PREFACE

Introduction

The book *Socio-Technical Knowledge Management: Studies and Initiatives* has grown out of my research with the knowledge management research group (kmRg) at the University of New South Wales that I founded and led in the period 2000-2004. My particular interest in KM research has concentrated mainly on the significance of knowledge in supporting managerial decision making.

The past thirty years of investigations in behavioural decision making yielded systematic deviations from rational decision making termed “decision biases”. Typically, decision biases are described as decision makers’ cognitions and mental behaviours that prejudice the quality of their decisions. Most biases tend to have detrimental effects on decision performance.

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.

This led me to investigations of other possible approaches for reducing or eliminating biases from the cognitive strategies of decision makers. Knowledge management (KM) offered a promise. Assuming that the decision maker is the primary source of the biased judgement, my attention started to focus on how to better manage the decision maker’s knowledge. This led me to empirical investigations of various social and technical mechanisms whose results could contribute to understanding of key factors that enable and enhance decision maker knowledge.

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 there are 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 the above 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 of the hard (technological) with 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 which can reliably establish what works, and what doesn’t, and under what circumstances. Once a substantial collection of such studies have 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 socio-technical 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 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 socio-technical 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, a 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 socio-technical 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 parts, each containing several chapters. It is designed to permit reading of individual chapters or parts of the book in many different orders, depending on readers’ interests. However, readers are advised to first familiarise themselves with chapters in Part I.

**Part I: Theoretical foundations of knowledge management**

The first Part I of the book explores theoretical foundations of knowledge management. The part begins with Chapter 1 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. Part I also includes Chapter 2 that 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 3. The chapter illustrates the concept of knowledge space using most recent knowledge management innovations and applications.

**Part II: Studies of technology-based knowledge management initiatives**

Part 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 part 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 4 examines the role of innovative technology in supporting creative idea generation. The next article is
devoted to knowledge sharing. In Chapter 5 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 Part II examine systems and technologies that support knowledge storing and organisation. In Chapter 6 the focus is on the benefits and limitations of electronic memory systems in providing required knowledge for decision support. Chapter 7 discusses the use of 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 8 examines the role of a specific knowledge mining system based on statistical analysis and graphical visualisation in supporting trend analysis and prediction.

Chapter 9 is devoted to an integrated e-learning solution. This article describes the anatomy of a corporate e-learning portal and evaluates it from the employee trainees’ perspective. The next article addresses the issue of knowledge measurement. Chapter 10 explores the effectiveness of a knowledge rating system in assessing knowledge credibility. Finally, Chapter 11 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.

**Part III: Studies of socially-orientated knowledge management initiatives**

Part III of the book is devoted to social contingencies that influence the effectiveness of knowledge processes. The eight chapters in the third part 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 organisational environment in knowledge management. Chapter 12 focuses on the role of exercising space in stimulating individual learning, while Chapter 13 emphasises the facilitating role of interactive environment in knowledge transfer and its positive effect on performance. Chapter 14 highlights the difference in relative performance impacts of formal and informal modes of socialisation to creative performance, while Chapter 15 identifies major task contingencies as moderators of knowledge sharing effects on decision performance.

The next two articles focus on structural and cultural factors. Chapter 16 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 17 identifies organisational culture as a major facilitating or inhibiting factor that affects knowledge sharing, while Chapter 18 reveals that intrinsic rewards may be as powerful motivators of knowledge sharing as extrinsic ones.

Recognising that there is a growing demand for managerial and professional knowledge workers, the final Chapter 19 in this part, 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.

**Part IV: Issues and challenges for knowledge management practice and research**

The final Part IV of the book addresses major issues and challenges for knowledge management research and practice. The first of three articles in this part of the book looks at the level of understanding and uptake of knowledge management in practice. Chapter 20 surveys academics from two IT schools to find out if “we do what we preach”. The chapter examines people’s perceptions of the importance and their satisfaction with main social and technical aspects of their knowledge management system. The next Chapter 21 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 22 of this part and of the whole book, as is appropriate, looks at the future of knowledge management. The chapter presents visions and directions for 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 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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NOTE: Free sample chapters are available at: [http://www.irma-international.org/search/?p=handzic&0/]