



InfoSphere : **NAVIGATING THE WORLD OF INFORMATION**

Preserving the Past, Valuing Present, Enriching the Future



**UNIVERSITI
TEKNOLOGI
MARA**

Fakulti
Sains Maklumat

InfoSphere:

Navigating the World of Information

Copyright © 2025 Faculty of Information Science

Published by Universiti Teknologi MARA Cawangan Johor

**Universiti Teknologi MARA, Cawangan Johor
Faculty of Information Science
Jalan Universiti, KM. 12, Off Jalan Muar,
85000 Segamat, Johor Darul Ta'zim, Malaysia**

All rights reserved. No part of this book may be reproduced, distributed, or transmitted in any form or by any means without prior written permission from the publisher, except for brief quotations in reviews. Published content does not necessarily reflect the publisher's views. For questions, please contact the publisher.

ISBN 978-629-7647-07-4

Disclaimer All content in this publication has been prepared accordingly with the utmost efforts of the author and publisher. The author and publisher make no representation or warranties with respect to the accuracy, applicability, fitness or completeness of the contents of this book.

Preface

It gives me great pleasure to present *InfoSphere: Navigating the World of Information*, a collective effort that brings together insightful discussions, empirical findings, and critical reflections from academics in information management, library management, records management, and information and communication technology (ICT).

In today's digital era, the vast and complex landscape of information continues to expand at an unprecedented pace. The convergence of technology and information systems has transformed how data is created, organized, stored, and utilized. This book aims to navigate that dynamic "infosphere", a term that reflects the interconnected environment in which information flows seamlessly across platforms, disciplines, and contexts.

The chapters compiled here explore diverse perspectives and contemporary issues shaping the management of information resources and services. From emerging trends in digital librarianship and knowledge governance to innovations in ICT applications and recordkeeping practices, each contribution highlights the growing importance of integrating technology, policy, and human expertise in managing information effectively.

This publication also serves as a reflection of our faculty's commitment to advancing scholarship and practice in the information domain. It showcases the intellectual depth and interdisciplinary collaboration among academics who continue to shape the future of information work.

As the Chief Editor, I wish to express my sincere appreciation to all the contributing authors for their dedication and scholarly rigor, and to the editorial team for their meticulous effort in ensuring the quality and coherence of this volume. Special thanks are also extended to the Faculty of Information Science and Universiti Teknologi MARA Cawangan Johor for their continuous support and encouragement in realizing this publication.

I hope that *InfoSphere: Navigating the World of Information* will inspire readers among students, educators, researchers, and practitioners alike to engage critically with the evolving information landscape and to contribute meaningfully to its advancement.

Azura Abdul Jamil @ Kamarudzzaman

Chief Editor

InfoSphere: Navigating the World of Information

2025

Table of Contents

Sections 1 - Information Management

Early History of Information Governance (IG) and its implementation in Malaysia <i>Nor Diana Abd Rahman, Rohayu Ahmad, Azura A.Jamil@Kamarudzzaman, Dr Siti Nuur-Ila Mat Kamal</i>	1
Information Skills in Students Learning and Development <i>Nurfaizah Kamarudin, Ahmad Fuzi Md Ajis, Siti Hajar Baharin, and Siti Nur Shahira Dahari</i>	7
Digital Transformation in Information Management <i>Nor Rashidah Mohamed and Maziah Mustapa</i>	12
Understanding Social Media for Information Professionals <i>Rabiatul Adawiyah Kamarulzaman, Nurul Huda Izzati Jamil, Razifah Othman and Suhaila Osman</i>	19
Introduction to Metadata <i>Siti Hajar Baharin², Siti Nur Shahira Dahari¹, Nurfaizah Kamarudin³ and Ahmad Fuzi Md Ajis</i>	28

Section 2 - Library Science

Information Professionals in Library Context <i>Siti Nur Shahira Dahari¹, Siti Hajar Baharin², Nurfaizah Kamarudin³ and Ahmad Fuzi Md Ajis</i>	34
--	----

Section 3 - Records Management

Records Management Role in Organizational Memory <i>Azura Abdul Jamil @ Kamarudzzaman, Nor Diana Abd Rahman, Rohayu Ahmad & Dr Siti Nuur-Ila Mat Kamal</i>	39
Significance of Electronic Records in Higher Learning Institutions <i>Rohayu Ahmad, Nor Diana Abd Rahman, Azura A.Jamil@Kamarudzzaman, Dr Siti Nuur-Ila Mat Kamal</i>	43

Section 4 - Information System Management

Internet of Things (IoT): The role of an information literacy skills <i>Faten Elina Kamaruddin, Isma Ishak and Ahmad Fuzi Md Ajis</i>	46
Cloud Computing in Information Management <i>Isma bin Ishak, Faten Elina binti Kamaruddin</i>	53

Section 5 - Information Analytics

Information Analytics: influences of crucial Data Pre-Processing Technique <i>Ahmad Fuzi Md Ajis, Nurfaizah Kamarudin, Siti Hajar Baharin, Siti Nur Shahira Dahari</i>	60
---	----

DIGITAL TRANSFORMATION IN INFORMATION MANAGEMENT

By Nor Rashidah Mohamed and Maziah Mustapa
Email: norra734@uitm.edu.my

1.0 Introduction

In the twenty-first century, information has become one of the most valuable resources in the world. It fuels progress, connects societies, and defines success across industries. Every day, billions of pieces of information are created, shared, and stored. Yet, information by itself is meaningless unless it is transformed into knowledge and used wisely. This transformation is what gives rise to knowledge power is the capacity to act intelligently and effectively through understanding.

Information Management (IM) is the systematic process of collecting, organizing, storing, and distributing information so that it can be used efficiently. In other words, it is about making sure the right information reaches the right people at the right time. When information is managed properly, it becomes knowledge; and when knowledge is applied, it becomes power.

As Choo (2002) explains, organizations that manage information effectively can reduce uncertainty, create value, and strengthen decision-making. This shows that IM is not only a technical matter but also a human and strategic one. It combines technology, organization, and culture into one ecosystem that supports learning and innovation.

2.0 The Concept and Scope of Information Management

Information Management is not simply about storing files or maintaining databases. It involves the entire life cycle of information, from creation and classification to preservation and sharing. An effective IM system ensures that information remains accurate, relevant, secure, and accessible throughout its use.

In practical terms, IM includes both information technology (IT) and knowledge management (KM). IT focuses on the tools and infrastructure used to handle data, computers, servers, networks, and cloud systems. KM, meanwhile, focuses on how people share, apply, and create new knowledge from that data. Together, they enable organizations to capture not just explicit knowledge (what is written down), but also tacit knowledge (what people know through experience).

Nonaka and Takeuchi (1995) famously describe knowledge creation as a spiral process that moves between tacit and explicit knowledge. For example, when employees discuss a problem and develop a new solution, they are turning experience into formal knowledge. IM provides the structure that makes this process possible, through documentation, communication platforms, and databases that store organizational memory.

Effective IM also supports transparency and accountability. For instance, when governments publish open data, citizens can analyze policies, track spending, and contribute to innovation. In this way, information becomes a public resource that strengthens democracy and social development.

3.0 The Knowledge Society and the Rise of Information Power

We now live in what sociologists call the knowledge society, a world where knowledge has replaced land, labor, and capital as the primary source of wealth. The shift toward information-based economies means that organizations compete not only on products or prices but also on ideas, expertise, and innovation.

The saying knowledge is power has never been more relevant. But in today's world, it is more accurate to say that managed information is power. Data without context leads to confusion; data that is well-managed and analyzed leads to insight and control.

This transformation has deep implications for both developed and developing nations. As highlighted by the IDS Bulletin (1998), the global flow of information remains unequal: the North still dominates the production and control of knowledge, while the South often depends on imported expertise and technology. This imbalance reinforces economic and cultural disparities, making information a form of geopolitical power.

However, recent movements towards open access and participatory research are slowly changing this landscape. Communities are beginning to create their own data, share local knowledge, and influence global conversations. This democratization of information represents a new kind of empowerment is one that allows people to define their own realities through shared understanding.

4.0 Information, Knowledge, and Power: Theoretical Perspectives

The relationship between information and power is not new. Thinkers from Bacon to Foucault have explored how knowledge shapes authority, freedom, and control. Michel Foucault (1980) argued that power and knowledge are inseparable; every exercise of power depends on knowledge, and every form of knowledge produces power relations. In modern organizations, this means that whoever controls information often controls decision-making.

Building on Foucault, other scholars have developed nuanced theories of power relevant to information management. Among them, the works of Barnes (1988), Clegg (1989), Giddens (1979, 1984), Haugaard (1997), and Flyvbjerg (1998) stand out for connecting power to institutions, communication, and human action.

Haugaard (1997) proposes a concept of practical consciousness is the unspoken knowledge people use in their daily routines. Every organization has its own practical consciousness: a hospital, for instance, operates according to codes and assumptions

quite different from a retail store. Understanding this dimension helps information managers design systems that fit an organization's culture and purpose.

Flyvbjerg (1998) adds that knowledge is never neutral; it always reflects values and interests. Therefore, managing information is not just a technical activity but a political and ethical one. The way data is collected, stored, and used can reinforce or challenge existing power structures. In development work, for example, data about marginalized communities can either empower them or be used to control them depending on who interprets the data and for what purpose.

5.0 The Role of Information in Decision-Making

In both public and private sectors, decisions are only as good as the information behind them. Reliable, timely, and relevant data allow leaders to plan effectively, allocate resources, and predict future trends. Without good information management, decision-making becomes guesswork.

Davenport and Prusak (1998) explain that information turns into knowledge when it is combined with experience, context, and reflection. A company that collects customer feedback but never analyses it gains little. But if that information is processed, compared, and shared, it becomes actionable knowledge that can guide strategy and innovation.

However, decision-making processes are rarely neutral. Each actor, government, NGO, or corporation uses information to support its own agenda. In many cases, information about poor or vulnerable communities is collected but not returned to them in meaningful ways. This imbalance reveals the political nature of information: access itself is a form of power.

Modern information management aims to correct this imbalance through transparency and participation. Open-data platforms, for instance, allow citizens to track development projects and hold authorities accountable. In organizations, knowledge-sharing platforms encourage collaboration and reduce hierarchy. These practices shift power from individuals to networks, fostering collective intelligence.

6.0 Information Management in the Digital Age

The twenty-first century marks the complete digitization of human knowledge. From cloud storage to artificial intelligence (AI), technology has reshaped how we collect, store, and use information. Organizations no longer rely on physical archives; instead, they depend on digital repositories that can be accessed anywhere in the world.

Modern information management aims to correct this imbalance through transparency and participation. Open-data platforms, for instance, allow citizens to track development projects and hold authorities accountable. In organizations, knowledge-sharing platforms encourage collaboration and reduce hierarchy. These practices shift power from individuals to networks, fostering collective intelligence.

This shift has made information management faster and more dynamic, but also more complex. The sheer volume of data often called big data requires advanced systems to process, analyze, and protect it. AI tools can now recognize patterns, forecast trends, and even generate insights automatically. Yet, these systems still depend on human judgment to interpret results responsibly.

As Tiwana (2000) reminds us, technology is only as good as the people who use it. The success of information management therefore depends on the balance between automation and human wisdom. A digitally literate workforce, guided by ethical awareness, is essential for ensuring that information power benefits rather than harms society.

7.0 Technology, Collaboration, and Learning Organizations

Modern institutions are evolving into learning organizations places where people continuously acquire and share knowledge to adapt to change. Knowledge Management Systems (KMS) form the backbone of this transformation. These systems integrate tools such as databases, intranets, and collaborative platforms to support communication and creativity.

For example, universities that maintain digital libraries and research repositories empower both students and academics to access updated materials instantly. Corporations use internal KMS to capture lessons learned from projects, preventing repeated mistakes and encouraging innovation. Governments use e-governance systems to share information across departments, improving transparency and efficiency.

Rowley (2007) situates this development within the DIKW hierarchy Data, Information, Knowledge, and Wisdom. Each level builds upon the previous one: data becomes meaningful when structured into information; information gains context when applied as knowledge; and knowledge becomes wisdom when used ethically and insightfully. Effective information management ensures smooth movement across these levels.

However, collaboration also introduces cultural challenges. People may hesitate to share knowledge for fear of losing status or control. Overcoming this requires building trust, recognition systems, and an organizational culture that values openness. Leadership plays a key role in modelling such behaviour.

8.0 Challenges and Ethical Dimensions of Information Management

While information technologies bring efficiency, they also raise serious ethical and security concerns. Three major challenges dominate the modern IM landscape.

Information Overload: With data multiplying exponentially, individuals often struggle to distinguish what is relevant. Poorly curated information leads to confusion and decision fatigue.

Data Privacy and Security: Cyber-attacks, identity theft, and surveillance threaten both personal and institutional trust. Protecting sensitive data is no longer optional; it is a moral and legal obligation.

Digital Divide: Not everyone has equal access to technology or digital literacy. This gap widens social inequality, as those without access remain excluded from the knowledge economy.

Ethical information management therefore demands transparency, accountability, and respect for privacy. Foucault's notion that knowledge produces power reminds us that whoever holds data holds influence. Responsible IM means distributing that influence fairly, through open data policies, consent-based information sharing, and respect for intellectual property.

Moreover, the rise of misinformation highlights the importance of critical thinking and verification. AI can help flag false content, but human discernment remains the best safeguard. Education systems must therefore emphasize information literacy, the ability to evaluate sources, interpret evidence, and apply knowledge ethically.

9.0 Information Management for Sustainable Development

Information plays a vital role in achieving the United Nations' Sustainable Development Goals (SDGs). From climate monitoring to public health surveillance, accurate data underpins every major initiative. When managed effectively, information can bridge gaps between governments, researchers, and citizens.

For instance, open data on deforestation enables communities to monitor environmental changes; health-information systems allow early detection of disease outbreaks; and education databases support policies to reduce inequality.

However, these systems must respect cultural diversity and local knowledge. Development experts increasingly recognize that local data community stories, traditional practices, and indigenous observations are as valuable as statistical reports. Integrating these perspectives transforms information management from a top-down exercise into a participatory process that empowers people directly affected by decisions.

Thus, IM becomes not only a technical tool but also a catalyst for social justice. It gives voice to the marginalized, transparency to the powerful, and direction to policymakers.

10. The Future of Knowledge Power

The future of information management lies in integration combining human intelligence, machine learning, and ethical governance. As digital transformation accelerates, organizations must learn to adapt continuously. The leaders of tomorrow will not merely collect information; they will interpret, share, and apply it creatively.

Emerging technologies such as blockchain promise tamper-proof data storage, while quantum computing could revolutionize data processing. Yet, even the most advanced systems will fail without trust. Human empathy, moral reasoning, and critical reflection remain irreplaceable.

In the long term, knowledge power must serve collective well-being. This means designing information ecosystems that are inclusive, transparent, and sustainable. Education, collaboration, and integrity will define success more than technological sophistication.

11. Conclusion

Information Management is both an art and a science the art of making sense of complexity, and the science of structuring knowledge for human progress. It transforms raw data into wisdom, connecting the technological with ethical, and the global with the local.

From Foucault's theories of power to modern AI analytics, the same truth endures: information is only powerful when used responsibly. Managing information means managing society's capacity to learn, decide, and act.

References

- Barnes, B. (1988). *The nature of power*. Polity Press.
- Choo, C. W. (2002). *Information management for the intelligent organization: The art of scanning the environment*. Information Today, Inc.
- Clegg, S. R. (1989). *Frameworks of power*. Sage Publications.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business School Press.
- Flyvbjerg, B. (1998). *Rationality and power: Democracy in practice*. University of Chicago Press.
- Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings 1972–1977*. Pantheon Books.
- Fuller, S. (2002). *Knowledge management foundations*. Butterworth-Heinemann.
- Giddens, A. (1979). *Central problems in social theory*. Macmillan.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. University of California Press.
- Haugaard, M. (1997). *The constitution of power: A theoretical analysis of power, knowledge and structure*. Manchester University Press.
- IDS Bulletin. (1998). *Information, knowledge and power: The North/South divide*. Institute of Development Studies.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.
- Rowley, J. (2007). The wisdom hierarchy: Representations of the DIKW hierarchy. *Journal of Information Science*, 33(2), 163–180.
- Tiwana, A. (2000). *The knowledge management toolkit: Practical techniques for building a knowledge management system*. Prentice Hall.



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Maklumat

ISBN 978-629-7647-07-4



9 786297 647074