Introduction

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At the same time, decision support research focused increasingly on application of sophisticated artificial intelligence technologies to support the needs of decision makers. However, despite substantial technical advances, laboratory experiments investigating the influence of decision support systems on decision performance have reported mixed, often disappointing, outcomes.

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While managerial decision support remains my favourite topic of interest in knowledge management, I have recently broadened the scope of research to include other knowledge intensive activities and systems. This book represents a reflection of these efforts in the attempt to “bottle the fog” surrounding the KM phenomena, and to contribute to an improved understanding of the field.

KM Challenges

Although KM is currently highly fashionable and visible, there is a danger that the hype surrounding KM may kill off the field as a fad. This is because KM is relatively immature, prone to misconceptions and misappropriations, and has many unresolved issues that need to be addressed before KM evolves into a mature discipline.

From what we have learnt so far, KM needs to be integrated into the strategic management of the organisation; knowledge context, process, and content all need to be carefully managed in order to preserve or create value for an organisation; and this can only be achieved by applying suitable KM methods, solutions, and tools.
However, the current state of the field reveals competing research paradigms, raging definitional debates, elusive value of knowledge management, evangelism, technology-focused initiatives, early wins difficult to replicate, motherhood status, and foreboding questions beginning to emanate from the ranks of senior executives looking for returns on investments. Moreover, there is a lack of objectivity, as those involved in KM initiatives are often relying on anecdotal evidence emanating from their experience; and a lack of generality, as KM methods are usually context dependent and not easily transferred from one organisation to another.

This book aims to address these concerns by contributing to the following three key issues: the integrated approach to KM; the rigour of research in KM; and the bridge between the theory and practice of KM. The challenging cross-disciplinary KM issues and assumptions can be tackled by seeking the common ground between various individual approaches, by including both theoretical and practical aspects, by mixing the hard (technological) with the soft (social) issues, and by bringing together western and eastern views of the field.

With respect to objectivity, in the research arena, it can be achieved only through a range of rigorous studies that can reliably establish what works, and what does not, and under what circumstances. Once a substantial collection of such studies has been accumulated, general concepts can be identified leading to integrated frameworks and models that can then be tested, leading to proven practical applications. Finally, by covering a variety of research themes from both theoretical and practical aspects of KM, it is possible to close the theory-practice gap and thus contribute to achieving a better understanding of the phenomenon itself.

**Book Overview**

*Socio-Technical Knowledge Management: Studies and Initiatives* is a structured compilation of articles founded on experience and research pursued with assistance from many colleagues and students. In recognition, the reference to plural “we” rather than singular “I” is made throughout the chapters. The key features of the book can be summarised as integrated KM approach, research rigour, mix of soft and hard issues, and theory and practice.

Essentially, the book brings together two competing perspectives (social and technical) currently seen in knowledge management research into an integrated sociotechnical framework. Fundamental to the integrated approach is that diverse knowledge elements, activities, and enablers must be in balance and aligned to the organisational context and strategy. However, it often seems that organisations are seeking ways to deal with the rapidly changing environment without really knowing what will work or where they are going. The main purpose of this book is to provide much needed empirical evidence regarding the “true” potential of various sociotechnical knowledge management solutions to enhance and exploit knowledge.
The book appears in times characterised by a great deal of business interest in knowledge management, but with recognition that there is a need for much more formal research in the area. Furthermore, recent knowledge management literature identifies too much theory and too little empirical research in the field. This book seeks to bridge the existing gap between theory and practice by providing a medium for presenting some of the most recent empirical research in the field. It is expected that empirical findings will help students, individuals, and organisations to better understand the benefits/limitations of sociotechnical knowledge management. It is also expected that they will help managers choose more suitable strategies to enhance and exploit their organisational knowledge. Consistent with its objectives, the book identifies and presents a number of traditional and novel social and technical initiatives and situations in which these initiatives can help to improve processes of creation, transfer, and application of knowledge, and thus lead to enhanced performance.

The book starts with an introduction to theoretical foundations of knowledge management concepts, proceeds with a series of empirical studies on the role of technology in knowledge management, followed by studies of socially orientated knowledge management solutions. The book ends with the discussion of major issues and challenges for knowledge management research and practice. With its integrated and systematic approach, the book makes a small but important step in helping individuals and organisations to get an objective and complete picture of the role of social and technical initiatives in knowledge management based on formal and sound empirical research. More importantly, the book shows that the impact of various initiatives is highly contingent upon the context in which the knowledge is generated, transferred, and used. This may help managers to choose more suitable solutions to turn their intangible assets into tangible outcomes.

**Book Organisation**

The book is organized into four major sections, each containing several chapters. It is designed to permit reading of individual chapters or sections of the book in many different orders, depending on readers’ interests. However, readers are advised to first familiarise themselves with chapters in Section I.

**Section I: Theoretical Foundations of Knowledge Management**

Section I of the book explores theoretical foundations of knowledge management. The section begins with Chapter I presenting basic knowledge management concepts and incorporating them into an integrated KM framework. This framework and its elements are used to provide the structure for the rest of the book. Section I
also includes Chapter II, which explores knowledge workers’ inquiry systems that deepen our understanding of how people gain knowledge. These systems further provide the justification for building knowledge spaces as foundations for advancing knowledge in Chapter III. The chapter illustrates the concept of knowledge space using most recent knowledge management innovations and applications.

Section II: Studies of Technology-Based Knowledge Management Initiatives

Section II of the book focuses on the role of a variety of information and communication technologies and systems in knowledge management processes. The eight chapters in the second section of the book examine both traditional and novel technologies that support knowledge creation, transfer, and utilisation of knowledge. The first article is concerned with the development of new knowledge. Chapter IV examines the role of innovative technology in supporting creative idea generation. The next article is devoted to knowledge sharing. In Chapter V the main emphasis is on user perceptions of effectiveness and use of knowledge sharing technologies in different time and place application contexts.

The next two chapters in Section II examine systems and technologies that support knowledge storing and organisation. In Chapter VI the focus is on the benefits and limitations of electronic memory systems in providing required knowledge for decision support. Chapter VII discusses the use of a knowledge visualisation system as an effective tool for representing knowledge for human interpretation and assimilation. The next chapter addresses the question of discovering hidden patterns embedded in codified knowledge artefacts. Chapter VIII examines the role of a specific knowledge-mining system based on statistical analysis and graphical visualisation in supporting trend analysis and prediction.

Chapter IX is devoted to an integrated e-learning solution. This chapter describes the anatomy of a corporate e-learning portal and evaluates it from the employee trainees’ perspective. The next chapter addresses the issue of knowledge measurement. Chapter X explores the effectiveness of a knowledge-rating system in assessing knowledge credibility. Finally, Chapter XI considers the process of knowledge application. In this chapter the focus is on the emerging trends involving the use of intelligent systems, such as neural networks, in solving complex decision problems such as granting loans.

Section III: Studies of Socially Orientated Knowledge Management Initiatives

Section III of the book is devoted to social contingencies that influence the effectiveness of knowledge processes. The eight chapters in the third section of the book
examine the role of a variety of contextual and organisational factors in knowledge management including organisational culture, structure, leadership, rewards and incentives, and measurement.

The first two chapters examine the role of the organisational environment in knowledge management. Chapter XII focuses on the role of exercising space in stimulating individual learning, while Chapter XIII emphases the facilitating role of interactive environment in knowledge transfer, and its positive effect on performance. Chapter XIV highlights the difference in relative performance impacts of formal and informal modes of socialisation to creative performance, while Chapter XV identifies major task contingencies as moderators of knowledge-sharing effects on decision performance.

The next two chapters focus on structural and cultural factors. Chapter XVI examines the impact of communities of practice on building organisational social capital and enhancing its collective effectiveness through greater commitment, friendship, satisfaction, and trust among community members. The next Chapter, XVII, identifies organisational culture as a major facilitating or inhibiting factor that affects knowledge sharing, while Chapter XVIII reveals that intrinsic rewards may be as powerful a motivator of knowledge sharing as extrinsic ones.

Recognising that there is a growing demand for managerial and professional knowledge workers, the final Chapter, XIX, in this section, looks at the issue of cultivating knowledge management professionals. It addresses specialised knowledge management education providing skills and capabilities needed to take the lead for knowledge management initiatives to improve enterprise competitiveness in an ever-changing global environment.

**Section IV: Issues and Challenges for Knowledge Management Practice and Research**

The final Section, IV, of the book addresses major issues and challenges for knowledge management research and practice. The first of three chapters in this section of the book looks at the level of understanding and uptake of knowledge management in practice. Chapter XX surveys academics from two IT schools to find out if “we do what we preach.” The chapter examines people’s perceptions of the importance of, and their satisfaction with, main social and technical aspects of their knowledge management system. The next Chapter, XXI, deals with knowledge management strategies. It compares the effectiveness of codification and personalisation strategies in order to provide some guidance for practice on how to choose the appropriate strategy for the specific context. The final Chapter, XXII, of this section, and of the whole book, as is appropriate, looks at the future of knowledge management. The chapter presents visions and directions for a knowledge management future.
based on a small survey of academics and practitioners interested in knowledge management.

**Value to Community**

With the increasing number of academics and practitioners who see themselves as knowledge management (KM) specialists, there was clearly a growing need for a authoritarian and rigorous source for KM theory and empirical work. This book represents a small but important step in that direction. It serves as a source of emerging ideas and rigorous research required to direct future research efforts and to take the field into the future. Although it is recommended for readers that have a basic background in knowledge management, the book offers new insights for both novices and experienced professionals.

The book is of value to both the academic and the practitioner communities in the field of KM, as the goals of the book are to present an objective picture of the field, based on both formal and sound research, as well as seeking to integrate the many diverse perspectives held on KM by researchers and practitioners. It is also hoped that the book will become a useful reference for postgraduate students undertaking research in knowledge management.

Moreover, by drawing upon lessons from empirical studies presented in the book, it will be possible to devise a practical guide for managers to direct their decisions in terms of why and how they need to support knowledge enabling within their organisations. By identifying “proven” critical steps, key factors, and possible alternative paths, the book will put a practical tool into the hands of managers that can help them unleash the power of knowledge within their organisations.

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