Book Review

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The Handbook on Innovation and Project Management
by: Andrew Davies, Sylvain Lenfle, Christop H. Loch and Christophe Midler
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The Handbook on Innovation and Project Management strives to bridge two academic disciplines of innovation and project management written by 42 leading scholars in these fields. The book is an ambitious and innovative project in itself and it is deftly organised in multiple parts that seek to convergence and integrate, build and extend, and synthesise and cross pollinate. The final part offers a variety of cases, from system engineering to truly complex science projects, that highlight the blending of innovation and project management. One of the most impressive aspects of the handbook is the vast references associated with every chapter, making this a highly authoritative volume for all students, researchers, and practitioners that explore innovation and project management.

In Chapter 1 – *Introduction*, the authors made a powerful appeal for the rationale of this book – the convergence and synthesis of this book. The *Introduction* draws attention to some of the key challenges facing contemporary organisations, provides a clear examination of similarities and differences between project management and innovation management, offered a high-level review of key literature and progress in these disciplines, and concluded with an appeal for new directions for future research that includes artificial intelligence, grand challenges of our era, and circular economy built on sustainability.

Part I – *Converging and Integration*, contains six chapters that focus on the convergence and integration of innovation and project management. In Chapter 2, Geraldi and Soderlun explore the bridge between innovation and project studies at three levels of analysis. These include micro which includes individual and small teams, meso which is the project level, and macro which encompasses the relationship between projects and the broader context. Georget and Maniak in Chapter 3 analyse the evolution and the cross-fertilisation of corporate entrepreneurship and project management also the linkage with corporate strategy. In Chapter 4, Holzmann and Shenhar discussed the natural similarities and convergence of innovation and project management and makes the case that innovation and project management are actually two parts of the same consolidation process in which ideas are turned into realities. In Chapter 5, Lews, Harrison and Rochrich, focuses on the front-end of the innovation, the concept of 'fuzzy front-end' and how the two disciplines can share insights to further both disciplines. In

Chapter 6, Tillement, Garcias and Charue-Duboc apply the exploitation/exploration framework in the analysis of complex project management and illustrated the challenges of entanglement by drawing on a case study of a complex project, the first French Generation IV nuclear reactor. In the final chapter of Part I, Mider and BenMahmound-Jouini investigate the relationship between global innovation projects and global innovation management of multinational corporations and present two cases to illuminate how these two approaches can work together.

In Part II – *Building and Extending*, the five chapters advance the existing concepts and frameworks in innovation and project management by offering new insights. In Chapter 8, Maniak and Midler examined two recent ways of implementing innovative projects through synthesising lineage management and ambidexterity. Next Lenfle (Chapter 9) discusses a special type of project, the exploratory projects (EP). The EP projects are complex in which both the project goals and the means of achieving those goals are inherently uncertain. Lenfle presented a brief history of EPs, a sample of the recent progress, and the road ahead. In Chapter 10, extending the current studies on innovative projects, Loch, Sommer and Jiang examined managing novel projects and its unforeseeable uncertainties through learning in projects. Illustrating the core concepts through two cases, the 'rapid manufacturing project' at the European Motors and the closing example of 'flying car', the authors propose a process of integrating learning into project management. Chapter 11 shifts the emphasis toward portfolio management. Here, Kock and Gemunden propose a decision-making approach that identifies different groups of success factors for different stakeholders on innovative projects. These groups of success factors include traditional PPM, up- and downstream, human resources, strategic frame, and long-term factors. Extending beyond the project-level, Van Den Ende and Blindenbah-Driessen investigate innovation in project-based organisations and described key advantages of proactive and continuous innovation.

Part III is more ambitious by examining with the intention to cross-pollinate concepts, theories, and frameworks from outside the traditional innovation and project management disciplines. There are six chapters in this section, starting with Noorderhave (Chapter 13) on enabling collaboration and trust in innovative projects. Here, the author provided a broad overview of trust and collaboration and highlighted key gaps for more studies. In Chapter 14, Loch, Kavadias and Sommers propose a 'cultural evolution model' to show how project management practices are culturally learned and adopted to enable a more dynamic environment. In Chapter 15, Manning and Vavilov apply examples from international development, filmmaking, and event organisation to examine social innovation and their challenges. The next chapter is a shift from studying project management in isolation toward a broader organisational context. In Chapter 16, MacAulay, Davies and Dodgson introduce the concept of 'project innovation ecosystem' where projects are viewed as a member of the broader organisation ecologies capturing value through innovation. Next, Hooge and Lenfle in Chapter 17 consider value management beyond the traditional economic measures to tackle the larger and more intractable problems, such as climate change facing contemporary societies. In the final chapter of this part, Cancellieri, Cattani and Ferriana made a stimulating appeal of applying a robust product design that balances between instilling innovation and embedding conventionality simultaneously.

Part IV of the handbook is especially invaluable as it attempted to weave the book's core concepts with rich case studies to illustrate innovative processes and practices and

creating additional lines of inquiry. There are five cases that covers a wide range of projects including system engineering (Chapter 19 by Johnson), the growth of the agile methodology in software development (Chapter 20 by Davis and Pinto), applying project capabilities to major public events (Chapter 21 by Cacciatori and Prencipe), leveraging technology and platforms on the UK construction industry (Chapter 22 by Whyte, Mosca and Zhou), and managing truly big science projects as in the case of nuclear fusion (Chapter 23 by Dogson and Gann). Below is a concise summary.

- In Chapter 19, Johnson explores the evolution of systems engineering and its integration with project management, particularly in managing large complex technological projects. It traces system engineering's history to the mid-20th century, and it highlights the critical role of system engineering in linking management and engineering teams, facilitating technological integration, and ensuring project success through systematic control methods like configuration management. It also discusses the shift towards model-based systems engineering (MBSE) to address modern project complexities.
- In Chapter 20, Davis and Pinto focus on the synthesis of Agile project management with corporate innovation. It highlights Agile's flexibility in handling changing customer needs, ambiguous requirements, and project uncertainties, contrasting it with the traditional 'waterfall' method, which is more linear and less adaptable. Agile encourages iterative development, continual client feedback, and rapid prototyping, which is essential in today's dynamic business environments. The chapter also touches on Agile's origins in software development and its broader appeal across various project types, emphasising Agile's role in enhancing project success by constantly aligning product development with evolving customer expectations and market demands.
- In Chapter 21, Cacciatori and Prencipe explore how project capabilities influence innovation in project-based organisations, particularly using the Italian Civil Protection Department's management of the Rome Jubilee as a case study. It discusses the evolution of these capabilities through 'vanguard projects' that help firms enter new markets by leveraging and expanding existing resources and capabilities. It also highlights the role of firm-level strategies in facilitating the transfer of innovations across projects, contributing to both organisational learning and the development of new capabilities.
- In Chapter 22, Whyte, Mosca and Zhou explore the impact of digital project capabilities and platforms in the construction industry. It focuses on how digital information and tools are reshaping project-based industries by facilitating new connections throughout project life cycles. This approach helps firms gain competitive advantages through economies of scale and design efficiencies. The narrative is highlighted with a case study on UK construction, demonstrating practical applications and changes in project relationships due to digital platforms, emphasising innovation and strategic shifts in project management.
- In Chapter 23, Dodgson and Gann discuss the significant role of big science projects like CERN, ITER, and the Square Kilometre Array in advancing scientific knowledge and contributing to industrial innovation. These projects, which involve substantial infrastructure and collaboration across countries, are not only central to

scientific progress but also spur technological advancements across various sectors such as construction, manufacturing, and digital technologies. The chapter examines how these projects, often initiated without direct commercial intent, can lead to unexpected industrial applications and innovations, citing the internet and lasers as examples. It emphasises the need for further research into the innovation dynamics within big science projects due to their complexity, scale, and potential for societal impact.