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Introduction

Project management refers to the discipline of planning, organizing, controlling and motivating resources to achieve pre-determined goals within a specified time frame. Depending on the project being undertaken, the number of activities within a project varies. In sectors such as the construction industry, projects have become very complex. The complexity has emanated from the ever-increasing demands from customers and the complexity of the designs and scope of the project. Traditional approaches view project management as a process involving linear tasks that lead to the creation of value for the client. However, this view has been challenged by numerous changes that have taken place within the project management discipline. Coordinating players from different firms and different professionals have challenged the traditional approach and view of project management. As such, it has become clear that project management is a complex process that cannot be managed using the traditional approach to project management. Traditionally, the main focus of project management has been on time, cost, and tasks and quality (Lessard and Lessard, 2007). This view has neglected the human aspect of project management, which is as crucial as other inanimate aspects. The importance of the human aspect and how people interact to deliver value to the client has been realized through the analysis of project management using the human relations approach. The complexity of projects, therefore, calls for an integrated approach so that all the functions and tasks of a project can be synchronized. This paper will explore why viewing complex projects as a group of integrated systems or a system can facilitate client objectives’ delivery.

The emerging complexities within the discipline of project management has experienced the creation of different approaches to project management. The approaches have provided their
input to project management, but none has been successful in creating an approach that can integrate all the others (Levine, 2002). They include the traditional, functional, information processing, and relationship approaches. The traditional approach views project management as tools and techniques for application. The functional approach to project management focuses on the management of projects, task-driven agendas and supply chain management. On the other hand, the information processing approach views project management from an input-output perspective. Among these approaches, the relationship approach is a new paradigm that attempts to analyze project management from human interactions’ point of view. Since the relations approach is new, it has not been given enough attention in the past. The objective of this paper is to explore ways through which an integrated approach to project management can create value for the client and deliver their objectives. To achieve this goal, the paper will analyze literature related to the value of an integrated approach to emphasize the need for such an approach.

**Risk, Uncertainty and Project Complexity**

Complex projects bear immense risks and uncertainty. The risks and uncertainties originate from different sources. The environment within which projects are undertaken pose the greatest risk and uncertainty to project management. David Moore argues that projects in the construction industry are affected by factors such as weather changes, geology and soil composition and characteristics (Moore, 2002). Another source of risk and uncertainty comes from the human aspects of the projects. The project managers and clients plan, allocate resources and estimate the outcomes. Projects are extremely conscious about the budget and completion time. During the initial stages of planning, some aspects within the environment may be overlooked. Moreover, some of the planned aspects of the project may need modification
during the implementation process, after encountering uncertain conditions that had not been foreseen. Such changes may have large implications on the budget and completion time. Changes to the budget and time can reduce customer satisfaction and deny the contractor return business from the client (Lock, 2007). The client may demand changes to the project within the implementation process. Such changes affect many factors such as costs, time and schedules. Since the customer’s needs must be considered, the project manager is required to review the changes in terms of functional efficiency and alternatives. The review calls for the contribution of all internal stakeholders. The deliberations of this nature call for an approach that appreciates the process as a complex system that needs coordinating.

**Systems Theory**

Project development complexity has spanned across organizations and project teams. Such complexity has increased the number of factors affecting project management from within the project environment and from the outside environment. The internal environment of a project involves the client, the contractor and the design teams. This environment makes the core focus of project management. From the outside environment, external stakeholders who are likely to use the end product from the project may affect the project management. Suppliers of materials, consultants and subcontractors are external stakeholders affect the running of the project (Kerzner, 2009). When both the external and internal environments are considered, a complex web of relationships emerges. Managing complex projects requires a holistic approach where the entire organization is viewed as one system made up of different parts. The interrelation of various factors that enhance the creation of value for the client is consistent with the systems theory. According to the systems theory, a system is made up of small different parts known as
subsystems. The aggregate of the functions of different parts makes up the whole system. Since the entire system is dependent on the small subsystems, factors affecting the functioning of the parts affect the whole.

Graham Winch notes that, within the construction industry context, the success of projects depends on how well the engineers, architects, quantity surveyors and team members work together (Winch, 2002). To achieve the same results all the involved people must view the objectives of the project from the same perspective. They must understand that they work to create value for the client, and as such, they should put aside their differences and work towards creating the value. The systems theory distinguishes two types of systems. These include the closed and the open system. A closed system is one that does not respond to changes and occurrences outside its internal environment. A closed system is easy to predict because it does not adapt to changes. On the other hand, an open system is a system that responds to stimuli from the external environment. Changes outside the system are likely to cause other alterations within an open system. It is, therefore, difficult to predict the open system because it is dynamic and keeps on changing, depending on the changes occurring in its external environment.

From the analysis of the two types of systems, projects within the construction industry and the majority of other industries are open systems. The rationale for asserting this is that they are not self-contained, but rather are affected by changes outside the projects. For instance, if a supplier fails to deliver resources on time, the whole project will be affected in various ways. First, the project completion time will be delayed. Delays in the completion time have ramifications on the entire project because costs are likely to increase. The end users of the products may have to wait for longer than initially anticipated. Secondly, there will be under-
utilization of resources because the human resources will have to wait for the materials to be supplied. In return, the client may be unsatisfied because the contract involved maximization of resources and timely delivery of the product. The effects of simple changes in the outside environment of an open system create enormous effects to the entire project. Since many projects are affected in various ways by changes in their external environments, they can be termed as open systems (Dobson and Leemann, 2010).

All projects included in the definition of an open system focus on the following processes so that the entire system is managed and value is created for the client. The first focus should be identification of objectives, communicating and adapting them to the environment. Since the system is made up of various parts, the parts must work together to create the product for the client. In case of a project within the construction industry, the engineer, contractor, design teams and project teams must be synchronized to work together to achieve the pre-determined goals (Rothman, 2007). The end product can only be obtained by ensuring that the different parts of the system work towards the same objectives.

**Contingency Theory and Project Complexities**

The understanding of projects as open systems has implications on the traditional approaches to project management. These traditional approaches are rigid and follow a standard way of doing things. They are based on the management principles of the classical management theory with standardized methods of carrying out tasks. Projects as open systems demand that their management use contingency theory. Anthony Walker states that, in contingency theory, there is no single perfect way of doing things (Walker, 2007). In contrast, tasks should be carried
out using the most suitable method, depending on the prevailing conditions. This theory provides flexibility in the management of projects and enables managers to adjust them when faced with unpredicted situations. Although the classical theory of management seems to be outdated in dealing with current organizations, there are elements in it that are crucial to the project management process. The existence of hierarchies, for instance, defines authority and provides managers with the power to oversee the project progress. These hierarchies provide legitimacy to leaders to organize, motivate and plan project implementation.

The flexibility provided by the contingency theory is crucial to the application of the new approach to project management, the relationship theory. Traditionally, project management focused on the tools and techniques of managing projects in a linear perspective. Such focus is referred to as hard systems approach. The processes put in place were standardized and rigid, which made changes difficult. The result of such rigid structure is the lack of an integrated approach to project management that can view the process as a complex system. The old approach disregarded the part played by human interactions in project management. Stephen Pyke and Hedley Smyth state that relationship approach is crucial in both creating and managing knowledge (Pryke and Smyth, 2006). The approach of managing projects from a human perspective is called the soft systems approach. Transaction cost economics and project management theory see organization members as decision makers. The decisions they make define governance structure and adapt organizations to their environments. Managing systems involve making decisions, maintaining them, controlling the boundaries between subsystems and integrating outputs to ensure that they are compatible with the client’s requirements. All these human functions aim at creating value for the client. The relationships that exist in project
management can be classified into two main categories. These divisions are organizational and personal relationships. Organizational relationships can be individual, procedural or systematic, strategies and cultures, and structure. The individual relationship relates to situations where individuals act on behalf of an organization. The systematic or procedural relationships are enshrined in the system and determine how people should relate and operate. Strategies and culture define the systems to be used within an organization while structure defines governance, hierarchy, proximity and functions. On the other hand, personal relationships entail friendships, tasks, authority and sense of identity. From a relations approach, client satisfaction and project performance can be realized by understanding how relationships between people, people and firms, and between firms operate. To emphasize the importance of the relations approach to the field of project management, it should be noted that projects start from people’s relations when the client makes the first contact. Moreover, formulating a strategy is the first and the most essential part of project management. Strategy formulation uses human relations to lay down the strategy that drives the project to completion. Given that project management emphasizes on using the traditional approaches, the relations approach has not been fully integrated into the project management. Consequently, project management has not been able to optimize the client value since projects have not been managed holistically. The maximum value can only be realized when the project is viewed as a complex system whose every part must be synchronized. A holistic approach cannot be achieved unless the relations approach is applied. This is because human relations have been found an integral part of the value creation process. Therefore, both the soft and hard systems approaches are required in efficient project management.

Leadership and Organizational Culture Management
A skillful leader is required to guide the project to completion, given the risks, uncertainties and complexities (Gentle, 2002). A project manager is faced with the challenge of managing a project composed of people with different cultures. Moreover, the leader’s authority is exercised over a wider scope than in typical organizations. The characteristics of the environment within which the project is implemented requires a transformational leader. Such a leader can harmonize the different cultures and rally all the people to have the same vision and goals. Establishing a common culture that is acceptable to all internal stakeholders can unite the entire project parts and increase its synergy.

These relationships span across organizational boundaries and create a new dimension to project management (Heerkens, 2001). Andrew Denty, Stuart Green and Barbara Bagilhole argue that human interactions are valuable because they create efficiency and effectiveness of the projects (Dainty, Bagilhole and Green, 2007). A project may involve the client, contractors, suppliers and consultants. Internally, projects have teams that implement tasks. A client may have more than one project being managed by the same manager as part of the portfolio. All these projects in return may be related and their collaboration required. Such a complex scenario requires close links among people across the entire client programme. The links facilitate collaboration and fast execution of tasks. When relationships occur across teams and firms, networks are created. The networks created during isolated project interactions may be sustained beyond the completion of the projects (Wysocki, 2009). Maintaining such relationships, creates a competitive advantage for the manager, especially if the contract involves several projects with similar characteristics. The networks create synergy and make subsequent projects easy to manage because of the familiarity of the people involved in their maintenance.
Conclusion

From the literature reviewed, the importance of viewing projects as systems or group of integrated systems has emerged. The complexity associated with projects necessitates the need to view it as a whole system (Gido and Clements, 2009). Managing projects as different independent units may neglect some crucial parts, which may jeopardize the quality or timely delivery of the product to the client. For instance, the relations theory has shown how the different parts of the project relate to the larger goals through relationships. The aim of conceptualizing a project as a system is to ensure that the value expected by the customer is delivered on time and has the quality expected. Since relationships exist across teams and firms, understanding them can only be achieved through viewing projects as systems with small related parts. The diversity of people involved in implementing projects creates challenges for managers to synchronize workers’ cultures and focus on one goal. Each of the teams creates products that are later integrated to form the final product that is delivered to the customer. Therefore, a culture of collaboration is required to ensure that the teams can communicate with each other about their parts of the task within the larger system. The importance of approaching projects as a system has increased because of the perceived value creation for the client. Therefore, it is evident that perceiving project management as a system creates value for clients and enables project managers to achieve the client’s objectives.

Recommendations

All the existing approaches to project management have given varied dimensions of how project management should be perceived. This gives project managers the discretion to choose
the approach to use, which may depend with the type and context of the project. Although some projects may have unique specifications, an integrated approach that encompasses all the approaches is required. The integrated approach has the capacity to benefit the clients, managers and contractors. When an integrated approach is applied to project management, it becomes easy to manage complex projects. Such capabilities will allow clients to undertake several projects concurrently using the same teams of contractors, engineers and managers. The client will benefit from the economies of scale while the teams will benefit from the increased business. Since the management of many projects at a go can take time, the teams have a chance to create competencies through developing a culture that enhances collaboration.

To be able to approach project management as a system, the paradigm should shift where the relations approach will become a core concept in managing projects. The incorporating relations approach will help in creating efficient communication channels that are vital in enhancing performance in complex work environments.

Creating a uniting culture for people having different values and beliefs is an uphill task. Project managers who are able to create such an environment spend a considerable amount of time in the process. To avoid repeating the process of creating a uniting culture every time there is a new project, managers and contractors should enhance the teams’ capabilities. Once the capabilities are enhanced, negotiations with the clients should not be based on a project basis, but rather on a wide portfolio.
References


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