# PARADIGIUSED AS A STANDARD

## PARADIGM SYSTEMS BERHAD

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the road ahead for The Malaysian Armed Forces Personnel



The proliferation of information within organizations, generated through communication and transactions, internally and externally has created information silos which unless organized and managed using efficient delivery systems, will render them incapable of being transformed into knowledge that can help provide organizations with the advantage over their competitors. **P2** 



Using the MOM software , IIUM had managed to streamline the creation, distribution, and archiving of electronic theses and dissertations. Diverse content—video, photographs, text, complex equations, and other elements—can be incorporated into a single PDF file that can be easily accessed and read with MOM's online Taxonomy Browser.. **P6** 

# Pearls of Wisdom

"Knowledge is information that changes something or somebody --- either by becoming grounds for actions, or by making an individual (or an instituition) capable of different or more effective action." (*Peter F. Drucker, 1988.*) KDN Permit No. PP16595/09/2010(025565)

*Truth, Sir, is a cow, that will yield such people no more milk, and so they are gone to milk the bull (Samuel Johnson, 1763).* 

At some point in time, most of us would probably have been introduced to the 'Data-Information-Knowledge-Wisdom' (DIKW) pyramid: intermittently referred to as the knowledge hierarchy, information hierarchy, or knowledge pyramid, to name a few. The DIKW pyramid has been critiqued as unsound and methodologically undesirable. The intellectual backdrop of the DIKW hierarchy is positivism; now thoroughly discredited. We are not about to start another intellectual debate: we drive home the point that information is information and knowledge is knowledge, and the twain can only meet with much conscious and organized effort. Information just does not transform into knowledge the moment it jumps into someone's brain. Unfortunately we are led to believe so by some, for various reasons. Knowledge is an innately human quality, residing in the living mind because a person must 'identify, interpret and internalise knowledge'; however in order not to digress, we take cognizance that it is a broad and abstract notion that has defined epistemological debate in philosophy since the beginning of civilization.

Thomas Stewart, editor of the Harvard Business Review, posits that what's information and what's knowledge depends on context. Context, simply defined, is the set of circumstances or facts surrounding a situation or event. However, context setting is a not an independent activity; it has to have an underpinning mental process, that is, cognition: which defines knowing through perception, reasoning or intuition. Transforming information into knowledge involves the cognitive process. It is not about depositing digitized documents into repositories and having the ability to execute sophisticated retrieval algorithms. Information, in whatever form, is transformed into knowledge through complex processes in the minds of the knower.

Organizations have an undeniably important role to play in the transformation of information into knowledge. Organizations can: create a culture of trust, develop a knowledge-centric structure, provide leadership, realign strategies, improve systems and processes, stimulate knowledge networks, and provide resources.

Transforming information into knowledge is a journey: an ongoing activity. The sooner it is embraced the better, as it is inevitable. The more experience one gets the easier the process becomes. As a community service, we share some insights to lighten the transformation process.

## The Paradigm Community

## TRANSFORMING INFORMATION INTO KNOWLEDGE

## INTRODUCTION

The proliferation of information within organizations, generated through communication and transactions, internally and externally has created information silos which unless organized and managed using efficient delivery systems, will render them incapable of being transformed into knowledge that can help provide organizations with the advantage over their competitors.

Seen in this context, knowledge is processed information and constitutes the organizations' intellectual capital. Unless organizations realise that information silos can generate knowledge that would enable the management to enhance their decision making and problem solving capabilities, collecting data in the form of statistics, customer and staff profiles, market research findings, etc would be futile. It can therefore be said, that information management is the first step to knowledge management (KM). As shown in Figure 1, knowledge can only be transformed from information via various cognitive processes that require critical and analytical thinking ability.



Figure 1: From Information to Knowledge: Processes involved in transforming Information into Knowledge

Legend FIS HRIS SMIS LIS R&O LGL MIS	Financial Information System Human Resource information System Sales & Marketing Information System Logistics Information System Retail & Operational Information System Legal Information System Management Information System
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## MANAGING ORGANIZATIONAL KNOWLEDGE

Organizational knowledge constitutes two types of knowledge (a) Explicit or documented knowledge found in minutes, memos, e-mails as well as digital library resources such as e-books, e-journals and the Internet. Tacit knowledge comprises views, opinions, ideas, experiences, etc which are embedded in people's minds and unless expressed into an explicit format, remains untapped and lost to the world of knowledge.



Figure 2: Embedded knowledge in Organization: Using the embedded knowledge of the CEO as example

While explicit knowledge is easily accessible, acquiring tacit knowledge is more complex, giving rise to theoretical models of knowledge capture and transfer such as SECI, Hedlund, Cynefin, etc. On the practical level, knowledge can be captured and transferred using technology. Tools such as e-mails, blogs, facebook, Community of Practice (CoP), etc can be used for knowledge capture and transfer. Figure 3 shows how a problem about a defective car seat is channelled to a source in the form of an inquiry and the solution provided by the source is channelled back to the inquirer.



Figure 3: Knowledge Capture & Transfer

In the process, the inquiry as well as the solution are both recorded in the database, tagged via the use of metadata and stored in the database. The next time the same problem surfaces, there is no necessity to go through the whole process of inquiry again. A search in the organizational database using keywords will reveal the solution to the same problem without reinventing the wheel.

Integral to managing organizational knowledge is the need to develop certain competencies in order to ensure that whatever knowledge is stored in the organization's knowledge databases are easily and efficiently retrieved. Towards this end, whatever is stored in the databases must be organized using metadata and taxonomy – new terms to describe the age-old library functions of cataloguing, classification and indexing. The advent of ICT and the arrival of electronic resources have revived the use of the terms "metadata" and "taxonomy".

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Corporate marketing	Name James I. Hamje P.E. Address 09 Hayaman Baad Croon Lana DA 19054 Dhana: (219
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Strategic planning	industry. Mr. Hamie has 23 years of experience in eng
Engineering & technical	management and construction claims analysis for indu
Constructural engineering	commercial, residential and educational facility project
Sectorical engineering	has testified as an expert in court and international arb
Mechanical engineering	Scheduling, Schedule Delay Analysis, Labor Productiv
Structural engineering	Contract Interpretation, Engineering Design Standard o
PRODUCTS	bas forensis execution in Contractor/Owner Prinancial Damages.
Basic components	analysis of Structural Collanses
Doors and windows	Education/Licenses/Degrees: BSCE: MSCE Licenses: Professional Engine
Floors and ceilings	Area of Expertise Construction
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Figure 4: Knowledge Tree of a construction organization

Unlike the traditional library practice however where prescribed subject headings (example Library of Congress or Dewey Decimal Classification) are assigned to each item, in the case of KM, the terms used must be decided by the organizations themselves using terms, phrases, and keywords peculiar and familiar to the organizations only. In this way, the taxonomy is customised and individualized to suit the needs of the organization. The taxonomy used can develop the knowledge tree for the organization which would be used for retrieval purposes.

## TRANSFORMING INFORMATION INTO KNOWLEDGE

Most organizations compile data and statistics daily but much of it remain in their raw form, not analyzed and not used for organizational needs. This is because information is only relevant at the point of need which is normally at the point of making decisions or policies (at all levels) or finding solutions to problems. At the point of need, information or knowledge should be made available so that when decisions are made or problems solved, it should be knowledge-based. With sufficient knowledge, subsequent and consequent action taken by the organization would be better ensured of success.



Figure 5: Transforming Information into Knowledge

## **KNOWLEDGE IS A CRITICAL ASSET**

#### Situation

Knowledge is a critical asset of an organization. Increasing global competitiveness has necessitated today's organizations to leverage on knowledge assets to improve performances, to generate new opportunities, and above all, to gain leadership positions.

### Challenge

Knowledge, both explicit and tacit, is abundant within and outside an organization. The challenge is the ability to capture knowledge from the multitude of disparate resources into a single knowledge repository and to present it in an explicitly meaningful manner that can be readily utilized by the organization to buid competitive advantage.

#### Solution

In striving to build competitive advantage, more and more organizations are now exploiting the latest web-enabling technologies to accelerate speed to knowledge, and to entrench collaboration and sharing of knowledge within and across organizations on a global scale.

Paradigm Systems' Knowledge Management Solution encompasses an array of web-enabling technologies and services to provide your organization end-to-end facilities to capture, manage, deliver and share knowledge in a fully integrated web environment.

## **KEY BENEFITS**

Accelerating speed to knowledge

- Fast delivery of knowledge content anytime, anywhere via the Internet.
- Able to view and retrieve knowledge content linked to internal and external bibliographic and non-bibliographic records from a single interface.

Entrenching knowledge sharing & collaboration of ideas

- Availability of collaborative platforms to entrench community-wide sharing of ideas and knowledge.
- Able to capture and store invaluable tacit knowledge from these collaborative platforms.

Preserves integrity of knowledge content for future use

• Able to store knowledge content (document-based texts, images, audio-video materials, emails and e-forum discussions) in digital and non-digital formats thereby preserving the integrity of knowledge content for future use.

Taxonomy and Metadata Search Features for easy retrieval of knowledge content

 Availability of well-constructed Taxonomy structure and Metadata search features to facilitate easy and fast retrieval of knowledge content in the knowledge repository.

# A REVOLUTIONARY DATA MINING AND KNOWLEDGE SHARING EXPERIENCE!



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**eQUIP** together with **Equalizer** provide flexible, scalable and extensible cornerstones for the dissemination and capturing of knowledge and information via the World Wide Web.

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To Extract News Feeds	Lines 1 1 1 1 1 1 1 1 1 1 1 1 1	ed extracts news rom multiple news es to the edge Portal.

Multimedia Objects Manager (MOM) provides end-to-end content management for the Knowledge Portal. It encompasses :

- A Knowledge Repository to store content (document-based texts, images, audio-video materials, emails and e-forum discussions) in digital and non-digital formats.
- A Taxonomy Manager to organize content in the Knowledge Repository under well-constructed taxonomy structures.
- A Query Manager with Metadata fields to facilitate easy and fast retrieval of content in the Knowledge Repository

# IIUM IMPROVES QUALITY OF SERVICE AND KNOWLEDGE SHARING WITH MULTIMEDIA OBJECTS MANAGER (MOM)



MOM's versatile Knowledge Tree Browser provides online access to thousands of Theses, Examination and Islamic Manuscripts

## Situation

University theses and publications traditionally have been managed on paper, with libraries devoting substantial space to storing these research projects. In addition to high costs, paper-based processes for managing this information made it difficult to share materials, because only a limited number of on-campus students and faculty members have direct access to the documents.

## Challenges

- Files and research materials could not be searched, shared or re-used effectively.
- Heightened User expectations for instant access to digital collections.
- Existing Systems used by the University could not be integrated, resulting in redundant, high-maintenance infrastructure.
- The University needed a more scalable, flexible platform to support growth.





The International Islamic University of Malaysia(IIUM) had decided to establish a Corporate Taxonomy, commencing with the development of the body of knowledge, covering all core subjects taught in the University.

## Success Strategy for Improved Operations and Performance

Using the MOM software, IIUM had managed to streamline the creation, distribution, and archiving of electronic theses and dissertations. Diverse content—videos, photographs, texts, complex equations, and other elements—can be incorporated into a single PDF file that can be easily accessed and read with MOM's online Taxonomy Browser.



Effectively Managing Content with MOM

Utilizing MOM's combination of browsing and keyword features, IIUM had facilitated knowledge seekers with an almost perfect suite of tools to mine the University's Knowledge Base.

## **Benefits of using MOM**

- Round the clock availability. Knowledge Seekers are able to gain access to the same information, as long as the Internet connection is available.
- Multiple access. The same resources can be used simultaneously by an unlimited number of Knowledge Seekers.
- Real time Information Retrieval. Centralized document management speeds document retrieval and improves responsiveness to researcher enquires.
- Space. Paperless efficiency has helped reduced cost throughout the University, including thousands of materials for file storage alone.
- Efficiency. Complete electronic research and examination question papers helped the University manage, govern and use information more effectively.

International Islamic University of Malaysia

## INFORMATION MANAGEMENT TO KNOWLEDGE MANAGEMENT : THE ROAD AHEAD FOR THE MALAYSIAN ARMED FORCES PERSONNEL

## Situation

Case Steidy

There was a need to develop the MINDEF Library as the Information Hub that connects to all of its 59 branches, and enable users to access their information resources and the digital library services from their base camps, homes or even from remote locations on a 24 hour basis.



#### The MINDEF Library Network :

59 BRANCHES: Malaysian Armed Forced Defence College (MAFDC), Malaysian Armed Forced Staff College (MAFSC), Field Army Command Headquarters, 1 Div, 2 Div, 3 Div, 4 Div, 1 Bde, 2 Bde, 3 Bde, 4 Bde, 5 Bde, 6 Bde, 7 Bde, 8 Bde, 9 Bde, 10 Bde, 11 Bde, Army Training Headquarters, Army Management Institute, Army College, PUSTAKMAR, PUSWATAN, PULMAT, SITU, PULARIS, RTC, AATS, PULAMOR, PUSARTI, POPTD, PLPM, ILMI, PULPAK, INSAN, IKEM, PULADA, PULAREK, PULNORD, PULAPOT, IKED, MAWILLA I, MAWILLA II, KD PELANDOK, KD MALAYA, KDSI I, Air Force College, Air Force Institute, Butterworth Air Force Base, Gong Kedak Air Force Base, Kuantan Air Force Base, Kuching Air Force Base, Labuan Air Force Base, Sg. Besi Air Force Base, Subang Air Force Base, PUTD (881 SKN PUTD), Markas 21 GGK, Gemas Garisson, STRIDE.

## At a Glance

- The MINDEF Library aspires to be a modern and excellent centre for military knowledge that enhances the Arm Forces vision and mission.
- The Library coordinates the collection development and management of all 59 MINDEF branch libraries in the country, supported by 200 professionals, semi-professionals and non-professional staff managed by Colonel Zulkefli Abdullah.
- To-date there is a collection of about 200,000 materials in the form of books, theses, maps, CDs, periodicals, e-books and online publications.



The Knowledge Management(IM) project is one of the Armed Forces' long term strategies to liberalize knowledge to their personnel, and eventually, pave the road ahead to managing knowledge for the Armed Forces.

## The Information Management (IM) Project

**In Nov 2007.** MINDEF embarked on the Information Management(IM) project, with the implementation of ILMU<sup>™</sup> PERDANA and Multimedia Objects Manager (MOM). The IM project was successfully launched with the central library and 6 branch libraries as its initial members.

There was a need to identify knowledge that had been accumulated throughout the implementation of the IM project, and to apply the accumulated knowledge, such that the effectiveness and efficiency of the future phases of the IM project can be further enhanced and sustained.

# In Jan 2009. MINDEF embarked on a 'Knowledge Audit' exercise focusing on their IM project.

## It's main objectives were :

- To identify knowledge assets (policies, digital content, checklist, tacit knowledge - experiences, decision making skills, etc.) gained from the implementation on the IM project, and
- To identify implementation gaps and possible solutions to bridge these gaps.

In July 2009. With the experiences and best practices gained , the organization commenced implementation of the IM Project to the remaining 59 branches throughout the country.

The IM project for the 59 MINDEF branches is currently in progress, due to complete by end 2010.

## Benefits

- Free access to information and knowledge in the MINDEF Library by all personnel serving in the defense sector and their families.
- The IM project had paved the way to the sharing of information and knowledge resources amongst the military personnel by using the central Information Hub as the gateway to information resources.
- The IM project had complemented the learning organization culture that is prevalent in the Armed Forces.

# **Discover MOM : FLEXIBILITY. CHOICE. VALUE.**



**Multimedia Objects Manager(MOM)** is the discovery information services platform from Paradigm Systems that introduces users to a new world of organized knowledge. Select from an array of sophisticated query tools or simply navigate through MOM's Taxonomy Tree, and focus solely on the relevant and significant information you need in context. **The choice is yours**.

Everything is accessible through MOM's flexible Web interface . Automatic full-text indexing of Word® and Adobe® PDF objects makes finding the most granular information, easy. **The result? Searches that lead to discovery. And research that leads to success**.

MOM helps the Knowledge Seeker fulfil a new and exciting role with the confidence, only a Paradigm product can provide. Unlike any other institutional-repository product, Paradigm provides 24/7/365 support by our information and technology experts. It's the Paradigm way.



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