



WORKING METHODS  
FOR KNOWLEDGE  
MANAGEMENT

# KNOWLEDGE ASSETS AND KNOWLEDGE AUDITS

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# WORKING METHODS FOR KNOWLEDGE MANAGEMENT

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**Emerald Publishing Limited**  
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2019

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**British Library Cataloguing in Publication Data**

A catalogue record for this book is available from the British Library

ISBN: 978-1-78973-774-5 (Print)

ISBN: 978-1-78973-771-4 (E-ISBN)

ISBN: 978-1-78973-773-8 (Epub)



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# INTRODUCTION TO THE SERIES – WORKING METHODS IN KNOWLEDGE MANAGEMENT

Knowledge sciences as a discipline has a rich and diverse history dating back to the 1950s. In the past 70 years, the discipline has drawn theory and practice from economics, engineering, communications, learning sciences, technology, information sciences, psychology, social sciences, and business and organization management. To craft this discipline, we have developed our own language and terminologies, established our own peer-reviewed journals and built a rich research foundation, created a gray literature, and established a series of networks and conferences. Over the decades there have been many knowledge management education programs, but there is no consistent curriculum, and few have sustained. It has been challenging for new practitioners to gain an understanding of the field. And, while the practice of knowledge management is growing around the world, it has not yet achieved the expected organizational stature. For knowledge management to rise to the stature of other business functions and operations, it must be able to speak the language of business, align with, and support the way the organization works.



This series is designed for business and knowledge management practitioners. *Working Methods in Knowledge Management* is a multi-year and multi-volume series designed to address each and all of the methods required to establish and sustain an organization-wide knowledge management function. The goal of the series is to provide a business perspective of each topic. Each book begins by grounding the method in the business context – then translates established business models and methods to a knowledge management context. It is often the case that this translation expands and extends the business model and method.

The knowledge management literature is rich with introductory handbooks, guidebooks, cookbooks, toolkits, and practical introductions. This literature is an important starting point for anyone new to the discipline. We recommend any and all of these books as a way to build a fundamental understanding of the scope and coverage of the field. These texts will provide a good 10–20 pages introduction to all of the key issues you need to be aware of as you embark on a new career in the field or have been assigned a new knowledge management role or responsibility. Once you have that grounding, though, we recommend that you look to the *Working Methods in Knowledge Management* texts as an intermediate source for understanding “What comes next? What now?”

Just as this series is not intended as a starting point for the field, neither is it an ending point. Each text is designed to support practical application and to foster a broader discussion of practice. It is through practical application and extended discussion that we will advance theory and research. The editors anticipate that as practice expands, there will be a need to update the texts – based on what we are learning. Furthermore, the editors hope the texts are written in a way that allows business managers to extend their work to

include knowledge management functions and assets. We will learn most from expanding the discussion beyond our core community.

## JOINT ENTERPRISE, MUTUAL ENGAGEMENT, AND A SHARED REPERTOIRE

From the outset, the publisher and the editors have established a new and different approach for designing and writing the books. Each text is supported by a team of authors who represent multiple and diverse views of the topic. Each team includes academics, practitioners, and thought leaders. Every author has grappled with the topic in a real-world context. Every author sees the topic differently today than they did when the project began. Over the course of several months, through weekly virtual discussions, the scope and coverage were defined. Through mutual engagement and open sharing, each team developed a joint enterprise and commitment to the topic that is enduring. Every author learned through the discussion and writing process. Each project has resulted in a new shared repertoire. We practiced knowledge management to write about knowledge management. We “ate our own dog food.”

## ACKNOWLEDGMENTS OF EARLY SUPPORT

The series is a massive effort. If there is value in the series much of the credit must go to two individuals – Dr Elias Carayannis, George Washington University, and Dr Manlio Del Giudice, University of Rome. It was Dr Carayannis who first encouraged us to develop a proposal for Emerald Publishers. Of course, this encouragement was just the most

recent form of support from Dr Carayannis. He has been a mentor and coach for close to 20 years. It was Dr Carayannis who first taught me the importance of aligning knowledge management with business administration and organizational management. Dr Del Giudice has been generous with his guidance – particularly in setting a high standard for any and all knowledge management research and practice. We are grateful to him for his careful review and critique of our initial proposal. His patience and thoughtful coaching of colleagues is rare in any field. The field will reach its full potential as long as we have teachers and editors like Dr Del Giudice.

# PREFACE

## OVERVIEW OF THE SUBJECT MATTER

Knowledge audits are important management tools. They have the potential to tell us what knowledge assets we have, how we are managing them, whether we are managing risks and investing effectively, and whether they are being leveraged in business operations to generate business value, revenue, and profit. Current approaches to knowledge audits tend to be more informal and may not rise to the expectations of business managers and executives. The increased role and value of knowledge capital in the knowledge economy argues for a more formal approach for designing and conducting knowledge audits. This book aims to meet that need.

An audit is a special kind of assessment. It can be both a formal process and an informal verb. The informal verb simply means to examine or investigate something. The informal or popular use of the term presumes no structure or established process – it is simply an inquiry. In contrast, a formal process is a structured inspection that has a process, a target, and expected outcomes. A formal audit presumes that:

- there are established business processes in place;
- these processes have performance expectations and targets;

- a neutral party can inspect the process or the asset by observing it and working with information provided by the organization;
- there are accepted methods for reporting on the results of the audit; and
- the organization will understand that response and know what corrective action is needed.

A formal audit also assumes that an organization will focus on core business capabilities and business critical assets to ensure they are functioning or being used as expected. A formal audit will also focus on areas or assets of concern that may be in need of improvement. This book is concerned with formal audits.

To conduct an audit of a process or an asset, there are certain preconditions. First, we must know what it is we're auditing – we must be able to define it, identify it when we see it. We have expectations for how it is performing or being used, and how and why performance may vary. A reliable audit – one that can be performed repeatedly over time – requires a certain foundation. This book describes how an organization can prepare for and conduct an audit of its knowledge assets and processes. The book takes a project management approach – identifies tasks and subtasks to complete to achieve a reliable, repeatable, and valid audit. In addition to ensuring the foundation is in place, the book will help you to decide what to audit, how to audit it, and how to interpret and communicate the results.

The goal of the book is fourfold. The first goal is to ensure that business managers can develop methods to maximize the use of knowledge capital and knowledge assets in business processes. The second goal is to increase the awareness of organizations of the importance and practicality of managing

that knowledge capital and knowledge assets. Organizations can no longer afford to dismiss knowledge simply as an intangible asset beyond their ability to manage. The third goal is to increase the visibility of knowledge capabilities and operations throughout the organization and to highlight the importance of institutionalizing these capabilities as an important business function. Finally, this book strives to elevate management and use of knowledge assets to a level that is on a par with other capital assets. This book provides a framework for achieving these four goals and suggests ways that organizations can adapt the framework to suit their business environments. If the book achieves these four goals, the authors hope to create a pool of practical experience around audits and assets sufficient to stimulate a field-wide discussion.

#### WHERE THE TOPIC FITS IN THE WORLD TODAY

In designing the structure and content of this book, the authors hoped to branch four disciplines. These four disciplines represent the worlds of business, of knowledge economics and intellectual capital, of knowledge management, and of management accounting. The topic of knowledge audits in the knowledge management world is not sufficiently rigorous to be a trusted and practical executive-level tool. The lack of rigor and trust is due in large part to the lack of treatment of the specific business factors typically included in audits, such as management protocols, risks, investment strategies, value, costs, revenue, and profit expectations. These factors can no longer be dismissed as too difficult to think about or too academic. Bridging the world of management accounting and knowledge management offers a remedy. Viewing knowledge management strategies and tactics in a business, economics, and accounting context helps us to expose the

challenges and highlight the opportunities. Finally, there is a need for a framework that can be leveraged by organizations of any type, of any size, and in any region to devise an audit strategy that suits their business needs. There is no one audit strategy that fits all organizations. Just as there is no one way to manage knowledge assets, to define risks, to define investment strategies, determine value or costs, or project revenue and profits.

## WHERE THE BOOK FITS IN THE LITERATURE TODAY

We define the literature to include the series, the peer-reviewed literature, and the gray literature. This is the second book in the series. This book addresses a specific knowledge management method – auditing of knowledge capabilities and knowledge assets. In the process of walking through the design, construction, and presentation of audits, this book covers core management and accounting topics. Audits are distinguished from assessments and evaluations, and from metrics. These topics are treated in greater depth in books four and six in the series. By focusing on a single method, the authors have the luxury of providing a deeper and more rigorous treatment of the topic.

The authors intend for the book to fill a significant gap in the business management literature – the treatment of knowledge assets as a capital asset and not just an intangible asset. Intangible assets tend not to attract full management attention. This means that in many cases knowledge assets are relegated to management by support functions – information managers, information technologists, and human resource managers. This fragmented view prevents managers from developing a holistic strategy for managing knowledge capabilities and assets.

The authors further hope the text will launch a new discussion of how to view and account for knowledge assets in the economics and the management accounting literature. Intangible assets tend to be measured in terms of their indirect contributions or value that is invisible and immeasurable. In contrast, the authors suggest that there are practical approaches for managing knowledge as a capital asset.

Finally, the text is intended to fill a gap in the knowledge management literature by elevating the topic of audits to the level of rigor that is expected for other types of capital assets. In the twenty-first century we have an opportunity to advance the field of knowledge management to a core and trusted business capability. The authors hope this text will contribute to realizing that opportunity.

## DESCRIPTION OF THE TARGET AUDIENCE

The audience for this book includes professionals and practitioners in all of those fields described earlier. The two primary audiences are business managers and organizational executives, and knowledge managers. In particular, the book is intended for business managers who are responsible for operational performance and for the effective and efficient management and use of knowledge assets. The book is intended for knowledge managers who strive to elevate the discipline and the practice to a level equal to financial and physical management practices. It is intended for knowledge managers who have been challenged to conduct a knowledge audit. The book is also intended to stimulate a discussion and prompt a new perspective on knowledge as capital among intellectual capital researchers and accountants.



## STRUCTURE OF THE BOOK

The book is organized into four sections and 14 chapters. Section 1 introduces the concept of audits, describes audit protocols used for financial and physical capital audits, and translates those protocols for knowledge capital. This section also explores how organizations might choose what to audit, how to design and conduct an audit, and how to report on the results of that audit. Sections 2–4 focus on the building blocks every organization should have in place in order to conduct a trustworthy and creditable knowledge audit. Section 2 explains how to translate the audit models, methods, and conventions applied to financial and physical capital to knowledge capital. This section aims to establish a foundation for a knowledge audit. It guides an organization through raising awareness of the role of knowledge as a capital asset in the knowledge economy. It walks the reader through the process of defining and managing capital; exposing how it currently views knowledge; defining, and identifying the organization's knowledge assets; their source and ownership; and the business life of those assets. Section 3 focuses on setting expectations for how knowledge assets are managed and leveraged in the organization's business operations. This includes defining and setting expectations for how core lines of business leverage these assets; setting expectations for managing them so that they are available; accessible, and usable by the business; defining and managing risks for those assets; and how the organization will invest in those assets. Finally, Section 4 focuses on how the organization accounts for those assets, including assigning a value to those assets, understanding their costs, and explaining their expected revenue and profit.

Each chapter provides background information on the topic as well as references to additional resources – both

theory and practice. Each chapter highlights the thought leaders and practitioners in that topic. Finally, the Appendix provides a high-level project plan that the reader can use as a template for designing their own approach. Each Task and Subtask in the project plan traces back to a chapter in the book.

### Section 1. Auditing Knowledge

- Chapter 1. Audits – What to Audit and Why
- Chapter 2. Auditing the Use of Knowledge in Business Processes
- Chapter 3. Audit Methodology for Knowledge Management Capabilities
- Chapter 4. Audit Methodology for Knowledge Assets

### Section 2. Defining and Identifying Your Knowledge Assets

- Chapter 5. Identifying and Categorizing Organization's Knowledge Assets
- Chapter 6. Identifying Sources and Ownership of Knowledge Capital Assets
- Chapter 7. Define the Useful Business Life of Knowledge Assets

### Section 3. Managing Knowledge Assets

- Chapter 8. Business Transformation of Knowledge Capital
- Chapter 9. Current Management of Knowledge Assets
- Chapter 10. Managing Risks of Knowledge Assets
- Chapter 11. Investment Strategies for Knowledge Assets

## Section 4. Accounting for Knowledge Assets

- Chapter 12. Assigning Value to Knowledge Assets
- Chapter 13. Defining the Costs of Knowledge Assets
- Chapter 14. Defining the Revenue and Profit Generated by Knowledge Assets

## CHAPTER SUMMARIES

Chapter 1 introduces the topic of knowledge audits and assets. Knowledge audits are positioned in the larger context of assessments. The chapter explains that knowledge audits are important management tools and should be aligned with established protocols for conducting financial and physical capital assets. The chapter introduces a standard methodology for conducting knowledge audits and explains how the methodology might be applied to the use of knowledge in business processes, to knowledge capabilities, and knowledge assets. This chapter lays out the building blocks for selecting an audit target, setting expectations for audits, communicating and reporting results, and acting on those results.

Chapter 2 walks through the three components of a methodology for auditing the use of knowledge throughout a business process. The three components include designing the audit, conducting the audit, and finally reporting the audit results. Key questions are identified and their importance is discussed for each of the three components. Key questions align with standard protocols for designing and conducting financial audits. While the questions are universal, the chapter reminds us that the answers are unique to the organization and to the process.

Chapter 3 describes common knowledge functions and capabilities. The chapter highlights the importance of treating

knowledge functions and capabilities like other organizational business processes. Auditing knowledge capabilities leverages the same general methodology described for auditing the use of knowledge in business processes. However, in this case the organization should audit the overall performance of the process itself. The chapter suggests that no organizations may be well positioned for this type of audit, particularly where knowledge capabilities have not been systematically implemented across the organization. This chapter highlights the different goals of audits and assessments.

Chapter 4 explains how to adapt the generalized methodology for auditing knowledge assets. Knowledge assets are the foundation of an organization's knowledge capacity. Knowledge assets are defined to include human knowledge, structural knowledge, and relational knowledge. Human knowledge focuses on the tacit knowledge, skills and competencies, and attitudes and behaviors of individuals. Structural knowledge focuses on the collective explicit information, procedural knowledge, and culture of the organization or group. Finally, relational capital is comprised of all of the networks, relationships, and relationships of individuals and agents of import to the organization or group. The chapter explains that organizations may not be ready for auditing knowledge assets depending on the current state of knowledge capital management.

Chapter 5 provides an overview of knowledge capital and explains why knowledge should be treated as a capital asset. The chapter also describes the breakdown and typologies of an organization's knowledge capital. This foundation is important for understanding whether these assets are identified as assets, are managed and accounted for as assets, and are auditable today. The chapter guides the reader through preparing descriptions of the three types of knowledge assets, of existing programs or projects to manage knowledge assets,

of the organization's human capital, structural capital, and relational capital. This chapter also guides the reader through the development of an explanation of how these assets behave and how they are different than other capital assets. The reader is also encouraged to identify and establish a network of champions and custodians for all types of knowledge assets. The reader is challenged to think about how their organization currently views and handles knowledge, including whether it is treated as capital and a valuable organizational asset.

Chapter 6 focuses on increasing the reader's understanding and awareness of the sources and ownership of knowledge assets. The chapter explains how the economic properties of knowledge require that we adapt and adjust our management, accounting, and auditing methods. The chapter walks through the source and ownership issues for human capital, structural capital, and relational capital. This chapter also guides the reader through the process of defining an organizational strategy that addresses these issues.

Chapter 7 defines the useful business life of knowledge assets and explains the three common characterizations of useful life. The chapter helps the reader to develop a definition of "useful life" of knowledge assets for their organization. The chapter guides the reader through translating this definition for human capital, for structural capital, and for relational capital.

Chapter 8 focuses on how knowledge assets are used in the business operations of the organization. Does the organization leverage its human capital assets in all of its core business operations? Why or why not? Does the organization leverage its structural capital assets? Does it leverage its relational capital assets? This chapter also guides the reader through the development of a working list of knowledge assets that are important to core lines of business.

Chapter 9 considers how knowledge assets are being managed, and whether they are managed in a way that makes them available to, accessible by, and usable by the business operations. This chapter presents a new perspective on management that aligns with business value. This is an important perspective, because it focuses on the nature and behavior of these assets. Assets that are not effectively managed are primary targets for audits and corrective actions. This is an important starting point to determine what to audit.

Chapter 10 defines risk as it applies to knowledge assets. This chapter defines common forms of risk and explains how they apply to human capital, structural capital, and relational capital. The chapter encourages the reader to consider the risks their organization might be experiencing. A primary goal of audits is mitigating risks, including legal, operational, and strategic risks. How these risks manifest themselves in terms of human, structural, and relational capitals will drive audit designs and targets.

Chapter 11 describes common investment strategies for knowledge assets. Investments strategies are an important focus for audits. Knowledge capital grows through use, circulation, and extension. Its depreciation models are different from other kinds of capital assets. This chapter examines how an organization might be investing in its human capital, structural capital, and relational capital.

Chapter 12 focuses on assigning value to knowledge assets. Despite the significant amount of research on the topic, guidance on practical applications is lacking. This chapter offers explanations on how to assign value. The authors guide the reader through the application of value models to human capital, structural capital, and relational capital assets. Understanding the value of knowledge assets helps us determine which targets are most important to audit.

Chapter 13 addresses the topic of the costs associated with knowledge assets. Traditionally organizations have not tracked the costs of these assets as capital – rather treating them as personnel expenses or technology expenses. This chapter walks the reader through costing exercises, which highlight the need to manage and audit these factors knowledge assets that have high costs and low value are primary targets for audits.

Chapter 14 considers how knowledge assets might generate revenue for the organization as do other capital assets. If knowledge is to be treated as capital, we must expect it to contribute to the organization's revenue stream. Organizations make poor business decisions when they invest in and incur costs for knowledge capital that does not contribute to revenue. These conditions and capital assets are prime targets for knowledge audits. In this chapter we also consider how revenue models influence profit models. Not all organizations expect to produce a profit. However, the exercise of determining the balance of revenue and costs is important for every organization. In for-profit organizations, all resources and investments must contribute to the profit model. Audits are an important tool for discovering which knowledge capital does not contribute to profit, or where costs outweigh revenue.

Finally, Appendix presents a high-level project plan of activities and tasks the reader might follow to design and implement an audit strategy for their organization. Activities and tasks align with the treatment of issues in chapters. Each activity in the project plan is supported with full chapter explanations and examples.

## HOW THE BOOK IMPACTS THE FIELD

The intention of the authors is to shift the discourse from a general treatment of knowledge as an intangible asset to a

capital asset that has peculiar attributes. When we look at knowledge assets from this perspective, possibilities emerge for more rigorous and relevant management. The goal of the book is to create a new dialog among business managers, accountants, knowledge management practitioners and professionals, intellectual capital experts, and human resource managers. The knowledge economy calls for a coalescing of perspectives and practices and a new focus on knowledge assets as capital assets. Until this dialog begins, each area of practice will operate in isolation. Until this dialog begins, each area of practice will focus on a part of the solution. Until this dialog begins, no one area of practice will effectively address the challenge. The authors hope this book will be a catalyst for that dialog.