

## **Project Audit <sup>1</sup>**

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### **ABSTRACT**

A model based on a project lifecycle is used to establish a sequence of best-practice events. This is done to determine what needs to be done, when it needs to be done, and how it was done. The concept is that, when overlaid onto an existing project, the sequence reveals discrepancies between ideal and actual performance when compared to best practice. Investigation of these discrepancies may lead to the development of a new model ideally suited to the type of project. The audit was tested repeatedly over a large number of projects in the field, and was found to be best suited to low-cost, short-term special development projects.

### **1 INTRODUCTION**

From start to finish, a project moves through stages similar to an agricultural lifecycle. Investigation shows that the stages of the lifecycle have their own beginning and end. This sequence of events reveals a roadmap of actions that need to be performed on the way towards completing the project. Correct application of a sequence results in the probability of project success. A structural model represents the start of an audit procedure across projects that assists in understanding a process of success factors. An attempt is made to find an efficient application of resources, leading to determination of the most efficient processes.

### **2 BACKGROUND**

As a practising project manager, I was asked if it would be possible to manage a large number of projects simultaneously. I started by investigating literature – books, proceedings and journals, and found a widely-used definition that projects were novel and unique. I also found definitions which stated that all projects have a start and an end, and that time, effort and money were finite. This meant that projects were either unique or had similarities. Further investigation of literature found a deficiency in practical site experience. I next visited existing project sites, and found that the work of the project and the management of the project were two entirely different matters. The work of the project was more like pushing a wheel along the road, whereas the management of the project was more like a roadmap. This meant that finite detail could not be managed, but rather

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that the work team had to be given a waypoint that, when achieved, would indicate that they were on the right track.

Investigation of the project phenomenon as it occurs in nature revealed a comparative plant-based lifecycle – germination, growth, maturity, and death. As long as productive conditions prevail, the project would continue, but if these conditions ceased to exist, so would the project. In project management, these stages are referred to as feasibility, design, implementation, and close.

### 3 LIFECYCLE

Cleland and King (1988) found that there were four basic stages applicable to all projects. It was found that each individual stage of the lifecycle had its own sequence of events. This meant that a project team could concentrate on each stage individually, resulting in a number of projects being managed simultaneously. The sequence of events establishes waypoints to ensure that the project is on the right track. This culminated in the compilation of a model lifecycle to be used as a roadmap, assisting the achievement of a final destination, while enabling the measure of time, effort and money.

#### Picture of model lifecycle

PROPOSAL	PLANNING	IMPLEMENT	CLOSE-OUT
1. BENEFICIAL CHANGE	1. Start-up meeting	1. Site establish	1. Contract close
2. Project Manager: Champion:	2. Formal investigation	2. Procure equipment	2. Scope verify
3. Feasibility Study: Project Risk	3. Design	3. Monitor equipment delivery	3. Administration close
4. Resources constraint: No. of people: Labour hours: Equipment: Total \$ required	4. Specify	4. Quality Assurance & Control, Administer Contract	4. Financial close
5. Communication Plan: Stakeholder Analysis	5. Tender Solicitation /	5. Monitor contractor performance & Progress reports	5. Project report
6. Lobby for support	6. Evaluate	6. Install	6. Final meeting
7. Presentation	7. Risk analysis: Product Risk	7. Commission	7. Asset register update
8. Sponsor meeting	8. Negotiate	8. Hand Over	8. Lessons learnt
9. Sponsor approval: resource use 50% accurate	9. Sponsor approval: resource use 75% accurate	9. Sponsor approval: resource use 95% accurate	9. Sponsor approval: resource use 100% accurate
10.Sponsor(s) accept resource constraints	10.Contract	10.END CONDITION SMART GOALS	10.Team disband

The model shows that the achievement of the end of one stage is the permission to start the next stage. The model reads within individual stages, from the top, as the beginning of the stage, to the bottom, as the end of the stage. This sequence of events results in a strategic-level work breakdown structure, indicating a roadmap of activities that needs to be carried out on the way to completing the project. Each of the individual items within each stage can be further broken down to an operational-level work breakdown structure for more detailed analysis of the work having been done.

#### **4 APPLICATION**

Once the model had been established by testing in practice on many projects, and the similarities were noted, it was discovered that the model could be used to audit a project. The more that the correct application of the sequence of events had been employed, the more likely the project was to succeed. The less that the sequence of events was found to have been applied, the less likely the project was to succeed. There are many ways to reach the end destination, depending on the point of departure. It is necessary that the sequence of events in the model describe the best practice of the type of project that it is being applied to.

In teaching project management at masters-degree level, I used this concept as an individual assignment for students. The assignment consisted of the student approaching the senior management of their organisation and explaining that they had been given an assignment to audit a project. The student was to use a model lifecycle to audit a project of the management's choice, then to present findings to management and give them a report. Management would then award the student a mark, which I would then record as the student's achievement.

Management of the organisation was asked to provide a letter addressed to the academic institution, commenting on the usefulness of the audit and the achievement of the student. These letters indicated an overwhelming appreciation and support for the auditing process. Where a more detailed analysis was required, an operational-level form was developed, with which to interrogate the key points in order to establish success factors. The lifecycle and these forms were used to develop a project management system in the form of a diary and were later converted to software. This system was presented as *A Pencil & Paper Approach to Project Management*, and can be found in the Proceedings of the 1998 Global Symposium on Connecting Strategic Intent with Project Management, 14-16 December 1998, New Delhi, India, pp H11/1-11.

## 5 PURPOSE AND RELEVANCE

Being able to audit a project, in part or in full, helps to model a specific sequence of events according to the industry and type of project. If you don't measure, you are only guessing. The strategic-level work breakdown structure represents the start of a measure across developmental and economic structures, that helps to reveal a process of success factors to be employed. Repeated use of the project audit may also expose failure factors that could be avoided. Subsequent repeats of the process then develops a new model specific to the organisation and its environment, leading to a better understanding of efficient application of resources.

Project management tools and techniques are used to find the most efficient application of resources, whereas the audit attempts to find the most efficient processes. In combination, these two applications lead to an overall improvement of project management, and efficiency in understanding the goal of project management.

## 6 CONCLUSION

The four basic stages of a project contain their own sequence of events, which results in a structure indicating actions needed to be carried out, in order to guide the project to its end. The likelihood of project success improves when correct application of a sequence of events is followed. A project management system was developed, using a structured model. This represents the start of an audit methodology, and offers a process of success factors that can be employed. Project management tools and techniques guide the practitioner to the efficient application of resources. The audit seeks to find processes that result in project success.

## 7 REFERENCES

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## About the Author



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Professor Andre P. van der Merwe, BTech, MBA, PhD, has 25 years of practical site experience, receiving a management award for innovation by successfully completing more than 2000 simultaneously occurring projects within time and budget. His 20 years of academic experience include being the founder of the Association for Project Management in South Africa, serving as a member of the Global Forum for Education in Project Management, a committee member of the Doctoral Research Colloquium of Europe, a member of the editorial committee of “Management” journal, and a member of MENSA Society. In 2012, André had a traumatic brain injury, leaving him partially sighted. With the help of his wife, Marlette, he remains academically active and contributes to scientific papers.