Preface

Since the 1990s, we have had an increasing number of books and journal articles discussing knowledge management (KM) and how it can be performed. So far, we have not discovered an all-singing, all-dancing solution to the issues we find when attempting to implement KM in organisations. What happens is that as we investigate, discuss, and practice knowledge management, we find yet more challenges and issues.

In this book we are looking at a number of these challenges and issues, and we hope that the chapters presented will not only stretch our readers’ minds but will also prove of practical benefit to their organisations. These chapters were selected to provide a representative sample of the ideas in four main domains - the theory of knowledge management; technical challenges; management and organisational issues and, finally, some illustrations of knowledge management at work in organisations and the lessons that can be learned.

There are 20 chapters in this book drawn from an international base of authors, including East and Western Europe, the Antipodes, Asia, and North America. A consistent message across all these diverse contributions is the need to consider knowledge management in its context – as an holistic practice. Knowledge management is not solely about the technology and the systems that are put into place, but it is also about the humans who populate the system and utilise the technology – and so we need to take a sociotechnical view on the practice of managing knowledge.

The book is divided into four parts and below is outlined each author’s contribution to these sections. We hope that you enjoy reading our work.

Section One: The Theory of Knowledge Management

We start the book with a look at theory, our first chapter coming from Poland by Witold Abramowicz, Marek Kowalkiewicz and Piotr Zawadzki. This looks at a skill map ontology for IT courseware. Our second chapter comes from Michael Boahene and George Ditsa from Australia and relates to the perennial challenge of distinguishing between data, information and knowledge. The third and final chapter in this section, by K.D. Joshi and Saonee Sarker of the USA, looks at knowledge “stickiness.”

Abramowicz and his colleagues are concerned with creating a knowledge exchange platform for the corporate environment. They briefly describe topic maps
and skill maps – the latter being a new concept developed by the authors. The proposed solution for the knowledge exchange platform is currently being used in a Knowledge e-Marketplace for Courseware Distribution project that has been developed at the Poznan University of Economics, Poland. The project’s target is to integrate the traditional e-Marketplace with topic maps technology and to introduce the new technology – skill maps – for representing an individual employee’s knowledge.

Our second theoretical contribution comes from Boahene and Ditsa and tackles the conceptual confusion about data, information and knowledge that appears to be finding its way into the Knowledge Management literature. They explore how a would-be investor in a KMS (Knowledge Management System) might realise its anticipated benefits and how to ensure that a would-be implementor of such systems might know if they are on the right path. They, therefore, propose a “conceptual cleansing” in their terms and distinguish between information management, knowledge-based and knowledge management systems according to what they are typically capable of, and the questions that they can answer.

Our final theoretical chapter, authored by Joshi and Sarker, relates to the information systems development (ISD) process. They suggest that one possible cause for the failure of ISD may be the lack of relevant knowledge transferred from the system users to system developers. Their chapter thus provides a framework that allows researchers to study this knowledge transfer process in a systematic fashion, identifying a comprehensive set of factors that influence the process. These factors are presented as a set of propositions that relate to the (potential or otherwise) “stickiness” of this knowledge, which should also guide the future researcher in this field.

Having looked at some theory of knowledge, we now turn our attention to issues and challenges relating to the management of knowledge in the organisation.

Section Two: Management and Organisational Factors

In this second section of the book, we see authors writing on a variety of topics. From Scandinavia, Fredrik Ericsson and Anders Avdic look at the issue of systems acceptance; Abdus Sattar Chaudhry from Singapore looks at how to measure KMS impacts; Helen J. Mitchell, who writes from New Zealand, is interested in the evaluation of the technical element of knowledge management, her discussion relating to whether it adds value to the process or is merely an enabler; Denise Johnson and Charles A. Snyder from the USA interest themselves in management under uncertainty and the need for the disaster planning of KM alongside other organisational assets; Ricky Laupase looks at reward systems to see whether they encourage knowledge sharing; Karen Nelson and Michael Middleton are interested in the information and knowledge management enablers; and Ran Wang and Bonnie Rubenstein-Montano consider the impact of trust on knowledge sharing benefits.
The Ericsson and Avdic chapter concerns itself with how and why people will accept KMS, based on empirical work undertaken in a manufacturing environment. They contend that acceptance of knowledge management systems is dependent on perceived relevance, systems accessibility and management support. In order to achieve acceptance, KMS implementation should be iterative and cooperative between users and developers by continually developing, implementing and testing prototypes. They conceive of workers and management as two different social groups within the organisation. Workers’ everyday jobs are known and to some extent governed by different instructions. Relevance to workers will be achieved if they see that use of the KMS will add value to their work results, and if it is integrated into their work practice. Importantly, they emphasise that a KMS does not manage knowledge by itself— it is dependent on those who give meaning and understanding to the knowledge represented in the system.

Second in this section comes the chapter by Chaudhry. He considers performance measurement in knowledge management, as developing such a measurement system is considered key to the competitive success of the organisation. The chapter provides an overview of the main measures currently in use for measuring knowledge assets, including the Balanced Scorecard, the Intangible Assets Monitor, Skandia’s Intellectual Capital Taxonomy and also reports the results of a study carried out to review the use of KM performance measures in selected organisations. Chaudhry points out the commonalities of applications of performance measures and the need for the development of more relevant measures, as these measures only provide a partial assessment of the impact of knowledge management in organisations.

Helen J. Mitchell is also interested in the valuation of knowledge management, but here she is looking at whether the IT element, in particular, adds value to the process. Technology, she claims, is providing a means through which information can be gathered with relative ease and developments in technology have provided pathways for accessing vast amounts of information. Information, however, is static unless activity is taken, through the application of knowledge, to translate it into something with meaning that can be acted upon. In this chapter, Mitchell refers to an exploratory study that she undertook. Her conclusions were somewhat disappointing in that she discovered that, as expected, every organisation uses technology in some way or another, although the level of sophistication varies considerably and that the use of technology to share knowledge has not developed to any great extent. However, where it is used to bring people together, technology can be considered to add value.

McManus and Snyder take a somewhat different view of the value of knowledge by considering the situation of a major disaster and how most plans ignore, or downplay, the essential requirement for the organisation to preserve its critical knowledge resources in the event the possessors of that knowledge are killed. They claim that most proponents of knowledge management have neglected this important facet
of the field and, at the same time, the risk management and disaster recovery fields have ignored the important contributions of knowledge management to a viable business continuity plan. They provide a knowledge management checklist to assist managers in their efforts to harvest and preserve essential knowledge surrounding the organisation’s key processes for the business continuity plan. This is needed, but – in the event of a major disaster – it may be impossible to recover the loss of expertise unless there has previously been a concerted effort to harvest the knowledge and preserve it.

Ricky Laupase is concerned with how to reward staff for sharing knowledge, particularly in management consultancy firms. Some of his conclusions and comments would apply equally well to firms that employ consultants or where staff act as internal consultants. He proposes a framework suggesting that, with effective implementation, reward systems would encourage the sharing of tacit knowledge. His research showed that informal meetings and offering non-material or “soft” rewards are more often cited as an effective approach to encourage tacit knowledge sharing. Given the choice of receiving intrinsic or extrinsic rewards, consultants were in favour of receiving the former. They liked the feeling of satisfaction by being recognised for an award, as well as having an enhanced reputation by peers. The public recognition of an award or an achievement and the opportunity to enhance their reputation encouraged consultants to share their tacit knowledge.

Karen Nelson, in her chapter, explores the factors limiting organisational information and knowledge management (IKM) through the perceptions of practitioners. The work proposes that a number of organisational factors – which for them are enablers – influence IKM project outcomes. It follows that explication of these enablers in an integrated framework could be beneficial for practitioners. The results of exploratory research are presented in this chapter to understand which organisational factors IKM practitioners believe are enablers for these activities. The surveys, performed in a sample of Australian organisations, indicated that gaps exist between the significance of IM and KM enablers and the actual situation. The research revealed a significant difference between what was regarded as theoretically ideal and what was the actual organisational practice.

Finally, in this section of the book, Ran Wang and Bonnie Rubenstein-Montano write about the impact of trust on the benefits obtained from knowledge sharing. They argue that the benefits change as the level of trust changes, so the more trust there is, the more benefits that can be obtained. Trust is a basic feature of human interactions that requires cooperation and inter-reliance, as is the case in knowledge sharing. The authors experimented with their graduate students with respect to assignment completion and the results of this experiment are reported and analysed for significance. They put a caveat on the results, however, as the motivation for knowledge sharing amongst students will be different from that in a commercial organisation and thus the impact of trust may also be different. This leaves plenty of scope for future research for these authors.
Along with the organisational challenges for managing knowledge, we also have a number of technical challenges, some of which are discussed in the third section of our book.

Section Three: Technical Challenges

In the technical section, we have two chapters, Murray E. Jennex writing about Internet support and Yongtae Park, Yeongho Kim, and Intae Kang writing about the design of workflow-based knowledge management systems.

Murray E. Jennex shows how using a common infrastructure, through an integrated network (the Internet), facilitates access to, and the utilization of, knowledge and organisational memory and so increases the usability and success of such knowledge management type systems. Success factors are identified as: System Quality; System and Information Quality; Information Quality; and Use, which are then illustrated with case studies. Jennex concludes that there are issues associated with using the Internet that KMS designers need to be aware of. Chief among these are knowledge representation and search. As knowledge bases grow, designers need to be aware of increasing search times, as well as a variety of knowledge artifacts. Other critical issues include site maintenance, the knowledge life cycle and different patterns of KMS usage by novice or experienced users.

Park, Kim, and Kang, from Seoul, propose a framework for designing a knowledge management system for a generalised R&D organisation. Broadly, they say that a KMS comprises two principal modules: a process management module to administer knowledge activities to generate and utilize knowledge and a contents management module to deal with the knowledge contents, input and output of knowledge activities. The two modules are then made explicit through two operational systems: a workflow management system for the R&D process and an R&D knowledge management system for the R&D contents. As a building block to integrate the two systems, a workflow-based knowledge map is suggested.

Finally, this book moves on to some examples of how KM has been implemented in organisations, looking to the case studies to provide us with lessons we can learn for our own organisations.

Section Four: Case Studies of Knowledge Management in Practice

In this practical section, we have El-Sayed Abou-Zeid writing about a strategic alignment model using Buckman Laboratories as his example; Bendik Bygstad writing about a difficult CRM (Customer Relationship Management) implementation; Gillian Wright and Andrew Taylor writing about public services organisations and the barriers to knowledge sharing; Ricky Laupase, in this his second chapter, again examining management consultants’ work; Violina Ratcheva, who is concerned with collective knowledge in an electronic business space for virtual partners; Ahmed Abdel Kader Hussain who looks at issues in an Egyptian government department; Greg Timbrell and Karen J. Nelson, writing with Tony J. Jewels, about
knowledge re-use for enterprise systems planning support; and an entire collective or community of practice known as MOISIG, (Anabela Sarmento, João Batista, Leonor Cardoso, Mário Lousã, Rosalina Babo, Teresa Rebelo), discussing their personal experiences in Portugal. While many of our previous chapters have included the results of research and case study material, this particular section is more practically biased and has more in-depth case study work and analysis.

Abou-Zeid, in his chapter, concerns himself with the articulation of the relationship between an organisation’s competitive strategy and its knowledge strategy, in particular with the enterprise business strategy. He proposes a model that includes the external domains (opportunities / threats) and internal domains (capabilities / arrangements) of both business and knowledge strategies, and the relationships between them, and provides alternative strategic choices. This model is used to analyse the KM initiatives undertaken at Buckman Laboratories, demonstrating that business strategy is the anchor domain and that the two, key pivot domains that follow are the knowledge strategy and the organisational, infrastructure and processes strategy. The model, he argues, provides executives with a logical framework for analysing and assessing alternative strategic choices.

The chapter by Bendik Bygstad illustrates that technology-driven approaches to knowledge management are not likely to succeed. It also indicates some limitations of top-down managerial interventions, arguing that we need a deeper understanding of learning processes to be able to implement KM systems successfully. Whilst this case study is concerned with the implementation of a CRM system at a Norwegian organisation, the lessons learned are equally applicable to the other organisations undertaking similar implementations of knowledge intensive systems. He argues that traditional organisational development methods may not work well in the development of knowledge management systems and suggests some changes and additions that may improve the process and, thus, the success rate.

Wright and Taylor concern themselves with organisational knowledge sharing and the potential barriers to effective knowledge sharing in public service partnerships and service provision. They introduce a model to guide managers in their development of an effective knowledge-sharing environment. They claim that to date KM is largely a private sector innovation, although public sector bodies are moving towards this concept, and discuss the issues they found when researching health and social care bodies in the UK. The issues related to the need for changes in the areas of inter-organisation socialization processes, reflection and learning from past practices, information systems support and the development of shared performance measures. Most of these changes will require alterations to people’s mental maps of what is important. Therefore, it will also require changes in the organisational culture and top management roles in order for organisations to become receptive to new ideas and to support staff motivation and innovation.

Looking at organisational structure, Ricky Laupase, writing his second chapter, is concerned with how culture and information technologies support the conver-
sion of consultants’ tacit knowledge to organisational explicit knowledge. Three case studies of management consulting firms in Australia are reported. The organisations investigated realised the importance of their tacit and explicit knowledge, but they lacked guidelines on how to convert individual tacit knowledge to firm explicit knowledge. Formal meetings did not necessarily support knowledge sharing amongst consultants, while informal meetings did encourage such processes as a result of socialisation. Metaphors, narratives and analogies also assisted in the expression of tacit knowledge. However, it was concluded that time constraints were a problem for the documentation or the externalisation process.

Violina Ratcheva is interested in unravelling the mystery of knowledge creation processes in virtual partnerships. The chapter presents the preliminary results of a research study on seven virtual partnerships and proposes an initial conceptual framework of the knowledge creation processes taking place. The author argues that as new media and communication technologies have led to significant changes in the ways we interact and work together, it is important not to constrain this phenomenon to its novel information processing side, but to also consider virtualisation as a social process. Distant ways of working have had a significant impact on social interactions and relationships developed in a business context and have led to new views of the way we understand organisational norms, roles, identity and culture. The creation of new knowledge is socially embedded in interaction and communication practices and so resides in the connections of experts. These patterns, and the rules established amongst team members, determine how knowledge is accumulated.

The chapter by Ahmed Abdel Kader Hussein and Khaled Whaba concerns itself with the Information Decision Support Center for the Cabinet of Ministers for the Egyptian Government (IDSC), which faces a problem of a high employee turnover rate that threatens the loss of its organisational memory. The chapter thus sets out to explore a number of questions relating to the human aspects of knowledge management and the human barriers that might prevent the sharing of this organisational memory. It found that employees were concerned about losing power within the organisation when they shared knowledge and thought this would affect their competitiveness and promotion possibilities. They perceived the major barriers to sharing knowledge as being departmental, with expert knowledge often in the minds of individuals with a lack of adequate communication between the individuals and departments. They were also concerned about a possible invasion of privacy, especially when personal e-mails and documents were expected to be reviewed for possible addition to the knowledge base. This issue of privacy seems to be an important point that is often forgotten in the drive to capture data and information in all possible forms and is a challenge for organisations to consider carefully.

The issue of capturing knowledge is also brought up by Greg Timbrell, Karen J. Nelson, and Tony J. Jewels in their discussion of the issue of lifecycle knowledge management in an ASP (Application Service Provider) as it faces the first major
upgrade of its clients’ enterprise systems. The extent and cost of these major up-
grades can match or exceed the initial implementation, so the ASP management is
beginning to appreciate the need to recall their lessons and practices from initial
projects and are acknowledging the value of reusing the knowledge from earlier
implementations as a means of reducing financial risk. Within the ASP, they studied
the help desk and support personnel and discovered a number of issues relating to
the lack of knowledge captured, especially relating to contracted staff. The findings
also revealed the prevalence of informal networks in the support context and their
important role in enterprise (and other) systems’ lifecycle knowledge reuse.

Our final chapter in this section, and in the book, is—most unusually and with
great insight—written by a complete Community of Practice (CoP) in Portugal.
The issues of virtual teams and the necessity for communication to be performed
using appropriate tools and technology have already been discussed in previous
chapters. In this chapter, we see the practical difficulties that six researchers—
coming from different disciplines and being geographically dispersed—faced when
sharing and developing their common knowledge. We see here which tools and
technologies the CoP found most useful and which were not utilised. We note the
need the group felt for face-to-face meetings as they felt that it was in those meet-
ings that the component of interpersonal knowledge happened more intensely, that
the group values and norms were created and consolidated, and that the group
identity was established.

Concluding Remarks

In this book we discuss and explore a number of issues relating to organisational
culture, structure and reward systems, as well as technology. It is accepted by the
authors that knowledge should be strategically valued, with the strategies optimising
both people and technology. The development of innovative and creative learning
and knowledge requires the right culture to support creation and sharing. The chap-
ters in this book emphasise these points and indicate the theoretical basis on which
these conclusions can be drawn, pointing to good practice from which other
organisations can learn.

This book can only represent some of the many issues and challenges facing
the study and practice of knowledge management. We hope that you, the readers
of this book, can empathise and extrapolate from these examples and perhaps con-
tribute your own experiences to our next book on this important topic.