# Project Management Practice: Redefining Theoretical Challenges in the 21st Century

Abdulrahman B. Alotaibi[1]

Portsmouth Business School, University of Portsmouth, Portland Street, P01 3DE, Portsmouth, United Kingdom.
E-mail: abdulrahman.alotaibi@myport.ac.uk

Oluwasoye P. Mafimisebi[2]

Portsmouth Business School, University of Portsmouth, Portland Street, P01 3DE, Portsmouth, United Kingdom
Corresponding Author's Email: oluwasoye.mafimisebi@myport.ac.uk

**Abstract**

*From the incessant project failures, project delay and cost overrun to extreme difficulty in agreeing on what constitute project success and project management success, project management practice is more challenging in the 21$^{st}$ century than previously propounded. Therefore, the theoretical challenges facing project management practice were examined and the research findings indicate several ways in which the use of project management methods and standards can help in delivering successful output. This work has significant implications in the way project managers actually manage projects in practice. For example, we proposed that project management theory and practice are interdependent only when project management theories are beneficial and can be applied. This proposition has implications on project management practice because if project management theories are not particularly applied to manage current projects then it would be difficult to assess project management validity. In conclusion, the research limitations are highlighted and recommendations for future research were made.*

**Key words**: project management practice, project failures, project and complexity, project evaluation and performance.

## 1. INTRODUCTION

The 21$^{st}$ century project environment is characterised and driven by increase complexity, uncertainty, and multiple stakeholders competing for the project goals and objectives. The project management practices which are ostensibly influence by the theoretical approaches and models developed by different academics, practitioners and professional institutions are challenged. A significant issue observed from project management in the 21$^{st}$ century is that the nature of project has transform because of the large scale, uncertainty, and huge cost, several stakeholders' involvement in project and increase interests in project benefits (Fortune et al., 2011; Cicmil & Hodgson, 2006). This raises the question does project management practice really enhance tangible benefits to organisation. Specifically, we ask the crucial question regarding salient issue in project management – why should projects fail without achieving the project objectives if project management standards, models or strategies are actually apply in managing such projects? In this work, project management practice is conceptualised as the practical application of tools, techniques, models and standards of project management.

In this article we carefully discuss and reflect on the theoretical challenges of project management in the 21$^{st}$ century. This work has significant implications in the way project managers actually manage projects in practice. For example, we proposed that project management theory and practice are interdependent only when project management theories are beneficial and can be applied. This proposition has implication on project management practice because if project management theories are not particularly applied to manage current projects then it would be difficult to assess project management validity. From incessant project failures, project delay and cost overrun to extreme difficulty in agreeing on what constitute project success and project management success, project management practice is more challenging in the 21$^{st}$ century than previously propounded. It is irrefutable that every project has specific aim at the beginning but on the long run the project may fail to meet these aims. This is hardly surprising since projects face uncertainty, change, complexity and the stakeholders who arguably have conflict interests on the project.

In the context of the background above, project management is no longer about managing the sequence of steps required to complete the project on time (Besner & Hobbs, 2006; Maylor, 1999). It is about systematically incorporating the voice of the stakeholders, creating a disciplined way of prioritising effort and resolving trade-offs, working concurrently on all aspects of the project in multi-functional teams. Project management has evolved to plan, coordinate and control the complex and diverse activities of modern industrial, commercial and management change and IT projects (Lock, 2007). More recently Mir & Pinnington (2014) revealed that organisations are increasingly using project management as a tool to increase productivity. In a similar context, Fortune et al. (2011) reported that the use of project management methodologies and tools by project management professionals witnessed a significant increase in 2011 from 2002. For Thomas & Mullaly (2009) based on the extensive research spanning over four years conducted by the Project Management Institute (PMI) using 65 case study organisations from 14 different countries to find out what value project management deliver to organisations, the value deliver by project management is dependent on culture and implementation 'fit' with organisation needs.

It is unclear from previous studies whether it is the use of project management standards and models that actually

contributes to organisational success in managing projects. Some have even argued that given the context that the level of complexity in project differs, the effectiveness of project management approach seems uncertain. Perception of project management value and success are largely controversial because unconventional project management is more than meeting budget, time and quality but extended to cover stakeholders needs and satisfaction. In light of the above discussion, we based our discussions on the key strategic considerations likely to be encountered when planning and undertaking projects using examples of projects case studies known or revealed in the literature. Notably, there is insufficient appreciation of the size of challenges confronting project management practice in the 21st century.

Therefore we attempt to provide some of the theoretical challenges facing project management practice. In fact, we suggested that all projects share one common characteristic – the projection of unique ideas and activities into new endeavours and the ever-present element of risk and uncertainty which indicates that the events and tasks leading to completion can never be foretold with absolute accuracy (Lock, 2007). Following this perspective, project management practice is conceptualise as a difficult and complex task which requires that project managers should be aware of some theoretical challenges underpinning their practices.

## 2.      PROBLEM OF RESEARCH

One of the current conceptual challenge facing project managers relates to the phenomenon of "unexpected becomes the expected" and "unanticipated becomes the anticipated" which impact on the dynamics of the project management process (Pinto, 2014). Project organisations and project managers often struggle with triggering device of what might cause project to be delay, exceed budget and stakeholders dissatisfaction in the processes of managing projects. The unique nature of project in the 21st century presents several problems for project management. For example, there are increase pressures on project managers to win new project contracts, manage multiple projects concurrently, coordinate project staff and communicate project goals to different stakeholders. Drawing from systemic theoretical perspective, project failures are likely to result from strategic misrepresentation, engaging in destructive behaviour with project clients, operating in self-preserving manners regarding project planning and scheduling (Pinto, 2014), and lack of compliance with established project management standards.

There are number of studies that have concluded that numerous projects do not meet their objectives and some fail completely (e.g. Cicmil & Hodgson, 2006; Papke-Shields et al., 2010). The issue is why should project fail to meet its objectives when there are guidance on how to successfully manage projects. The other addition issue remains that perception of what actually constitute a project failure significantly and slightly differs across different project stakeholders. In fact, a project failure in one context to a particular stakeholder, for example – project sponsor, may not necessarily mean the same to another interested stakeholders.  In general, project failure is a function of the extent to which a particular project is managed and the nature of such project in terms of size, uniqueness and complexity, and stakeholders expectations. In the long run, learning from previous cases of project failures can serve as useful tool to avoid mistakes in managing present projects.

It is important to acknowledge that not all cases of project failures may be useful to project managers in practice because of the unique characteristics of project. This issue requires praxis re-evaluation in which theories of project management are examined in light of their practical application. In another perspective, bridging the perception and application gaps between project management theories and practices irrefutably remains the biggest challenge of project management practice in the 21st century. In this work, we contend that projects will continue to fail unless project management models and standards are appropriately applied to manage projects. The limitations of this perspective is broadly shared given that there are corollary models and standards found in other areas of management such as risk management and crisis management that can help project managers perform their roles and functions effectively and efficiently. The discussion surrounding these models and standards of risk and crisis management which could be useful innovative tools to complement project management practice are outside the scope of this research. The notable research of Mafimisebi & Thorne (2015) on risk perception and moral disengagement and Mafimisebi & Nkwunonwon (2015) on organization's resilience and robustness are useful to grounded account of how risk management models and strategies can be applicable to other areas of management. In fact, the several insights generated from different studies (e.g. Mafimisebi, 2013; Nkwunonwo & Mafimisebi, 2013; Mafimisebi & Nkwunonwo, 2014; 2015; Mafimisebi & Thorne, 2015; 2016) relating to moral disengagement could explain why project management cannot always guarantee project success.

## 3.      METHOD AND GENERAL ANALYSIS

In designing this work, we have designed the research based on published data and use selective review to make our case and provide evidence relating to the research focus and context. The research is organised by themes as against chronological patterns, and each theme is illustrated with illustrative (not comprehensive) citations. We recognised the limitation of the chosen method but it is argued that given the research question and context using published data represent the best available methods of investigating the research question. The purpose of project management must be clarified to understand some of the challenges facing project management practice in the 21st century.

According to Lock (2007) the purpose of project management is to foresee or predict as many of the dangers and problems as possible and to plan, organise and control activities so that projects are completed successfully in spite of all the risks. In the context of this work, it might be that using or employing a project management approach could guarantee and provide the assurance that organisations can benefits. It is also difficulty to conclude whether project would always be

managed successfully in practice. The project management process start well before any resource is committed, and must continue until all work is finished (Lock, 2007). But what exactly is project and project management? This question is address in the following subsection.

## 3.1 PROJECT VERSUS PROJECT MANAGEMENT

What is a project? And what is project management? These questions are critical for proper understanding of how employing a project management approach could provide tangible benefits to organisations. This is particularly true as the basis for establishing using or employing a project management approach within organisations and how such approaches could provide tangible benefits. According to Maylor (1999), a project can be defined as a non-repetitive activity. This needs to be augmented by other characteristics:

- It is goal oriented – it is being pursued with a particular end or goal in mind;
- It has a particular set of constraints – usually centred around time and resources;
- The output of the project is measurable;
- Something has been changed through the project being carried out.

On the other hand, the Project Management Institute (PMI) defines a project as a temporary endeavour undertaken to create a unique product, service, or result (Cobb, 2012). This definition seems essential in the context of this work. This is because it can help uncover how using a project management approach could then benefits organisations. Project management is a discipline – a set of methods, theories and techniques that have evolved to manage the complexities of work that is unique and temporary (Verzuh, 2008). Whereas, Maylor (1999) defined project management as the process of planning, organising, directing and controlling activities in addition to monitoring what is usually the most expensive resource on the project – the people. This definition provides the basis for outlining the project management approach as it shall be discussed later in this article. It is important to state that different definitions of project and project management exist in literature and there are conflicting views of the concept. This is arguably problematic for practitioners in the field of project management. However, we recommend that organisation use definition of project and project management that suit its strategic objectives.

## 4. ESSENTIAL FACTORS WHEN PLANNING AND UNDERTAKING PROJECTS

When planning and undertaking projects, the essential factors that are crucial to overall project management success and project success include some of the following:

1. Good Project Definition and a Sound Business Case: Projects are unique in terms of the outcomes they produce (Cobb, 2012) and how they are possibly conducted. It is therefore important to provide a good definition of the project before embarking upon such project. The criteria for measuring the project success and project management success should be stated and agreed before the project commences. In another perspective, there should be a business case for planning and undertaking projects (Lock, 2007) and extensive research on the project environment. Business case could help establish whether the project is viable in terms of the risks and returns on the projects. A good example is the Nuclear Power project (Myddelton, 2007). The challenge could be more difficult when organisations are running and managing multiple projects at the same time.

2. Appropriate Choice of Project Strategy: The choice of strategy to use in managing the projects need to be considered when planning and undertaking projects. This is important for the management of uncertainty, change and complexity that surrounds project. A strategy is a plan for putting resources into a position most likely to achieve the desired objectives effectively in a given situation (Cobb, 2012). In developing the strategy to use, this requires risk assessment, development of options, trade-off studies, and SWOT analysis. It is argued that combinations of these factors could help established whether to do the project or not.

3. Quick and Fair Resolution of Conflict: Project often involves multiple stakeholders with sometimes conflicting interests. Therefore, it is argued that the success or failure of any project depends on how quickly and fairly project conflict can be resolved. It is therefore important plans are in place to manage project conflicts. As in Wellman (2011), it is almost impossible to plan and undertake a project without any form of conflicts. In view of this, it is imperative for organisations to consider how conflict shall be managed and resolved without escalating.

4. Good Project Communication: Because the project schedule would provide a graphical arrangement of all project tasks through time, it has the unique ability to provide both a broad understanding of the project as well as a more detailed calculation of the work required (Cobb, 2012). As such, good project communication is arguably important in managing any complexity and uncertainty that may arouse. For example, the pace and timing of the project requires constant communication to stakeholders. In addition, project communication is needed to bridge the gaps between conflicting views of project stakeholders.

5. Availability of Sufficient Funds and other Resources: The availability of funds and other resources like competent human resources need to be considered when planning and undertaking a project. Consideration might include the level of competence required and availability of human resources, appropriate regard for the health and safety of the workforce connected with the project. For example, insufficient funds were part of the reasons the Eurotunnel project posed difficulty for the project managers.

6. Organisational Culture and Structure: The organisational culture and structure perhaps require careful examination when planning and undertaking a project. This is because the culture of the organisation might influence to some extent the success or failure of the project. Culture influence how project is manage and run, and further has implications on the reporting

system of the organisation. The issues to consider include: what support does the project team have from the top management? Do the project teams have common understanding of what constitute project success and project management success? How motivated are the project staffs? Does the organisational culture permit initiative and innovation in processes of project management? These questions are particularly important when planning and undertaking a project.

7. The Cost, Time and Performance Criteria: Organisations need to consider the cost, time and performance criteria when planning and undertaking a project. Project managers need to carefully define the criteria on which project success would be measured. Organisations arguably need to establish the success factors which have now extended to stakeholders expectations. It is argued to be impossible for a project to be completed successfully without first establishing these success criteria. The Eurotunnel channel was not completed in time and when it was completed with a lot of debts.

## 5. THE PROJECT MANAGEMENT APPROACH

The project management approach or project life cycle represents the linear progression of a project from defining the project through making a plan, executing the work, and closing out the project (Verzuh, 2008). Verzuh (2008) noted that at a first glance, the project life cycle might seem like the project management functions. Define, plan, execute correspond directly to definition, planning and control. However, Verzuh (2008) stated that the difference is that the life cycle is linear and the phase boundaries represent decision points. It is then crucial to look at the project management approach and discuss how it could provide tangible benefits to organisations.

1. Project Definition and Initiation: The project need to be properly defined at this stage. This can be a short phase but is important for proper understanding of the project context. The project initiation stage according to Cobb (2012) is the stage in which a project's key stakeholders first come together to define the broad outlines of a project. A Key objective of this stage is to come to a common understanding of what the project is supposed to produce and estimate what it will take to do so (Cobb, 2012). Critically, initiation stage can provide information to organisations and results in an assessment of whether a project fits with the organisation's profit goals or business model (Cobb, 2012). The RO1 airship (1922-1930) project is a good example here. Therefore, employing this approach in the management of organisation could yield tangible benefits to such organisations.

2. Project Planning: Building the plan for the project is arguably the next step once the project has been defined and the context of the project understood by the stakeholders. The planning stage involves the formulation and revision of statements of intended activity, whether formalised or otherwise (Maylor, 1999). Organisations need to examine the timing of the project, undergo a critical appraisal of both the project output as well as developing strategy to implement them. In another context Cobb (2012) further noted that this stage take notice of how project tasks will be arranged across the project's life cycle will be determined and mapped onto a project schedule. The Jersey Airport project is a good example of proper planning (Maylor, 1999)

   The plans need to be approved by the major stakeholders before any work can actually begin. In view of this, it is argued that if organisation employs this approach in managing the organisation it can enhance effective and efficient utilisations of resources within the organisation. As Lock (2007) revealed planning promote efficient working and operation when it is done sensibly and logically. Thus a well-planned project stands a far greater chance of being completed within time and budget (Lock, 2007). It is argued that planning could contribute largely to cost effectiveness and profitability. The Millennium Dome is a good example here.

3. Project Launch: The project launch is done once the planning is complete and initial resources are committed (Cobb, 2012). Experts and academics have revealed that beginning the actual work on a project is a critical juncture in any project's life and demands a great deal of leader attention (Maylor, 1999; Lock, 2007; Cobb, 2012). This approach could help organisations in paying attention to details and ensure that business operations went on smoothly without any form of disturbances. This stage is crucial. For example, the Tunnel Channel projects when it was launched face several difficulties.

4. Project Execution: This is the stage in which tasks are delegated to project team members and most of the project's work is done – is to keep the project on track once it has been launched (Cobb, 2012). However, working with the project team, leaders need to monitor and control the pace of project work, its costs, and performance quality (Lock, 2007; Cobb, 2012). It is important to state that using this approach could help in working with external stakeholders and maintain supports; ensure flow of project resources; minimise but adapt to project pressures, disruptions, and changes (Cobb, 2012; Wellman, 2011, Aven, 2003).

5. Project Closing: This is the stage at which the final products, services, and other project outcomes are delivered to the client (Cobb, 2012). This stage requires proper managerial and leadership attention and commitment. The organisations need to examine again the cost, time and quality of the project. Does this reflect the initial plans of the project? Critical reflection on the scope and management of the entire project is important. This will probably guide management in managing future projects. It is therefore important that organisations always incorporate this into the overall organisational goals and strategies. Again, organisations can learn from the Jersey Airport project experience (Maylor, 1999).

## 6. CHALLENGES OF PROJECT MANAGEMENT PRACTICE

Project is unique and temporary which therefore requires different management disciplines (Verzuh, 2008). Project poses numerous challenges to the organisation because if a project fails, the time, money and other resources spent on the project is

lost. For example, a case in mind is the Wembley Stadium which posed several challenges to the stakeholders (Lock, 2007). It may even damage the organisation reputation. The under-listed factors are some of the challenges associated with project management practice:

- Human resources: The human resource need of project management is the biggest challenge of project management practice in the 21st century (Mir & Pinnington, 2014). It is the human resource that plan and execute the project, and ensuring that project teams are competent enough to successfully manage the project to exceed stakeholders' expectation is crucial. Every project has different human resources needs with different skills. Most time it is difficult to get the right employees on the project and this staffing problem may therefore have several implications on the success of the project (Thomas & Mullaly, 2007; Verzuh, 2008). It is can be seen that project management practice face challenges in light of this research.
- Costing and estimating the resources: Project management practice depends a lot on forecasting in planning for the projects and the organisation (Verzuh. 2008). So, what happen when things deviate from the initial planning as arranged or intended? This could pose serious threat to the success of the project and that of the organisation. It therefore important that costing of the projects are as accurate as possible before the project commence. A lot of project failures known in literature are mostly due to wrong estimate or costing problem.
- Authority: While it may be correct that organisation charts define authority within the company, but quite often they represent the ongoing operation of the business (Verzuh, 2008). When projects therefore cut across boundary it may no longer be clear who is responsible for taking decisions (Cobb, 2012). Thus, this can lead to political manoeuvring within the organisation and create further problems for the organisations (Verzuh, 2008).
- Control: This is another area that may obviously impact on the project success. The organisations need to put control measure in place to ensure successful implementation and execution of the project.

## 7. PROJECT ENVIRONMENT AND BUSINESS ENVIRONMENT

A project does not obviously exist in isolation of the environment. Therefore, projects have relationship with their environment and in some cases with each other. The projects have to do with achieving set goals in the future and hence there could be risk and uncertainty associated with the intentions. Risk management is therefore arguably required in order to manage the uncertainty and risk associated with the project. The environments in which projects are undertaken are themselves subject to change over the project life cycle involved (Cobb, 2012). This perhaps requires flexibility of management and awareness of possible implications. The business environment of today is characterised by change, uncertainty and risk (Lock, 2007).

It is thus expected that modern organisations need to designed appropriate business strategies in managing the complexity and uncertainty that surrounds business and project. Organisations need to be aware of the economic, technology, government, social/community issues, environmental context and the organisational factors. Projects are influenced by the external factors and projects also influence their external factors. In view of this, organisations need constant monitoring of the external environment as well as the internal environment of the organisation. This perhaps could enhance adequate management of the conflicting demands of the stakeholders therefore reducing the risk of project failure and increase profitability.

## 8. WORK BREAKDWON STRUCTURE AND ORGANISATION BREAKDWON STRUCTURE

According to the Project Management Institute, a work breakdown structure (WBS) is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. Cobb (2012) noted that WBS organises and defines the total scope of the project and itemises all those tasks needed to do those larger jobs, and so in more details. It is instructive to note that the WBS is the foundation for the implementation of the project. In other words, the WBS provides layout of the project scope, project estimates and the organisational structure of the project (Lock, 2007; Cobb, 2012). This approach could arguably help in ensuring effective monitoring and controlling of the project. Organisations who possibly adopted this method in the management of operational activities could efficiently deliver on promise. The WBS can arguably help organisations in the following ways:

- Identify resources needed for each activity.
- Start estimating the cost and period of each activity.
- Determine the sequence and schedule of the activities.
- Define the quality criteria for each activity.
- Help to anticipate the likely risks the project might run into.

It seems critical therefore that organisational structure is also breakdown. The organisation breakdown structure could help organisation clearly identify how different people and functions are grouped and distributed within the organisation (Lock, 2007). For example, in the context of the organisation, different departments and roles could be created and appropriate employees assigned to such roles and department. This enhances accountability and division of labour within the organisation. More so, the organisation breakdown structure can assist management to implement plans and respond to changes in needs and any risks, uncertainties that may suddenly arise (Wellman, 2011; Chapman & Ward, 1997).

## 9. PROJECT STAKEHOLDERS

The organisations need to consider the stakeholders for a successful execution of the projects. Stakeholders have vested

interest in the projects and can therefore determine to some extent whether such projects would be successful or not (Rajegopal, Mcguin & Waller, 2007; Barlett, 2008). Stakeholders' engagement through open and continuous communication is imperative for project success. It is thus important to categories the stakeholders in order to develop appropriate strategies for managing them. Organisations need to identify who are the main stakeholders and what are their interest and demands (Verzuh, 2008). For example, the Channel Tunnel project was faced with a lot of conflicting interest of the stakeholders (Maylor, 1999). In this context, we argue that managing project stakeholders is critical to successful implementation of project. The needs of different stakeholders need to be identified, assess and manage at the different stage of the project life cycles.

## 10.      RESULTS OF USING PROJECT MANAGEMENT CONCEPT

Project management can help organisation to meet targets. Likewise, the reason for organising tasks as a project is to focus the responsibility, authority, and scheduling of the project in order to meet defined goals: 1. Schedule; 2. Cost; 3. Performance (quality); 4. Stakeholders' expectations.

Other major benefits a project management technique could provide to organisations:

1. Responsibilities and assignments for explicit tasks are easily identified: Project management approach could provide organisations the opportunity to assign responsibilities for a particular task. This will possibly enables effective controlling within the organisation. The result being that cost is reduced and unnecessary activities or tasks are cut off. This can obviously

2. Reduces need for continuous reporting: Project management approach could also enhances corporate accountability and reduces the need for continuous reporting within the organisations. It can possibly help organisations to know is responsible for what tasks and the level of accountability.

3. Progress can be measured against a plan: Using a project management approach could also provide the relief that progress within the organisation are being measured (Lock, 2007).

4. Time limits for task completion are more easily specified: Project management helps to identify the likely time it will take for a task or project to be completed. In the context of organisations, this could help focus resources on the appropriate channels and utilise them efficiently.

5. Helps to Anticipate Problems.

6. It helps to create broader awareness of the business environment.

7. It can help organisations to learn from experience.

## 11.      CONCLUSION

The main issue discussed in this research relate to whether it is possible to use project management approach to derive any tangible benefits for the organisations. The theoretical challenges of project management in the 21st century were revealed and implications for project management practice were considered. The work draw on existing literature to critically discuss how using a project management approach could provide tangible benefits to organisations. The findings revealed that project management is about managing projects from the time the projects begin to the end but also involves creating values and relationship with stakeholders. The study also indicates that employing a project management approach could help eliminate wasted time and efforts that would have been directed at irrelevant tasks. This work supports strongly that using project management approach at the strategic level of the organisation could help in establishing a business case for undertaking any investment. The research is limited to secondary data and therefore we expect that future research would consider the limitations when discussing the findings.

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