköldsvik, Sweden, Jonsson (2016) investigated the impact of resource planning in a multi-project organization on perceived psychological stress reactions. The study selected all of Sanmina's project leaders, as they are the ones involved with resource planning, using interviews with questions that were a mix of open-ended and structured questionnaires. According to the findings, resource planning is still an issue in multi-project organizations like Sanmina. The issues raised in this study are similar to those raised in prior studies, and persons working on these projects were found to have significant levels of project overload, resulting in psychological stress reactions both outside and inside the workplace. In a multi-project organization, the researcher suggested using a resource planning tool to lower the amount of perceived psychological stress reactions.

De Heyer (2014) did a study in New Zealand to look at police strategic resource allocation during a time of austerity. Data were generated from previous empirical research work. In a period of austerity, the study investigates whether an economic approach to allocating police strategic resources is a suitable and equitable way. The result has identified that although econometrics may be an appropriate method of allocating police resources, previous research on police resource allocation has not advanced significantly, although some methodological advancement has been made, especially in the statistical construction of proposed models. The study concluded that as a result of the operating environment, police need to make transparent resource allocation decisions, be able to evaluate outputs and outcomes, and be able to demonstrate that resources are being used to generate the best returns for communities and society (den Heyer, 2009). The study concluded that proactive policing should be prioritized above reactive policing, indicating a shift away from centralized authority and emphasizing the importance of ensuring resource efficiency and effectiveness.

Alidrisi and Mohamed (2010) investigated the allocation of resources for strategic quality management using a goal programming technique. Data was generated from top, middle management and the employees of two Saudi Arabian food processing industry. The goal of this research is to look into the relationship between quality enchantment strategies and resources allocated to promote effective plan execution. The goal programming (GP) model was used to determine the extent to which each strategic was under or over used. Despite having differing strategy goals, the model results showed that both firms need to re-allocate resources to better support respective quality enchantment strategies. Two critical issues can be obtained from the result, which is commitment and overlap in responsibilities. The study concluded that a focus on solving such issues will result to better utilization of resource.

Klingebiel and Rammer (2011) investigate the impact of Resource Allocation Flexibility on Innovation Performance: The Effects of Breadth, Uncertainty, and Selectivity in their study. The Mannheim Innovation Panel, which is the German portion of the EU-wide Community Innovation Survey (CIS), was utilized to compile the data. Sales of new or enhanced products, sales of items that are new to the firm, and sales of products that are new to the market are all direct markers of a firm's innovation performance, according to CIS statistics. Data from questionnaires is handled using semi-automated data entry procedures. Each response is subjected to a thorough quality check, which includes a comparison to replies from the same firm in previous survey waves. The findings reveal that the breadth of resource distribution has a considerable positive direct impact on all three performance metrics (sales of new or improved products, sales of products that are new to the firm, and sales of products that are new to the market). According to the findings, broad resource allocation is a better approach for enterprises in uncertain markets than selective resource allocation. Surprisingly, the performance impact of increasing project spending is smaller and less substantial than that of increased resource allocation breadth. They suggested that a company that adopts a dual policy of resource allocation breadth and selectiveness will be more flexible than its competitors in dealing with innovation uncertainty.

3.1 RESEARCH METHODOLOGY

The survey research design was employed to accomplish the stated objectives. The study population comprises of all the staff of selected firms (MTN, Glo, Airtel and 9mobile) at their headquarters. The GSM sub-sector is critical to the telecommunications industry since it has the most customers (98.07%) and consequently serves as the industry's primary driver of growth. Only four of these companies are GSM (Global System for Mobile Communications) operators. They are: MTN Nigeria Communication (618), Globacom Limited (525), Airtel Nigeria (418) and 9mobile (285). These four companies were selected for the research study. The total population of the staff of selected firms was one thousand eight hundred and thirty six (1836) and was eligible for selection. The sample size derived from this simple random sampling derived population was statistically determined using Taro Yamane formula at 328. The technique used in gathering the primary data was a structured self determined questionnaire. The instrument's reliability was assessed using the test-retest method and the Cronbach Alpha analytical approach. A pilot survey of forty-four Phase3

Telecoms Nig. Ltd employees who were not part of the research element was conducted. The questionnaire was given to the selected employees on two separate dates in order to verify their consistency in answering the questions. The reliability procedure in SPSS version 21 was used to assess the returned questionnaire. Result reveals that the coefficient of the construct ranged from .929 to .959, which shows that the instrument has a strong internal consistency, and is considered to be fit. The data analysis was anchored on the use of multiple linear regression models. Hypotheses were tested using multiple linear regressions.

Multiple Regression Statistics Formula is represented as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon \dots \text{equ (1)}$$

3.2 Model Specification

In line with the objectives and hypotheses of the study, the models are stated thus;

Model A

$$FC = f(RP, RA) \dots \text{equ (2)}$$

$$FC = \beta_0 + \beta_1 RP + \beta_2 RA + \epsilon \dots \text{equ (3)}$$

Model Summary for the effect of Resource Planning, Resource Allocation on Firm Competitiveness

Table 1.1

Model Summary					
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension	1	.872 ^a	.760	.757	2.39119

a. Predictors: (Constant), Resource planning, Resource allocation

Source: SPSS Output, 2021

TABLE 1.2

Regression Coefficients for the effect of Resource Planning, Resource Allocation on Firm Competitiveness

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	3.001	.516		5.815
	Resource planning	.572	.050	.572	11.351
	Resource allocation	-.118	.048	-.113	-2.445

a. Dependent Variable: firm competitiveness

Source: SPSS Output, 2021

4.1 INTERPRETATION OF TEST OF HYPOTHESIS

The regression tables (Table 1.1 and 1.2) show resource planning and resource allocation variables being evaluated for its ability to influence firm competitiveness. Table 1.1, which is the model summary, reveals that the relationship between resource planning, resource allocation and firms' competitiveness is 87.2 percent (as seen in the *R* column) given an indication that there is a strong linear relationship between independent and dependent variables. The adjusted R^2 value (0.757) signifies that up to 75.7 percent of firms' competitiveness is influenced by resource planning and resource allocation.

Analysis of the regression model coefficients is shown in the Table 1.2 the regression coefficient (*B*), the intercept (α), and the significance of coefficient in the model is subjected to the *t*-test to test the null hypothesis that the coefficient is zero. From the table it can be seen that resource planning has a significant and positive influence on firms' competitiveness as their *p*- values are less than 0.05 significance with positive *t*- values ($t = 11.35$) while resource allocation has a significant and yet negative relationship with firm competitiveness as their *p*- values are less than 0.05 significance with negative *t*- values ($t = -2.445$). Furthermore, the standardized beta coefficient (0.572) shows that resource planning has a strong impact on firm competitiveness while also the standardized beta coefficient (-0.118) shows that resource allocation has a weak impact on firm competitiveness. As a result, the null hypothesis is rejected, and it is found that resource planning and firm competitiveness have a significant and positive link, but resource allocation and firm competitiveness have a significant and negative association.

4.2 DISCUSSION OF FINDINGS

The outcome of hypothesis testing revealed that there is a significant and positive relationship between resource planning and firm competitiveness in the Nigerian telecommunication industry. The finding is in line with the study of Umulisa, Mbabazize and Shukla, (2015) whom in their study found a positive and significant relationship between project resource planning practices (human resources planning, financial resource, material and man resource) and project performance. The study concluded that the management should ensure that employees are co-opted in the strategic plans of their organizations. In a similar study, Njihia and Mwirigi (2014) discovered that enterprise resource planning (ERP) variables (financial resource availability, organizational complexities, employee perceptions, regulatory requirements, and having top management support) all influence the effective implementation of an ERP system, which affects the firm's performance. They also came to the conclusion that firms deploying ERP systems should provide sufficient training, development, and other necessary assistance to ensure their success. The Vision, Purpose, Objective, Strategies, and Actions plan, according to Nagy and Fawcett (2011), will help the business to focus on the short-term goal while keeping the long-term vision and mission in mind. In a multi-project organization, Jonsson (2016) also suggested using a resource planning tool to limit the number of perceived psychological stress reactions.

In the selected telecommunication enterprises, there is a strong and negative link between resource allocation and firm competitiveness. This is in line with the findings of Klingebiel and Rammer (2011), who looked at the effects of resource allocation flexibility on innovation performance: breadth, uncertainty, and selectiveness. They found that the resource allocation breadth has a significant positive and direct impact on all the performance variables. They came to the conclusion that broad resource allocation is a better approach for enterprises in uncertain markets than selective resource allocation. Surprisingly, the performance impact of increasing project spending is smaller and less substantial than that of increased resource allocation breadth. They suggested that a company that adopts a dual policy of resource allocation breadth and selectiveness will be more flexible than its competitors in dealing with innovation uncertainty. Similarly, Alidrisi and Mohamed (2010) also support the finding, and recommended that organisations need to re-allocate their resources to support their quality enchantment strategies. Two critical issues can be obtained from the result, which is commitment and overlap in responsibilities. The study concluded that a focus on solving such issues would result to better utilization of resource.

5.1 CONCLUSION

Resource utilisation is a technique for effectively arranging and distributing workers and equipment for various projects or services while avoiding the use of idle resources. Resource utilization techniques involve a process of assigning available resource to the right task, at the right place and in the right time thereby ensuring available resources produce the desired outcome. Thus, it is anticipated that there are some factors that may influence the adoption and implementation of some of the identified resource utilization techniques in the telecommunication industry. This study demonstrated how resource utilization techniques (resource planning and resource control) could be used in Nigerian telecommunication industry to achieve sustained competitive advantage through innovation and productivity.

5.2 RECOMMENDATIONS

1. In order to improve organisational resource planning, the management of the selected firms should draw an action plan that will encourage unique product innovation that is geared toward achieving sustained competitive advantage. These action plans must be understood by all stakeholders and a valid performance standard should be set against which their performance are judged.
2. To improve the level of resource allocation, managers of the selected telecommunication firms should employ work breakdown structure for all the staff so as to identify their area of competence and specialization. This is to ensure that the resources are allocated to the right task, at the right place and in the right time that may lead to increase in sales volume and improve the efficiency of their services.

5.3 CONTRIBUTION

The relationship between resource utilization tactics and competitive advantage in the Nigerian telecoms market was studied in this study. Previously studies have been limited especially in empirically depicting the relationship between resource utilization techniques and competitive advantage in the Nigeria telecommunication industry. For instance, Njorege (2015) study on organizational resources and performance of mobile phone companies in Kenya focused on human capital and technology. The current study contributes to existing knowledge by examining the utilization of resource planning and allocation and hypothesized them to check its significant effects on performance of selected firms in Nigerian telecommunication industry.

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