The Essence of Adaptive Project Management in Chaotic Projects

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Abstract

As today's contemporary projects are continually being enmeshed in messiness culminating in litany of underperformed or outrightly failed projects around the globe, the efficacy of traditional project management technique to rescue new generation projects that have plunged into chaos and ambiguity is now being called to question by practitioners and researchers alike. Furthermore, it is crystal clear that 21st century projects are rapidly changing at the speed of light while our project management capability is far from evolving at the par pace and hardly fits the bill. In the light of the foregoing statement, there is an urgent desire for new well thought-out roadmaps or methodologies to successfully manage today's chaotic and turbulent projects. And the current paper was born out of that desire.

This exploratory study looks closely into the nature of chaotic projects and why linear project management thinking is greatly incapacitated in addressing rigmaroles inherent in such projects. It also speculates beyond doubts that due to our increasingly unrealistic ambition and over bloated ego reflected in the choice of the projects we execute today, time is ripe for introduction of new pragmatic project management methodologies to manage our widespread chaotic projects. Therefore, the paper reviews adaptive project management technique (APMT), and in conclusion, suggests that switching to this technique may advance the management success of chaotic projects but still cannot be panacea to troubled projects that are usually fraught with bedlam, chaos, chanciness, vagueness and whatnot.

Introduction

Successful management of new age projects is being faced with daunting challenges and those challenges are arguably stemming from the unpredictable nature of the projects we often elect to execute in today's world. For instance, literature is already awash with the level of complexity and uncertainty that has come to characterise most of the contemporary projects, difficulties that managing such projects present and how traditional project management has distinctly proved to be inadequate in steering their ships to berth satisfactorily (Cicmil, Cooke-Davies, Crawford, & Richardson, 2009; Cooke-Davies, Crawford, Patton, Stevens, & Williams, 2011; De Meyer, Loch, & Pich, 2002; Jaafari, 2003).

Meanwhile, chaotic system has been defined as one that is difficult to manage because its behaviour is essentially difficult to predict (Bradley, 1995; Schuldberg, 2011; Thiétart & Forgues, 1995). Such system does not follow an easy-to-know linear path for long and has monumental tendency to precipitate into stirring chaos, uncertainty and ambiguity within such a little period as to confound even its expert designers.

It can also no longer be denied that we are now being constantly confronted with projects that are completely out of order and how to put such projects out of chaos has thrown major puzzle at all players in the field of project management. While the intense search for elixir methodology for managing chaotic projects continue, it is worthwhile that we review the concept of adaptive management which has cut its teeth in ecology study and been applied in other areas of study with a mind to determine if this concept can bring much desired improvement in management of chaotic projects.

Research Description and Objectives

Researchers and practitioners in the field of project management are beginning to appreciate the high tendency of contemporary projects to slip into chaos and the increasingly difficulties of managing them away from border of chaos. For instance (Geraldi, 2009) advises that management of projects must be flexible with a view that projects incorporate both order and chaos. Meanwhile, (Reichelt & Lyneis, 1999) note that most times project does not go as planned and unanticipated problems or alterations that can lead the project to different results from planned do occur. Moreover, future unpredictability of the project has been emphasized in (De Meyer, et al., 2002) nonetheless they subscribe to the fact that if distinctive uncertainty in projects could be correctly gauged then adaptability to the projects would be facilitated.

Management research of project uncertainty from variation to chaos has received a monumental attention and treatment from (De Meyer, et al., 2002). They discussed the type of uncertainty in chaotic project, project manager's role, managing tasks, and managing relationships suitable for such project. They recommended creation of iterative decision tree for chaotic projects in which project team must continually create new decision trees based on incremental learning. But alarming rate of project underperformance has again reiterated the need for the advancement of research in managing chaotic (wicked) projects as *necessity is the mother of invention*.

The current exploratory research was, therefore, contemplated to shed more light into dark side of chaotic project management by establishing if the principles of adaptive management can perhaps lead to improved management of projects in chaos. Although problems associated with adopting and applying ideas from other fields in project management have been expressed (Remington & Zolin, 2011), it must be known that most of the concepts and principles in project management also evolved from engineering and construction foundation (Aritua, Smith, & Bower, 2009) and today project management methodologies are being accepted across many disciplines.

The fundamental objectives of this study are: (i) to review the basic nature of chaotic project, (ii) to review the technique of adaptive project management, (iii) to establish if management of chaotic project could be improved by adaptive project management technique (APMT).

Research Design

Literature review methodology was employed to better explore information related to the theme of this current study. Although very scanty research works have addressed this area of study, relevant opinions and findings gathered from them proved to be useful in illuminating this current study, and the detailed outcome of the assessment of the literature is presented

comprehensively in this section in the following order: the basic nature of chaotic project, the adaptive project management technique, adaptive project management technique in chaotic project.

Basic nature of chaotic project

Projects that are subject to chaos, according to (De Meyer, et al., 2002), do not start out with reasonably stable assumptions and goals such that basic structure of the project plan is even uncertain. It must also be noted that they are plagued by uncertainties that put long term expectation or predictability under a cloud (Jaafari, 2003) and such projects are wont to resist established project management procedures. The characteristics of chaotic projects, in reference to (Geraldi, 2009), are their state of formlessness or disorderliness, uniqueness, undefined scope, unclear division of authority and responsibilities among others. While normal projects have been conceived to be linear and mechanistic (Keegan & Turner, 2002) in the design of traditional project life cycle (PLC)'s orientation, chaotic projects can be described as nonlinear that cannot be understood or managed with reductionist views.

In chaotic projects, complete deviation from original project plans is the hallmark (De Meyer, et al., 2002) and initial project objectives are not met. For instance in the case of Sydney Opera House, the project deviated from the original cost and time objectives. While cost rose from A$7million to A10million, it took more than 14years to be completed from the initial time budget of 4years (Kharbanda & Pinto, 1996).

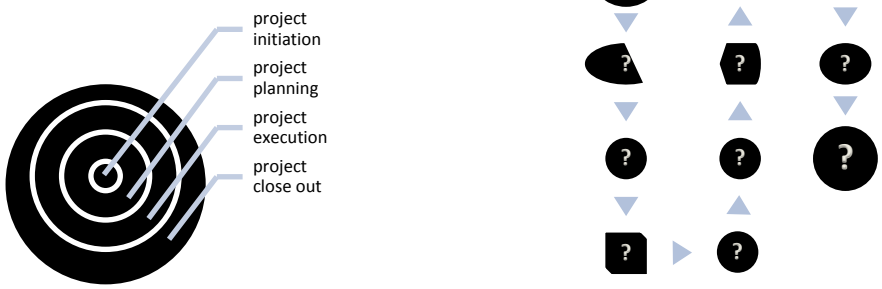

Fig 1 *Conventional project* *Chaotic project*

The adaptive project management technique

Adaptive management is an approach that underlines learning through management and recognises the philosophy that knowledge is imperfect and much of what we think we know is actually wrong (C. R. Allen, Fontaine, Pope, & Garmestani, 2011). In conventional project management philosophy, it is believed that much about the project is known or established prior to project kick-off. In this case, solution that appeals to the project initiators are selected (Priemus, 2010) often based on best guesses or sometimes best interest, and with little or no consideration to a proper problem analysis and an impartial appraisal of alternatives (Priemus, 2008). But adaptive project management technique (APMT) that is proposed in this study is in line with its conceptual bedrocks in ecological systems. Its underpinnings are that; there will always be inherent uncertainty and unpredictability in the dynamics and behaviour of complex systems as a result of non-linear interactions among components and emergence, yet management decisions must still be made (C. Allen & Gunderson, 2011). Such management decisions must therefore anticipate high probably of the need to make adjustments in the course of time.

Adaptive project management can therefore be defined as *gaining knowledge, skills, tools and techniques required in the course of managing project activities towards achieving project desired end results*. This definition is in contrast to the (PMI, 2008)'s definition of project management as the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Two types of adaptive management have been identified as passive and active adaptive management (Williams, 2011) and their possible meaning in project management context is discussed in this study. The passive adaptive project management is considered to recognise the effects that project management option or methodology may have on the project changes with possibility of learning being gained in the process while active adaptive project management is regarded to focus primarily on the effects that project management methodology or option may bear on learning gained as well as project changes during the course of managing the project activities. In the figure 2 below, both conventional project management and adaptive project management is integral in adaptive project management technique

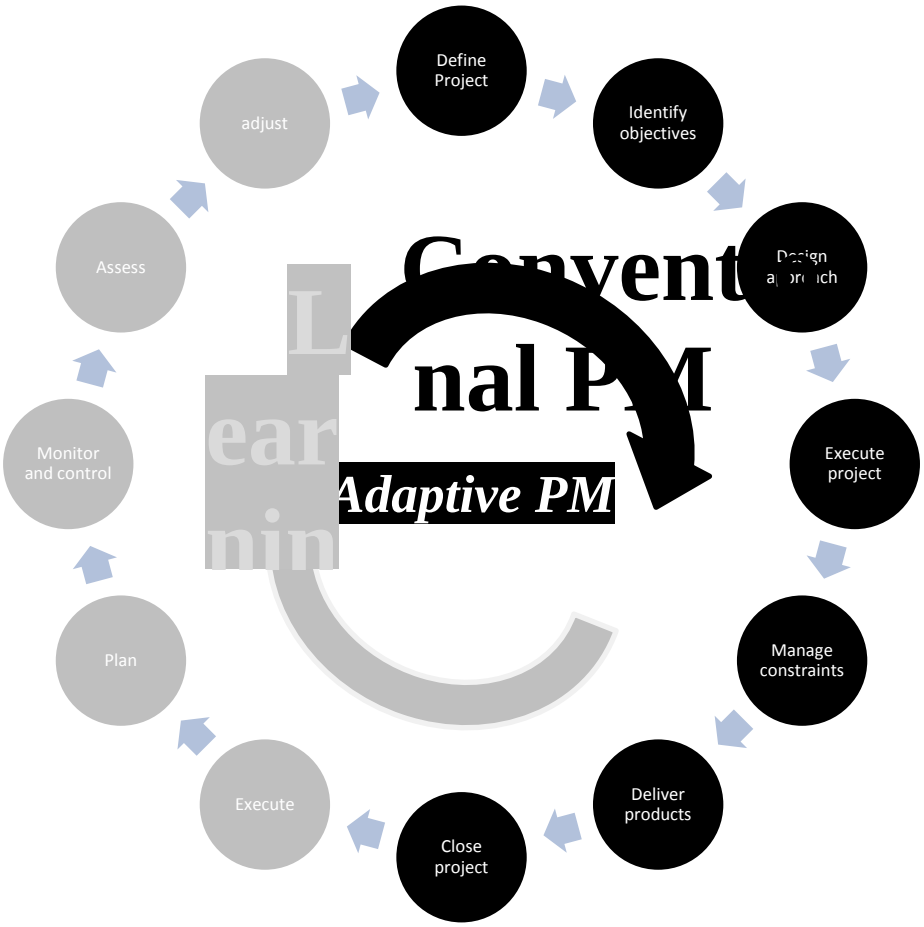

Fig. 2 Adaptive project management technique, adapted from (C. R. Allen, et al., 2011).

Adaptive project management technique in chaotic project

A project that is in chaotic state is characterised by uncertainties that cannot be solved by conventional project management methodology which assumes reasonable solution ideas have already been formed on project activities prior to project implementation. In chaotic state, it is absolutely imperative that cognitive learning about the project uncertainties be carried out before possible solutions can be identified and right ones prescribed. In a real chaotic condition of a

project, active adaptive project management technique is suggested because of its high uncertainty. Although both passive and active adaptive project management will use what is learned through time to reduce uncertainty (Williams, 2011) but active adaptive project management stresses continuous learning as project management options are being implemented in project activities. The author holds an opinion that problem can better be understood if it is learnt. In the context of project management, a project that is well learnt continually as it evolves will arguably have better chance of success than one that perceived best implementation solution has already been created for even before its kick-off. The proposed adaptive project management technique in this study is fashioned after the one suggested by (C. R. Allen, et al., 2011) for natural resource management which is shown in the figure 3 below.

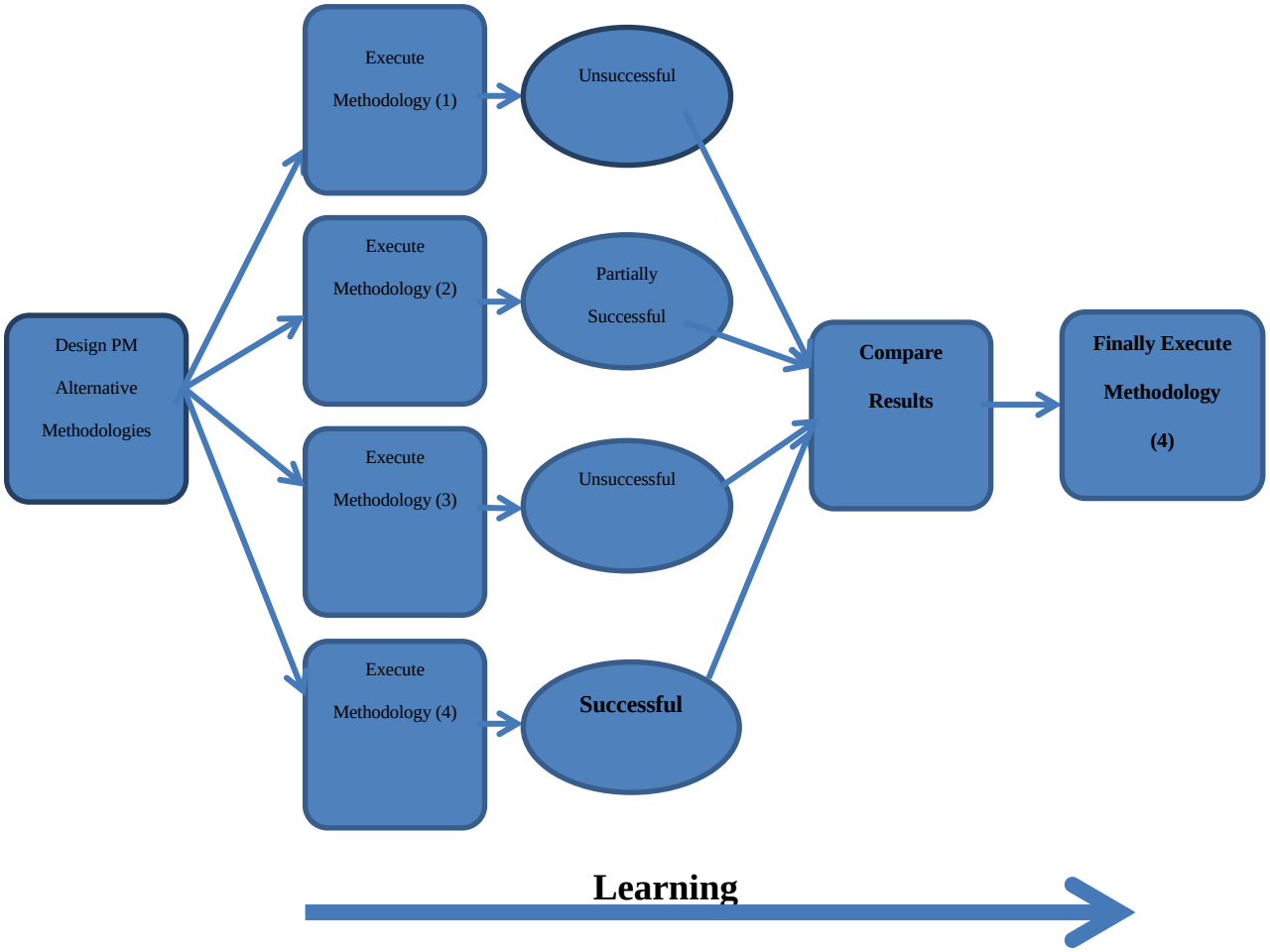

Fig. 3 Active adaptive project management technique for chaotic project.

Discussions and Inference

This exploratory study acknowledged the emergent chaos in the contemporary projects and argued that chaotic project is posing greatest known challenges to the practitioners in terms of its understanding and successful management. The study underlined the importance of developing alternative approaches to compliment conventional project management approach in managing

chaotic project as linear thinking of traditional project management has proved to be insufficient in addressing the problems associated with chaotic project.

Furthermore, the study has explored the concept of adaptive project management in which the need for continual learning in chaotic project has been emphasized. This concept has been originally designed for natural resource management in ecosystems but with this study, it has been shown that it can be employed in project management context to improve management of chaotic project.

In conclusion, the proposed adaptive project management technique, which suggested that many management options must be considered in managing a chaotic project, has been presented for consideration. This technique also highlighted the significance of "learning by management" as a better approach to navigating through a chaotic project as hardly can a problem be solved without learning through the problem.

Limitations and Recommendations for Further Study

Although this study has shown that adaptive project management technique can be potentially employed to improve management of chaotic project, the author opines that it may be poor fit for managing a chaotic project or mega-project with very high uncontrollability and outside influences, very long schedule, and low possibility of assessments. It is therefore important that potential users of this technique recognise this limitation.

However, further research can clearly test the efficacy of this technique in different kinds of projects and also suggest best way to successfully implement it. This will show further how the proposed technique in this study can be developed further to better meet challenges posed by chaotic projects.

References

Allen, C., & Gunderson, L. (2011). Pathology and failure in the design and implementation of adaptive management. *Journal of Environmental Management, 92*, 1379-1384.

Allen, C. R., Fontaine, J. J., Pope, K. L., & Garmestani, A. S. (2011). Adaptive management for a turbulent future. *Journal of Environmental Management, 92*(5), 1339-1345. doi: 10.1016/j.jenvman.2010.11.019

Aritua, B., Smith, N. J., & Bower, D. (2009). Construction client multi-projects – A complex adaptive systems perspective. *International Journal of Project Management, 27*(1), 72-79. doi: 10.1016/j.ijproman.2008.02.005

Bradley, E. (1995). Causes and effects of chaos. *Computers & Graphics, 19*(5), 755-778. doi: 10.1016/0097-8493(95)00057-7

Cicmil, S., Cooke-Davies, T., Crawford, L., & Richardson, K. (2009). *Exploring the Complexity of Projects: Implications of Complexity Theory for Project Management Practice*. Pennysylvania: Project Management Institute Inc.

Cooke-Davies, T., Crawford, L., Patton, J., Stevens, C., & Williams, T. (Eds.). (2011). *Aspects of Complexity: Managing Projects in a Complex World*. Pennsylvania: Project Management Institute Inc.

De Meyer, A., Loch, C. H., & Pich, M. T. (2002). Managing project uncertainty: From variation to chaos. [Article]. *Mit Sloan Management Review, 43*(2), 60-+.

Geraldi, J. G. (2009). Reconciling order and chaos in multi-project firms. *International Journal of Managing Projects in Business, 2*(1), 149-158.

Jaafari, A. (2003). PROJECT MANAGEMENT IN THE AGE OF COMPLEXITY AND CHANGE. [Article]. *Project Management Journal, 34*(4), 47-57.

Keegan, A., & Turner, J. (2002). The management of innovation in project-based firms. *Long range planning, 35*, 367-388.

Kharbanda, O. P., & Pinto, J. K. (1996). What made gerlie gallop? Lessons from project failure. New York: Van Nostrand Reinhold.

PMI. (2008). *A guide to the project management body of knowledge (PMBOK® guide).*

Priemus, H. (2008). How to improve the early stages of decision-making on mega-projects. In H. Priemus, B. Flyvberg & B. van Wee (Eds.), *Decision-making on Mega-projects: Cost-benefit Analysis, Planning and Innovation* (pp. 105-119). Cheltenham, Northampton: Edward Elgar.

Priemus, H. (2010). Mega-projects: Dealing with Pitfalls. [Article]. *European Planning Studies, 18*(7), 1023-1039. doi: 10.1080/09654311003744159

Reichelt, K., & Lyneis, J. (1999). The Dynamics of Project Performance: Benchmarking the Drivers of Cost and Schedule Overrun. *European Management Journal, 17*(2), 135-150.

Remington, K., & Zolin, R. (2011). Controlling Chaos? The Value and the Challenges of Applying Complexity Theory to Project Management. In T. Cooke-Davies, L. Crawford, J. Patton, C. Stevens & T. Williams (Eds.), Aspects of Complexity: Managing Projects in a Complex World. Pennsylvania: Project Management Institute.

Schuldberg, D. (2011). Chaos Theory and Creativity. In A. R. Editors-in-Chief: Mark & R. P. Steven (Eds.), *Encyclopedia of Creativity (Second Edition)* (pp. 183-191). San Diego: Academic Press.

Thiétart, R. A., & Forgues, B. (1995). Chaos Theory and Organisation. *Organization Science, 6*(1), 19-31.

Williams, B. (2011). Passive and Active Adaptive Management: Approaches and an Example. *Journal of Environmental Management, 92*, 1371-1378.