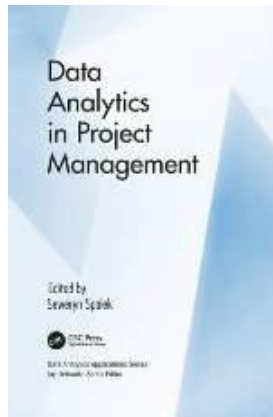

PM WORLD BOOK REVIEW¹



Book Title: ***Data Analytics in Project Management***

Author: **Edited Seweryn Spalek**

Publisher: CRC Press

List Price: \$59.95 Format: Softcover, 236 pages

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Reviewer: **Charlotte McKenzie**

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Introduction

The saying "Information is the lifeblood of all organizations" resonates deeply within the realm of project management. Indeed, effective project management hinges on the availability of pertinent data for analyzing past, present, and future performance. In the book "Data Analytics in Project Management," edited by Seweryn Spalek, the crucial importance of identifying and leveraging the right data elements in project management is underscored. This emphasis serves to enhance decision-making processes and overall project performance.

The integration of data analytics into project management is gaining increasing traction due to its potential to revolutionize decision-making, elevate project outcomes, and streamline resource allocation. Within the context of project management, data analytics finds application across multiple domains, including risk assessment, resource management, schedule optimization, and performance monitoring.

Overview of Book's Structure

The book comprises 10 chapters authored by a diverse group of subject matter experts, each delving into specific facets of data analytics within project management. These chapters present a mix of essays, case studies, and research papers, thoughtfully arranged according to the table of contents for easy navigation. Covering a broad spectrum of topics, the chapters are as follows:

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1. Chapter 1: Introduction – Recognizing Data Analysis as Integral to Successful Project Management.
2. Chapter 2: Why Data Analytics in Project Management? – Exploring the Imperative of Data Analysis.
3. Chapter 3: Data Analytics Risk: Lost in Translation? – Unraveling Risks and the Role of Data Analysis.
4. Chapter 4: Analytical Challenges of a Modern PMO – Addressing the Role and Hurdles of Data Analysis within the PMO.
5. Chapter 5: Data Analytics and Project Portfolio Management – Emphasizing Decision-Making Metrics.
6. Chapter 6: Earned Value Method – Analyzing EVM for Project Management.
7. Chapter 7: How to Manage Big Data Issues in a Project Environment – Strategies for Navigating Big Data Challenges.
8. Chapter 8: IT Solutions of Data Analytics as Applied to Project Management – A Detailed Case Study.
9. Chapter 9: Conventional and Unconventional Data Mining for Better Decision Making – Harnessing Data Mining for Enhanced Decision Making.
10. Chapter 10: Agile Project Management and Data Analytics – Exploring Agile Values and Processes.
11. Chapter 11: Data Analytics and Scrum – Navigating the Convergence and Divergence of Scrum and Data Analytics.

Highlights

The data landscape is constantly evolving, influenced by various factors that shape its dynamics and trends. Currently the rate of change is exponential. So it is imperative that the project team is well aware. Rapid advancements in technology, such as cloud computing, artificial intelligence (AI), machine learning (ML), and big data analytics, are driving significant changes in how data is generated, processed, stored, and analyzed.

The volume of data being generated continues to grow exponentially, fueled by the proliferation of digital devices, sensors, social media, and IoT (Internet of Things) devices. This massive influx of data presents both opportunities and challenges for organizations

in terms of managing and deriving insights from this wealth of information. Additional factors include the Regulatory Environment, Data Governance and Ethics, Data Democratization, Data Security Threats, Data Interoperability and Integration, Emergence of Edge Computing, Cultural Shifts, and Global Events and Economic Trends. These factors collectively contribute to the evolving nature of the data landscape, shaping the way organizations collect, manage, analyze, and derive value from data in an increasingly interconnected and data-driven world.

Understanding the distinctions between structured, semi-structured, and unstructured data is crucial for organizations to effectively manage, analyze, and derive insights from the diverse array of data sources available to them.

As an outgrowth of the evolving data landscape the book discusses the impact on the data resources. As stated, data can be classified into various types based on its structure, format, and characteristics. The two primary categories are structured and unstructured data, with semi-structured data falling somewhere in between. Because of the differences, the various categories of data should be treated/processed based on the disparities. The team must be sensitive to paring the data with differing data analytical methodologies. Before data can be analyzed, it must be prepared for analysis. This means the team should be in a proactive stance: knowing where to start, who to assign the various tasks, what steps to take and when to address the various aspects of analyzing data. These considerations expand the project timelines and knowledgebase.

Even so, the benefits of the aforementioned is the context for data analysis. For me this is a significant highlight. As the rate of change in the data landscape accelerates, it becomes crucial for project teams to stay well-informed and adaptable to the evolving dynamics and trends. Overall, understanding the context for data analysis within the evolving data landscape is crucial for organizations to harness the full potential of their data assets and drive informed decision-making.

Highlights: What I liked!

There were several aspects of the book that I found particularly appealing. Firstly, it was exceptionally easy to digest. The language used throughout was both clear and concise, sparing me the need to constantly reference unfamiliar terms or phrases. Secondly, as a staunch advocate of Agile methodologies, I was particularly drawn to Chapters 10 and 11, titled "Agile Project Management and Data Analysis" and "Data Analytics and Scrum", respectively. These chapters expertly delved into the application of Agile principles and methodologies within the realm of project data analytics. Thirdly, the book provided a comprehensive historical overview of the evolving landscape of data analytics, tracing its progression from version 1.0 to the current iteration, version 3.0. It adeptly highlighted the disparities between each version and their respective impacts. Lastly, the book went beyond merely presenting data analytical algorithms; it provided an in-depth exploration

of their intricacies. Rather than just showcasing outcomes and advantages, it guided readers through the journey necessary to attain the desired results.

Who might benefit from the Book

This book offers invaluable insights for stakeholders engaged in project management. By delving into data analytics techniques and their application within project management, it furnishes practical examples and best practices crucial for leveraging data analytics to propel projects to success and realize organizational goals.

The book caters to a broad spectrum of stakeholders, including the Project Management Office (PMO), senior management, executives, project managers, project teams, clients, business analysts, data analysts, quality assurance professionals, and risk management specialists. These individuals play pivotal roles in developing and endorsing project methodologies, standards, and best practices. Furthermore, they are responsible for spearheading initiatives such as establishing performance metrics, tracking key performance indicators (KPIs), and fostering an environment of continuous improvement—all of which are integral to project success.

In essence, comprehension of data analytics techniques and their integration into project management processes can yield profound benefits for all involved, ranging from enhancing decision-making to achieving organizational objectives. As such, whether one is a project manager, team member, senior executive, or stakeholder, grasping these concepts is paramount for driving project success and organizational advancement.

Conclusion

This book conveys the importance of data analysis in project management. Each chapter discusses an aspect of data analysis to support this statement. The power of data analysis in project management lies in its ability to provide valuable insights, enhance decision-making, and drive project success. The key aspects of how data analysis empowers project management discussed in the book are as follows:

1. **Informed Decision-Making:** Data analysis allows project managers to make informed decisions based on objective evidence rather than relying solely on intuition or past experiences. By analyzing project data, such as timelines, budgets, resource allocation, and task dependencies, managers can identify patterns, trends, and potential risks, enabling them to make strategic decisions to steer the project in the right direction.
2. **Risk Identification and Mitigation:** Data analysis helps in identifying potential risks and uncertainties early in the project lifecycle. By analyzing historical project data and performance metrics, project managers can anticipate potential challenges, bottlenecks, and obstacles that may arise during project execution. This allows them to proactively

implement risk mitigation strategies and contingency plans to minimize disruptions and ensure project success.

3. Resource Optimization: Data analysis enables project managers to optimize resource allocation and utilization. By analyzing resource allocation data, workload distribution, and resource availability, managers can identify resource bottlenecks, allocate resources more effectively, and ensure that the right resources are assigned to the right tasks at the right time. This helps in optimizing project timelines, reducing costs, and improving overall project efficiency.

4. Performance Monitoring and Control: Data analysis facilitates real-time monitoring and control of project performance. By analyzing key performance indicators (KPIs) and project metrics, such as progress against milestones, budget variance, quality metrics, and stakeholder satisfaction levels, managers can track project performance, identify deviations from the plan, and take corrective actions as needed to keep the project on track and within scope, budget, and schedule.

5. Continuous Improvement: Data analysis enables continuous improvement in project management processes and practices. By analyzing project data and performance metrics, managers can identify areas for improvement, inefficiencies, and bottlenecks in the project lifecycle. This allows them to implement process improvements, best practices, and lessons learned from past projects to enhance project outcomes, increase efficiency, and deliver greater value to stakeholders.

Most important is the fact that the book provided the context that facilitated the power of data analytics. Understanding these factors is essential to realizing the power of data analytics. The factors are as follows:

1. Exponential Rate of Change: The data landscape is evolving rapidly, driven by technological advancements, regulatory changes, and global events. This rapid evolution requires project teams to remain well-informed and adaptable.

2. Technological Advancements: Technologies such as cloud computing, artificial intelligence, machine learning, and big data analytics are transforming how data is generated, processed, and analyzed. Organizations need to keep pace with these advancements to stay competitive.

3. Data Volume Growth: The volume of data being generated is growing exponentially due to various factors like digital devices, sensors, social media, and IoT devices. While this presents opportunities, it also poses challenges in managing and deriving insights from the data.

4. Factors Shaping the Data Landscape: Various factors, including regulatory environment, data governance, security threats, cultural shifts, and global events,

contribute to the evolving nature of the data landscape. Organizations must navigate these factors effectively to leverage data for decision-making.

5. Understanding Data Types: Differentiating between structured, semi-structured, and unstructured data is crucial for effective data management and analysis. Organizations must be adept at handling diverse data types to derive meaningful insights.

6. Context for Data Analysis: The context for data analysis within the evolving landscape is critical. Project teams must be proactive, informed, and adaptable to leverage data assets effectively for decision-making.

In conclusion, the report underscores the importance of staying informed about the evolving data landscape, leveraging technology advancements, understanding data types, and adapting to changes for effective data management and analysis. Data analysis is a powerful tool in project management that enables managers to make informed decisions, identify risks and opportunities, optimize resource allocation, monitor project performance, and drive continuous improvement. By leveraging data-driven insights, project managers can enhance project outcomes, mitigate risks, and achieve project success more effectively. My only concern, is that the book does not consider the organizational culture and how culture can impact the acceptance of the power of data analytics.

For more about this book, go to: https://www.routledge.com/Data-Analytics-in-Project-Management/Spalek/p/book/9781138307285?_gl=1*li9kk8*_ga*MTI0MDQ0MDYyMi4xNzE0NjY1MDM0*_ga_0HYE8YG0M6*MTcxNDY2NTAzNS4xLjAuMTcxNDY2NTAzNS42MC4wLjA.*_gcl_au*OTkxODIwOTI5LjE3MTQ2NjUwMzU.

About the Reviewer



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Editor's note: This book review was the result of a partnership between the publisher, the PM World Journal and the [PMI Silver Spring Chapter](#). Authors and publishers provide the books to the PMWJ editor or directly to the PMI Silver Spring Chapter, where they are offered free to PMI members to review; book reviews are published in the PM World Journal and PM World Library. PMI Silver Spring Chapter members can keep the books as well as claim PDUs for PMP recertification when their reviews are published.

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