

Management in the Built Environment

Series editor

Low Sui Pheng, National University of Singapore, Singapore, Singapore

The aim of this book series is to provide a platform to build and consolidate a rigorous and significant repository of academic, practice and research publications that contribute to further knowledge relating to management in the built environment. Its objectives are to:

- (1) Disseminate new and contemporary knowledge relating to research and practice in the built environment
- (2) Promote synergy across different research and practice domains in the built environment and
- (3) Advance cutting-edge research and best practice in the built environment

The scope of this book series is not limited to “management” issues per se because this then begs the question of what exactly are we managing in the built environment. While the primary focus is on management issues in the building and construction industry, its scope has been extended upstream to the design management phase and downstream to the post-occupancy facilities management phase. Management in the built environment also involves other closely allied disciplines in the areas of economics, environment, legal and technology. Hence, the starting point of this book series lies with project management, extends into construction and ends with facilities management. In between this spectrum, there are also other management-related issues that are allied with or relevant to the built environment. These can include, for example cost management, disaster management, contract management and management of technology.

This book series serves to engage and encourage the generation of new knowledge in these areas and to offer a publishing platform within which different strands of management in the built environment can be positioned to promote synergistic collaboration at their interfaces. This book series also provides a platform for other authors to benchmark their thoughts to identify innovative ideas that they can further build on to further advance cutting-edge research and best practice in the built environment.

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Project Management for the Built Environment

Study Notes

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Preface

Project management is as old as the history of mankind. Have you ever wonder who built the ancient pyramids of Egypt? Or who managed the building of the Great Wall in China? And closer to home, who managed the building of landmark Singapore projects such as the iconic Marina Bay Sands Integrated Resorts and the world-renowned Changi International Airport? It's the project manager who leads his team of designers and builders.

Projects need not be limited to iconic buildings. Projects are temporary work assignments to create a definitive deliverable, service or environment. All projects have defined scope, deadlines, budget, resource needs and end results that meet client's requirements. Projects are therefore temporary in nature but not the deliverables. Singapore's Garden-By-The-Bay will be around much longer than the time taken to build the project. But there are exceptions. Our National Day parade and its supporting infrastructures take months to plan and build, but the celebrations event last only a few hours. Once the project is completed, the project team disbands and its members move on to other projects. All projects are unique even if the team does the same type of project over and over again. The time it takes, the stakeholders involved and the environment are unique in each project.

What then is project management? Project management is about applying the knowledge, skills, tools and techniques to meet the requirements of the project client. This is accomplished through the five project management processes of initiating, planning, executing, monitoring/controlling and closing. Project management takes into consideration stakeholders with different needs and expectations. For example, while the client may wish to complete his project quickly, workplace safety must never be compromised. The competing demands of a project in terms of time, cost, quality and risks must be properly ascertained and managed.

Most projects start with an idea or concept which needs to be elaborated progressively to flesh out the details. Research complements project management to further refine the initial concept leading to concept clarification. With the concept clarified, a feasibility study is then conducted to establish the viability of the project. This provides the basis to define the project scope for the project manager to commence planning.

The project manager is guided by a body of knowledge in the planning process. This body of knowledge includes ten areas relating to integration, scope, time, cost, quality, human resource, communication, risks, procurement and stakeholder management. These knowledge areas establish for the project, what must be done, when should it be done, how much it will cost, how good should it be, who will do the work, how will information be delivered, what problems may be encountered, what resources must be obtained and how buy-in for the project can be obtained.

These knowledge areas can fit into different industries such as manufacturing, consulting, banking, construction and tourism. However, the approach to practicing project management would be the same regardless of the industry the project manager is in. Nevertheless, he needs to be aware of the different influences on project outcomes from the physical environment, cultural and social environment as well as the international and political environment.

In more complex project environments such as those found in the construction sector, these knowledge areas can be further extended to cover safety concerns, environmental issues, financial and claims management.

To manage the above influences, the project manager needs to possess general management and interpersonal skills. Apart from being able to plan, organize and control, the project manager needs to have good problem-solving and negotiation skills. As a leader, he is expected to motivate and communicate well to positively influence the project organization.

In reality, all of us have in one way or another functioned as accidental project managers without us even realizing it. Project management in its most elementary form is pervasive in many areas of our daily lives. In schools, students manage their project work. They work in unison with their classmates to deliver an academic product that meets prescribed quality standards within a stipulated submission deadline. It's a project when a school moves from existing facilities to a new building. In housing, when we renovate our homes, we are actually project owners who engage the services of the interior designers and contractors for the works. As project owners, we are involved with setting the scope, time, cost and quality targets for our house renovation projects. When an organization migrates from one computer platform to another, it's an info-communication technology project. Designing and prototyping a revolutionary fighter jet plane can be a new defence project. Learning more about effective project management should be our appropriate response to this realization.

In this book, you will learn about the five project management processes relating to: initiating, planning, executing, monitoring/controlling and closing. You will also learn about nine specific project management knowledge areas (PMBOK) relating to: integration, scope, time, cost, quality, human resource, communication, risks and procurement. You will also learn how these project management processes and knowledge areas map over different project life cycles and phases. In the last chapter of this book, you will also appreciate the professional code of conduct and ethical practices that all professional project managers subscribe to. This book does not cover stakeholder management, safety and environment as well as financial and claims management because their related issues would already be discussed in the

above-mentioned knowledge areas. Stakeholder management, for example, could be subsumed under human resource management and communications management.

The global construction market by 2020 is estimated to be worth some US\$10.3 trillion at constant 2010 prices. The worldwide opportunities for construction project managers are clearly very attractive. It has also been said that the construction industry is by far one of the most complex industries. By extension, if you have had experience as a construction project manager, the likelihood is that you can readily transfer your professional skill sets across sectorial boundaries to work in other industries both locally and globally.

Singapore, Singapore

Prof. Low Sui Pheng
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