

## **FACTORS SHAPING PROJECT PORTFOLIO MANAGEMENT IN THE NIGERIA'S BUILT ENVIRONMENT**

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### **Abstract**

*Nigeria is a west African country with abundant natural resources and harbours a long term aspiration is to be among the top 20 economies in the global world by the year 2020. These lofty objectives can only be achieved and or realized through the requisite mega and multiple infrastructural development projects, programs and portfolios within the Nigeria's built environment. Portfolio is defined as projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives. However, Organizations still struggle with the resource sharing problem across projects as well as constant changes in their portfolios. Also, the rate at which many organizations' businesses and portfolios get abandoned or fold within one or two decades in Nigeria is worrisome. The aim of this research paper is to identify and discuss the factors shaping Project Portfolio management in Nigeria's built environment with a view of identifying, examining, and highlighting the impact of some selected factors on Project Portfolio management in Nigeria. It does not include organizational stocks. The study uses data from journals, conference papers, and the internet etc. which were used to review. This study identifies Nine factors in total out of which eight are internal factors while only one is*

*external factor. All together, they shaped project portfolio management by organizations within the built environment.*

*Keywords: Built environment, Businesses, Factors, Portfolio, Projects, Nigeria*

## **INTRODUCTION**

Nigeria is a west African country often referred to as the "Giant of Africa", owing to: its large population of 184 million inhabitants which is the largest in Africa and 7<sup>th</sup> in the world with a total area of 923,768 sq. km; and Economy with a gross domestic product (GDP) of \$377.6 billion and per capita GDP of \$2,400 (Holmes, 1987; CIA, 2014; wikipedia.org/wiki/Nigeria; Library of congress, 2008).Nigeria has abundant natural resources and ought to be one of the world leading economies but, unfortunately, Nigeria is still entrapped in a web of problems which hinders her growth (Library of congress, 2008; Bloomberg.com 2014 and ADB, 2013).The ADB report of 2013 also states that the Country harbors a long term aspiration is to be among the top 20 economies in the global world by the year 2020 (Vision 20:2020). The primary objectives are to:

- i. Create an enabling environment for green and inclusive economic growth;
- ii. Diversify the Nigerian economy;
- iii. Create employment opportunities; and
- iv. Reduce poverty.

These lofty objectives can only be achieved and or realized through the requisite mega and multiple infrastructural development projects within the Nigeria's built environment. These will make the built environment economically and investment viable in addition to the aforementioned resources. According to Olatunji *et al.*, 2016, the construction industry is vital for the development of any nation. In many ways, the pace of the economic growth of any nation can be measured by the development of physical infrastructures, such as buildings, roads and bridges etc. The 6<sup>th</sup> edition of the Project Management Body of Knowledge (PMBOK) published by the PMI, 2017, stated that Projects enable business value creation. These Business value in projects refers to the benefit that the results of a specific project provide to its stakeholders which may be tangible, intangible, or both (PMI, 2017).

Moreover, Projects are known to be the engine and catalyst for developments while adequate financing and funding are simply the fuel that makes the engine (projects) work. Such projects are normally initiated by the Public organizations (Government), the Private

Organizations (Investors) or a partnership of both known generally as the clients. In some cases, many projects will be on-going simultaneously and each has its own budget and duration while some may be similar while others are entirely different; all are meant to serve a business and or some specific organization's objectives. A collection of projects is called a program and to a larger extent a portfolio.

While a project is a temporary endeavor undertaken to create a unique product, service, or result; a program is defined as a group of related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually; whereas a portfolio is defined as projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives. Some organizations may employ the use of a project portfolio to effectively manage multiple programs and projects that are underway at any given time (PMI, 2017).

Portfolio Management (Pfm) is:

- A dynamic decision making process whereby, a business's list of active new products and projects is constantly updated and revised; new projects are evaluated, selected, and prioritized; existing projects are accelerated, terminated, or de-prioritized; and resources are allocated and re-allocated to the active projects (Cooper *et al.*, 2000).
- The combination of tools and methods used to measure, control and increase the return on investments at an aggregate enterprise level (Leliveld and Jefferey, 2003).
- A combination of people, processes, and corresponding information and technology that sensed and responded to changes such as investments and assets, risk, reuse, resources, monitoring and measuring project plans etc. (Maizlish and Handler, 2005)
- Project Portfolio Management (PPM) aims to complete a combination of projects under the sponsorship of a particular organization in which the projects share scarce resources. (Archer and Ghasemzadeh, 1999; Jonas *et al.*, 2012)
- PPM can be considered to be a set of business practices that integrates projects with other business operations and that includes key activities such as decision making on which projects are to be given priority, which projects are to be added to or abandoned /taken out of the portfolio, and how to allocate resources (Levine, 2005; Archer and Ghasemzadeh, 2004; Dammer and Gemunden, 2006).
- PPM involves projects that are selected and managed in line with strategy and that resources are allocated to projects with the optimization of the entire portfolio in mind (Archer and Ghasemzadeh, 1999a and b; Arto and Dietrich, 2004; Arto *et al.*, 2004).

As such, Nigeria as a developing country sets some higher development objectives must possess the ability to manage projects successfully and by extension programs, portfolios and all the projects within. These will require a lot of finesse and expertise in handling challenges that different projects within a portfolio may pose.

### Research Problem

Project portfolio management has received a stable and central position both in project management research, product development management research, and companies' management practices during the past decade. Despite the variety of instructions on how projects should be selected to the portfolio, how resources should be allocated across projects, how to align the entire portfolio with strategy, and how to assess the success of the portfolio, companies still struggle with the resource sharing problem across projects as well as constant changes in their portfolios (Englund and Graham, 1999; Elonen and Artto, 2003).

In Nigeria, most organizations belong to a category(ies) of industry by virtue of the products or services they offered. This is normally affected by their peculiar business environments, some business factors and its related dynamics based on where they operate as mentioned earlier. However, the rate at which many branches, warehouses and subsidiaries were opened and operated by the transportation companies, Petrol and Gas Stations, Shopping Malls, Manufacturing companies, banking sector, insurance companies, bottling companies, projects consultancy firms, bagging companies etc. and abandoned or fold within one or two decades in Nigeria is worrisome. These may be traced to how the portfolios of these companies are managed.

Despite the variety of instructions on how projects should be selected to the portfolio, how resources should be allocated across projects, how to align the entire portfolio with strategy, and how to assess the success of the portfolio, companies still struggle with the resource sharing problem across projects (Engwall and Jerbrant, 2003) as well as constant changes in their portfolios (Elonen and Artto, 2003). It appears that, despite the project portfolio management frameworks and their well-intended portfolio analyses and investment optimizations during portfolio planning, project portfolio management models are critiqued (Henriksen and Traynor, 1999), attention managers give to portfolio activities is inadequate and working with multiple projects overloads the employees (Zika-Viktorsson *et al.*, 2006; Elonen and Artto, 2003).

The alignment between project portfolios and customer relationship portfolios is a missing link between the increasing importance of PPM and the growing importance of the customer which is implicitly reflected in the objectives of single projects because their results

should satisfy a certain hierarchy of their needs and satisfactions (Voss, 2012). PPM can be understood as the hub of an intra-company system that connects projects and operations (Florice and Ibanescu, 2008). These requires different decision situations and different decision making approaches, which some authors asserted that combining decision-making approaches that were based on different logics might be difficult (Florice and Ibanescu, 2008) and it might lead to conflicts within the organization (Bessant et al., 2011). In addition, the dilemma in resource sharing is poorly understood and hardly solved in project portfolios and is just one among others. Many other deviations from the companies' PPM frameworks appear in the day-to-day practice (Blichfeldt and Eskerod, 2008).

### **Research Aim**

The aim of this research paper is to identify and discuss the factors shaping Project Portfolio management in Nigeria's built environment with a view of identifying, examining, and highlighting the impact of some selected factors on Project Portfolio management in Nigeria.

### **Research Scope**

The study only focuses on the construction projects within the Portfolios of various organizations, companies, firms and enterprises in Nigeria. It does not include stocks portfolios in the aforementioned organizations, companies, firms and enterprises.

### **Research Approach**

The main sources of data were from journals, conference/seminar/workshop papers, text books, newspapers, magazines and the internet etc. which were used to review literature in the Project Portfolio Management (PPM), Organizations, Business and its Operations related areas which helps to identify and narrow the factors that shapes PPM within the Nigerian and Global context.

## **LITERATURE REVIEW**

### **Project Portfolio Management (PPM) and the Executing Organizations**

A portfolio is a collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives. The projects or programs of the portfolio may not necessarily be interdependent or directly related (PMBOK® Guide – Fourth Edition). These components of a portfolio are quantifiable; that is, they can be measured, ranked, and prioritized. A portfolio exists within an organization and it consists of a set of current components and planned or future initiatives. Therefore, portfolios are not temporary like projects or programs. An organization may have more than one portfolio, each

addressing unique business areas or objectives. Proposed initiatives become part of the portfolio when they are identified, selected, and/or approved. (PMI, 2008a and b)

At any given moment, the portfolio represents a view of its selected components and reflects the strategic goals of the organization; however, specific projects or programs within the portfolio are not necessarily interdependent or directly related. By reflecting investments made or planned by an organization, portfolio management includes the processes for identifying the organizational priorities, making investment decisions, and allocating resources. Therefore, the portfolio represents the work selected to be done, but not necessarily the work that should be done. If a portfolio's components are not aligned to its organizational strategy, the organization can reasonably question why the work is being undertaken. Therefore, a portfolio is a true measure of an organization's intent, direction, and progress. Portfolio management is the coordinated management of portfolio components to achieve specific organizational objectives. While this standard focuses on "project portfolio management," it is referred to throughout as simply "portfolio management." Portfolio management is also an opportunity for a governing body to make decisions that control or influence the direction of a group of components (a sub-portfolio, program, projects, or other work) as they work to achieve specific outcomes. An organization uses the tools and techniques described in this standard to identify, select, prioritize, govern, monitor, and report the contributions of the components to, and their relative alignment with, organizational objectives. It is not concerned with managing the components. The goal of portfolio management is to ensure that the organization is "doing the right work," rather than "doing work right." (Ibid)

Most Projects landscapes are becoming more complex. In addition to effective and efficient single project management, companies require structured and proactive management of the project landscape to stay competitive (Elonen and Artto, 2003). Project Portfolio Management (PPM) aims to complete a combination of projects under the sponsorship of a particular organization in which the projects share scarce resources (Archer & Ghasemzadeh, 1999; Dye & Pennypacker, 2002). PPM can be considered to be a set of business practices that integrates projects with other business operations and that includes key activities such as decision making on which projects are to be given priority, which projects are to be added to or abandoned /taken out of the portfolio, and how to allocate resources (Archer and Ghasemzadeh, 2004; Dammer and Gemünden, 2006). Among the key issues has been that projects are selected and managed in line with strategy and that resources are allocated to projects with the optimization of the entire portfolio in mind (Archer and Ghasemzadeh, 1999a, b; Artto and Dietrich, 2004; Artto *et al.*, 2004; Englund and Graham, 1999).

Project resource issue raises many viewpoints of PPM in practice. On the one hand, projects must share their resources and knowledge, to diffuse good practices and learn from each other (Nobeoka and Cusmano, 1995, 1997). Such sharing can clearly benefit the entire portfolio as capability and technology synergies can be exploited and capacity use be minimized. On the other hand, however, projects should try and enhance their autonomy, to optimize their resource use in pursuing their own performance and business goals. Centering resources for a single project can also benefit the entire portfolio as project execution speed may be maximized and new products can be brought to market rapidly. Most of these start with the single projects which is an integral part of a portfolio of an organization (Martinsuo and Lehtonen, 2009).

Single project management (SPM) formalization includes the definition and implementation of standard tools (Milosevic and Patanakul, 2005), established standards (Nidumolu, 1996), defined procedures and processes (Dietrich and Lehtonen, 2005), tight controls (Liu *et al.*, 2008), and consistency across single projects (Payne and Turner, 1999). As the number of projects increases, it is particularly important to guarantee effective and efficient execution of project portfolios. This remains a challenge despite the formalization of single projects, which facilitates faster process implementation and better process quality (Ahlemann *et al.*, 2009; Garcia, 2005). Cooper *et al.*, (2001) emphasize the importance of a well-structured and consistently applied process for project portfolio management in new product development. Consistency of processes facilitates the management of interdependencies between projects and the comparison of divergent projects (Cooper, 2008). While companies are keen to invest heavily in education and (re-) certification of their project management professionals and to make use of external guidelines supplied by professional project management organizations to establish standardization, the re-turn on these investments in formalization remains uncertain.

In parallel, companies are confronted with customers demanding value-adding activities, such as joint product development, financing, or consulting services (Homburg *et al.*, 2002). Companies introduce concepts and processes such as customer relationship management (CRM) or key account management for a closer customer relationship and better service, aiming to create value both for the customer and for the company (Ernst *et al.*, 2011; Frow and Payne, 2009; Boulding *et al.*, 2005). Furthermore, customer prioritization and the management of customer portfolios have received more attention in research and practice (Homburg *et al.*, 2008; Homburg *et al.*, 2009; Terho, 2009). A customer portfolio should be managed along the customers' value contributions to the relationship portfolio, not just the customers' value contributions to the firm alone (Homburg *et al.*, 2009). However, optimization of individual portfolios does not necessarily optimize the overall business performance; an alignment between the different portfolios is needed (Tikkanen *et al.*, 2007).

Project portfolio management (PPM) must deal with the coordination and control of multiple projects. As such the Project portfolio managers pursue the same strategic goals and compete for the same resources, whereby managers prioritize among projects to achieve strategic benefits (Cooper *et al.*, 1997a). PPM has been developed into global standards as well as practical tool books that are expected to help companies organize and implement their own project portfolio management. Companies have adopted project portfolio management frameworks, including the use of project evaluation and decision criteria, project evaluation and control routines, and other means to formalize their project portfolio management (PMI, 2008; Benko and McFarlan, 2003; Cooper *et al.*, 2001; Martinsuo and Poskela, 2011; Muller *et al.*, 2008; Teller *et al.*, 2012)

PPM has become a central way for companies to manage their businesses (product development, services and marketing etc.) efficiently and effectively (Cooper *et al.*, 1997b; Rousell *et al.*, 1991). A lot of research attention has been on the tools and techniques for portfolio evaluation and prioritization (Hall and Nauda, 1990; Ringuest *et al.*, 1999; Spradlin and Kutoloski, 1999; Cooper *et al.*, 2002) portfolio-oriented product development process management, and resource management dilemmas and solutions (Hansen *et al.*, 1999; Hendriks *et al.*, 1999; Engwall and Jerbrant, 2003). Holistic project portfolio management frameworks have been developed and indicate that project portfolio management could well be seen as an overarching system and approach for managing product development (Archer and Ghasemzadeh, 1999a; Benkoan McFarlan, 2003; Cooper *et al.*, 2001; Dye and Pennypacker, 1999).

The frameworks and models for project selection, resource allocation and overall portfolio management portray project choices as a rational decision making process, which definitely has its merits. Successful firms have been shown to have a systematic approach for their portfolio evaluation, decision making and resource allocations Cooper *et al.*, 1997a, b, 2002; Fricke and Shenhar, 2000), and some studies show clear positive associations between some systematic methods of project portfolio management and selected measures of performance (Arto *et al.*, 2004; Dammer and Gemünden, 2007; Fricke and Shenhar, 2000; Müller *et al.*, 2008). Evidence on the factors explaining project portfolio management performance is still limited and more research is needed to test all aspects of the frameworks. With the call for more evidence, recent research is also beginning to question some of the underlying assumptions, particularly associated with viewing project portfolio management as a rational decision process (Blichfeldt and Eskerod, 2008). The assumption of project portfolio management as a rational decision process includes four underlying features that are rarely

discussed but have a major impact on how project portfolio management has been studied and executed in companies.

Firstly, the rational approach appears to assume that projects are obedient servants that exist primarily to fulfill the strategy of the parent organization. However, innovation projects are frequently used to purposefully question the strategy and are no longer necessarily limited to one company's strategic interests only (Artto *et al.*, 2008a,b).

Secondly, project portfolio selection and management frame works tend to assume that projects compete for the same resources and that all relevant resources are known and controlled by the company itself. Many of the optimization frameworks rely on such a premise despite an increasing tendency of companies to collaborate with external partners in product and service development (Artto *et al.*, 2008b; Martinsuo and Lehtonen, 2009), various interdependencies between projects (Nobeoka and Cusumano, 1995, 1997; Prencipe and Tell, 2001), and matrix organizations having limited control over project resources (Perks, 2007).

Thirdly, the rational approach appears to assume that companies are fully aware of all possible factors both internal and external – influencing the projects. Many of the previous studies delimit their attention to the projects that are well defined and whose environments are well known, even if also less well-defined projects are being found in portfolios and many portfolio environments are inherently poorly known (Blichfeldt and Eskerod, 2008; Loch, 2000).

Fourthly, the frameworks and related research assume that such knowledge about the projects and their execution contexts can somehow be embedded into criteria and routines that align the projects with strategy and, eventually, bring strategic benefits. Yet, there is increasing evidence that portfolio managers are not necessarily well informed (Blichfeldt and Eskerod, 2008; Elonen and Artto, 2003) and the criteria and routines do not solve multi-project problems as expected (Engwall and Jerbrant, 2003; Zika-Viktorsson *et al.*, 2006). As this overview shows, more attention needs to be paid to the assumptions associated with project portfolio management.

Theory and practice have to be developed concurrently, similarly to other science-based fields, where theory is explicated, tested and refined in a continuous dialogue between the scientific and practitioner communities". Reviewing these theories enables us to have a better understanding of Portfolio management (PfM) and outline a framework which can be used to further develop the discipline of PfM. The theories presented here were chosen due to the many-to-many relationship with the components described in the definition of PfM by Koskela & Howell, 2002; as cited and explained by Enoch and Labuschagne 2014. This relationship is explored here:

- i. Modern portfolio theory provides the financial investment management metaphor upon which PfM has been derived. It provides a way of looking at how investments

- are chosen based on objectives, the application of limited resources to these investment choices, and assessing the realization of benefits (ibid);
- ii. Multi-criteria utility theory offers a means for evaluating portfolio components using multiple criteria. This informs the selection, categorization, and prioritization processes which are essential in PFM (ibid);
  - iii. Organizational theory refers to the whole organization and is relevant for PFM as it is practiced within the context of the organization. Understanding organization design, structures, relationships, and behavior of managers is necessary when designing solutions for problems that affect the organization (ibid);
  - iv. Systems theory is applied in understanding dynamic processes and is suitable for PFM, which is a dynamic management approach that considers the total organization and its multiple disciplines (ibid);
  - v. Organizations are complex entities operating in complex business environments. Complexity theory helps us understand complex settings and enables us to successfully manage project portfolios and their components (ibid).

Managing Portfolios requires an effective strategy that will ensure success, reduce risk and achievement of the organizational objectives. Portfolio Management Strategies refer to the approaches that are applied for the efficient portfolio management in order to generate the highest possible returns at lowest possible risks. There are two basic approaches for portfolio management including Active Portfolio Management Strategy and Passive Portfolio Management Strategy (Sushant, n.d). Others include Conservative Portfolio Management Strategy and Patient Portfolio Management Strategy. The table below summarizes the PFM strategies and a brief description.

Table 1: Portfolio Management Strategies and their brief description

S/N	Project Portfolio Management Strategy	Description
1	Active Portfolio Management Strategy	Top-down Approach and Bottom-up Approach
2	Passive Portfolio Management Strategy	Management Strategy, financial investment strategy, Efficient market information handling in an Organization
3	Patient Portfolio Management Strategy	Decision based on well-known markets
4	Aggressive Portfolio Management Strategy	Decision based on expensive markets with a favorable returns
5	Conservative Portfolio	Carefully observing the market returns, earnings growth and consistent dividend history

Source: Sushant (n.d) and PMI (2015)

Therefore, companies that handle numerous projects simultaneously require a structured management approach for project portfolios, and project portfolio management (PPM) thus becomes a key competence to implement strategies and remain competitive (Martinsuo and Lehotenen, 2007; Bessant *et al.*, 2011; Dietrich and Lehtonen, 2005; Killen *et al.*, 2008).

Portfolio Management in organizations requires the use of models to provide a direction for PPM. Such models include Portfolio, Programme, and Project Management Maturity Model (P3M3); while the PMI model in PMBOK (project management body of knowledge) is used for single projects. Other models include Projects in controlled environment (PRINCE).

P3M3 is a management maturity model looking across an organization at how it delivers its projects, programmes and portfolio(s). P3M3 is unique in that it considers the whole system and not just at the processes. The P3M3 assessment can be tailored to meet the needs of an organization and can be deployed in multiple ways. P3M3 provides three maturity models that can be used separately to focus on specific areas of the business, or more generally to help the organization assess the relationships between their portfolios, programmes and projects ([www.axelos.com](http://www.axelos.com)). The model is further broken down into seven perspectives: Organizational governance, Management control, Benefits management, Risk management, Stakeholder management, Finance management and Resource management.

PMI asserted that Portfolio management goes beyond prioritization and the alignment of individual projects. Its ultimate benefit is having a systematic and thorough way to capture and distribute project investment information across the organization's strategic drivers and maximize the use of resource capacity to deliver that work. Effective portfolio management is essential to achieving the implementation of an organization's strategy and something that everyone can do well. Portfolio management is a tangible way to operationalize strategy. It allows organizations to make the most efficient use of resources and understand the benefits of each of their investments. It helps ensure credibility and increased accountability to stakeholders, and enhances the ability to make timely and strategic cuts when needed (PMI, 2015, 2013).

Organizations can only choose certain portfolios among a wide range of portfolios. The evaluation step is an enabler for the portfolio selection as it makes components comparable. Therefore, tools and techniques for evaluation allow the comparing of components in the portfolio based on carefully selected criteria. The portfolio management team can apply a series of evaluation criteria associated with various business aspects. These criteria should enable the measurement of the contribution of the component to strategic business objectives and could allow for tracking the benefits contribution expected from the component. (PMI, 2008). Some examples of evaluation criteria may include, but are not limited to: General business criteria,

Financial criteria, Risk-related criteria, Legal/regulatory compliance criteria, Human resources (HR)-related criteria, Marketing criteria, and Technical criteria. It is important to select evaluation criteria which best support the achievement of strategic objectives. Such criteria will also allow measuring the benefits contribution of a component both during the steps of the alignment process and the monitoring and controlling Process Groups (ibid).

However, Tools and techniques for portfolio balancing help the organization to effectively select and implement a portfolio with the best overall alignment to the strategic plan. Portfolio components can be balanced with one another, usually within the same category (categorization also being an attempt to balance components to address all of the diverse concerns and objectives of the organization), using a variety of qualitative and quantitative methods and software tools to support the decision making process and to allocate budget. It is important to balance the portfolio with respect to the diverse goals of the organization such as financial organizational development and operation performance goals. The portfolio management team applies available tools and techniques to ensure that the most desirable components are selected for inclusion in the portfolio (PMI, 2008, 2013). Some of these may include Human Resource Capacity Analyses, Financial Capacity Analyses, Asset Capacity Analyses, Cost Benefit Analysis, Quantitative Analysis, Scenario Analysis, Probability Analysis, Graphical Analytical Methods and Expert Judgment.

Expert judgment (from professionals with decades of experience) is used by the portfolio management team to assess the inputs needed to compare the components and to apply it to any technical and management details during this process. The portfolio management team also applies expert judgment to identify relationships between components which are under consideration. Such relationships may be independent components or components coupled together which include: Dependencies, Redundancies, Partial overlap, and Mutual exclusivity of components. (PMI, 2008). The challenges of organizations are managing this potentially diverse range of projects (Priffling, 2010) while ensuring that the right projects are selected (Elonen and Artto, 2005). Jeffery and Wilson (2004), conducted a study and found out that of 130 CIO's (Chief Information Officers) of Fortune 500 companies surveyed 89% were very aware of PPM, but only 17% were realizing its full value. While there are merits to adopting such an occupational or practice-oriented focus, little research effort has been focused on PPM competencies and standards. J.K. Crawford (2007) and L. Crawford (2007) suggest that there has been an increasing interest in project management competence with "project- based personnel actively seeking sound guidance on desired project management competencies as well as credentials that will enhance their careers".

## **Project Portfolio Management (PPM) Organizations and the External Environment**

The practice and context of PPM question the applicability of “traditional”, normative decision making centered project portfolio management, particularly in rapidly changing business environments. Although the popular press has suggested some dynamic solutions to portfolio management (Benko and McFarlan, 2003; Brown and Eisendhardt, 1998). The business environment is a marketing term and refers to factors and forces that affect a firm's ability to build and maintain successful customer relationships. The three levels of the environment are:

- i. Micro (internal) environment – small forces within the company that affect its ability to serve its customers.
- ii. Internal environment – can be controlled, however, it can't influence an external environment.
- iii. Macro (external) environment – larger societal forces that affect the microenvironment (Kotler and Armstrong, 1996).

The macro-environment refers to all forces that are part of the larger society and affect the micro-environment. It includes concepts such as demography, economy, natural forces, technology, politics, and culture. Factors affecting organization in Macro environment are known as *PESTEL*, that is: Political, Economic, Social, Technological, Environmental and Legal (wikipedia.org.)

The global environment refers to the macro environment which comprises industries, markets, companies, clients and competitors. Consequently, there exist corresponding analyses on the micro-level. Suppliers, customers and competitors representing the micro environment of a company are analyzed within the industry analysis (Dillerup and Stoi, 2006). Environmental scanning is an ongoing process and organizations are always refining the way their particular company or business goes through the process. Environmental scanning reinforces productive strategic plans and policies that can be implemented to make the organization get the maximum use of the business environment they are in. Environmental scanning not only helps the business find its strengths in its current environment but it also finds the weakness of competitors, identifies new markets, potential customers and up and coming technological platforms and devices that can be best used to sell/market the product or service. Environmental scanning helps a business improve their decision-making process in times of risk to the external and internal environments the business is in (Kroon 1995).

The political instability can influence the business and the duration of time that business/ organization is profitable. This includes but not limited to: Taxation Policy, Trade regulations, Governmental stability, political stability and Unemployment Policy, etc. When promoting, selling

a product it is important for an organization to consider the extra financial information including income and current rates, taxes etc. in the economy of the country. This includes but not limited to: Interest rate, Inflation rate, Growth in spending power, Rate of people in a pensionable age, Recession or Boom, Customer liquidations, Balances of Sharing etc. (Costa, 1995; Samson 2012).

Organizations also look at the cultural characteristics of the society and consider all values and customs that are often associated with the culture while they try to market and sell the product or service, such as: values, beliefs, language, religion, education, literacy, time orientation, lifestyle. The technological environment is becoming a lot more important in the modern day business environment. New technology produces new opportunities for companies and organizations to create, sell and promote a product. This includes but not limited to: Internet, E-commerce, Social Media, Electronic Media, Research and Development, Rate of technological change. A business might for example utilize recyclable and biodegradable packaging, thus making the most of the environmental opportunities to create a sustainable organizational in the current natural environment. This includes but not limited to: Competitive advantage, Waste disposal, Energy consumption, Pollution monitoring, etc. (Armstrong, 2012)

The legal factors influence trade agreements between different governments and states. The governments that have a well-developed public policy about selling and marketing goods may limit competition and place other obligations on retailers. This includes but not limited to: Employment law, Health and safety, Product safety, Advertising regulations, Product labeling and Labour laws etc. (Armstrong, 2012; Jeffs, 2008).

The Business Environment refers to all external forces, which have a bearing on the functioning of business. Environment factors "are largely if not totally, external and beyond the control of individual industrial enterprises and their managements. The business environment poses threats to a firm or offers immense opportunities for potential market exploitation. Environmental business solutions will give way to the environmental business opportunities. Environment includes such factors as socio-economic, technological, supplier, competitor and the government. There are two more factors, which exercise considerable influence on business. They are physical or natural environment and global environment. Technology is understood as the systematic application of scientific or other organized knowledge to practical tasks. Technology changes fast and to keep pace with it, businessmen should be ever alert to adopt changed technology in their businesses. In the economic environment There is close relationship between business and its economic environment. Business obtains all its needed inputs from the economic environment and it absorbs the output of business units. The political environment refers to the influence exerted by the three political institutions viz., legislature

executive and the judiciary in shaping, directing, developing and controlling business activities. A stable and dynamic political environment is indispensable for business growth. Within the natural environment, the Business, an economic pursuit of man, continues to be dictated by nature. To what extent business depends on nature and what is the relationship between the two constitutes an interesting study. The social and cultural environment refers to people's attitude to work and wealth; role of family, marriage, religion and education; ethical issues and social responsiveness of business ([www.indiastudychannel.com](http://www.indiastudychannel.com)).

The Projects within a Portfolio are not an exception. The success of the projects is directly proportional to the overall success of the portfolios and by extension the Organizations. Thus, the business environment which has always been dynamic must be captured and forecasted accurately.

### Factors Shaping Project Portfolio Management (PPM)

The literature reviewed highlight some areas of PPM within organizations, the difficulties and ease of use within the practice of PPM. The nature of Portfolios (multi-projects + Multi Programs and Sub-portfolios) requires a lot of attention, expertise and experience in aligning the proposed portfolios to the organizational objectives for the foreseeable short and long term survival of the organization. These is normally maintained at the initiation, planning, execution, monitoring and controlling phases of the projects and programs in the portfolios. However, the success, failure and viability of Portfolios is shaped by some factors; within the organizations and beyond the organizations control. The table below summarizes some factors identified from the literature that shapes PPM.

Table 2: Factors Shaping Project Portfolio Management

S/N	Factors shaping PPM
1	Strategic Alignment (Business Objectives Align to Portfolios and between the different portfolios)
2	Resource Allocation (Availability and Timely Allocation of resources to Projects in a Portfolio)
3	Single Projects' Performances (Performances of various Single Projects within the Portfolios)
4	The PPM frameworks and models (P3M3, PMI model, Prince2 etc.)
5	Project Portfolio Tools and techniques (Used for Selection, Evaluation, Decision Criteria analyses and for Portfolio Balancing)
6	Organizational Culture, Adopted PPM Theory and practice (Modern portfolio theory, Multi-criteria utility theory, Organizational theory, Systems theory, Complexity theory and Stakeholder theory etc.)

7	PPM strategy (Active, Passive, Patient, Conservative and Patient Portfolio Management Strategy)	Table 2...
8	Expert judgment (Rational Decision making by Highly Experienced, Reputable And Certified Professionals)	
9	The Global Business Environment (comprising the Political, Economic, Social, Technological, Environmental and Legal factors ( <i>PESTEL</i> ))	

Source: Compiled by Authors, 2018

## DISCUSSIONS

Organizations in Nigeria's business environment are similar to any in the world as they were created with a "Mission", "Vision" with an outlined set of "Objectives" which ultimately shapes what product and or service the organization will provide in its daily operations. Based on these Portfolios will be proposed, evaluated, ranked, prioritized, and selected using PPM tools and techniques which were normally used to analyzed a set of criteria. This is normally based on the ease of Alignment of the Portfolio to the organizational objectives. The selected Portfolio will be assigned the required resources such as Human and required material resources; executed through Multiple Projects, Multiple Programs and or Sub-portfolios.

How the Portfolios are managed depends or will be shaped by some factors internally and externally. The internal factors include the following:

1. Strategic Business Objectives Alignment to Portfolios and between the different portfolios.
2. Availability and Timely Allocation of resources to Projects in a Portfolio.
3. Performances of various Single Projects within the Portfolios.
4. The PPM frameworks and models (P3M3, PMI model, Prince2 etc.).
5. Project Portfolio Tools and techniques for Selection, Evaluation, Decision Criteria analyses and for Portfolio Balancing.
6. Organizational Culture, Adopted PPM Theory and practice (Modern portfolio theory, Multi-criteria utility theory, Organizational theory, Systems theory, Complexity theory and Stakeholder theory etc.).
7. PPM strategy (Active, Passive, Patient, Conservative and Patient Portfolio Management Strategy).
8. Expert judgment (Rational Decision making by Highly Experienced, Reputable and Certified Professionals).

These factors are internal as they relate to the organizations mode of operations, procedures, material and human resources. It is worthy to note that organizations manage portfolios through their portfolio managers whom are experts in the field. As such, the factor “Expert judgment requires Highly Experienced, Reputable and Certified Professionals to decide on key organizational issues pertaining to PPM is the most important because any decision affects the projects and ultimately the portfolios. Highly Experienced, Reputable and Certified Professionals translate theories in to practices, do decide which portfolio to select and align it with the organizational objectives, design the PPM frame work, its modalities, the PPM strategies, the PPM approaches, which and what resources is required, work with PPM models; these provides a good direction to the organization. However, it requires a buy-in from the various level of management and stakeholders. These will necessitate timely dissemination of the requisite information to the appropriate management personnel and stakeholders. The Knowledge and the expertise of the PPM experts serve as the knowledge repertoire which shapes organizations, their operations within portfolios, programs and projects. These ultimately determines the viability and survivability of organizations.

The external factors are the Global Business Environment comprising the Political, Economic, Social, Technological, Environmental and Legal factors (*PESTEL*). This is beyond the control of the PPM organizations. These environment is dynamic due to the aforementioned factors. It is beyond the control of organizations. However, a constant and intelligent scanning of the business environment and interpretation of its trends will give an organization a fore knowledge of which product and or service will be marketable and acceptable. It also helps organizations to decide on which portfolio to expand, allocate more resources and attention, also which portfolio will be stopped or terminated. These will prevent wasting time and money which are crucial to survival of organizations.

## CONCLUSIONS

This research identifies nine factors in total out of which eight are internal factors while only one is external factor. All together, they shaped project portfolio management by organizations within the built environment. They shaped how the organizations practiced, prepare and select portfolios based on some criteria that is evaluated using the appropriate tools and techniques, which strategy, approach, model will be effective, where necessary expert judgment will be used in decisions in PPM. Any Project, Program, Portfolio that is managed and controlled effectively will provide the Portfolio Managing Organization to utilize and optimize its resources to support other strategic Projects, Programs, Portfolios that are of significant value to the organization.

## WAY FORWARD

This study only reviewed and identified the factors shaping PPM in Nigeria's built environment, as such the following areas are recommended for further studies:

- i. Empirical research to examine the impacts of such factors shaping PPM in Nigeria's built environment.
- ii. A study to assess the success factors and criteria for PPM in the built environment.
- iii. An investigation to determine the impact of Expert Judgment in PPM
- iv. A research to determine the Stakeholder's performances in PPM.

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