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Intan Soraya Rosdi Kok Wai Chew Multimedia University, Cyberjaya, Malaysia Norhanadia Samsudin Sokri Hassan Inland Revenue Board of Malaysia, Malaysia

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Hasilpedia: Transforming knowledge management at Inland Revenue Board of Malaysia

Intan Soraya Rosdi

Faculty of Management Multimedia University, Cyberjaya, Malaysia E-mail: soraya.rosdi@mmu.edu.my

Kok Wai Chew*

Faculty of Management Multimedia University, Cyberjaya, Malaysia E-mail: kwchew@mmu.edu.my

Norhanadia Samsudin

Corporate Planning Department Inland Revenue Board of Malaysia, Malaysia E-mail: norhanadia@hasil.gov.my

Sokri Hassan

Information Technology Department Inland Revenue Board of Malaysia, Malaysia E-mail: sokri@hasil.gov.my

*Corresponding author

Abstract: This paper provides a working example of how technology plays an important role in knowledge management for the Malaysia's federal tax collection agency, Inland Revenue Board of Malaysia (IRBM). The IRBM had successfully gone through a five year organizational transformation process that had resulted in significant performance improvements duly recognized by the Malaysian government. Led by its visionary Chief Executive Officer (CEO), various initiatives had been implemented, including those which placed technology as a key driver in its operations. The focus of this paper is on the organization's 'knowledge base' system, or the 'k-base'. A computerized database for internal use, the k-base was developed in-house and currently managed by IRBM's Information Technology Department. Originally created to support information sharing among the organization's auditors, the k-base today features a myriad of information and is accessible by all employees. This paper will trace the journey of the k-base from its original version to being IRBM's prized possession today as well as the organization's plans for its future.

Keywords: Malaysia; Government agency; Inland Revenue Board of Malaysia; Knowledge management; Technological infrastructure; Organizational learning

Biographical notes: Intan Soraya Rosdi is a lecturer at the Faculty of Management, Multimedia University, Cyberjaya. She holds a PhD in strategic human resource management and innovation. She is a member of the university's Centre of Excellence for Knowledge and Innovation Management.

Kok Wai Chew is an Associate Professor at the Faculty of Management, Multimedia University, Cyberjaya. He is a member of the university's Centre of Excellence for Knowledge and Innovation Management.

Norhanadia Samsudin is the Director, Corporate Planning Department, Inland Revenue Board of Malaysia.

Sokri Hassan is the Principal Assistant Director, e-Services Application, Information Technology Department, Inland Revenue Board of Malaysia.

1. Introduction

Knowledge management in the organizational context refers to an approach in actively leveraging upon individual knowledge and expertise towards creating value for the organization (Scarborough, 2003). While much has been written on knowledge management (KM) technologies in organizations, there seems to be limited discussion on the topic when it comes to governmental bodies. For governmental bodies in developing countries like Malaysia, such studies are even more scant. In addressing the gap, this paper attempts to provide a working example of technology and KM in the Malaysian government. It describes how technology plays an important role in knowledge management for the Malaysia's federal tax collection agency, Inland Revenue Board of Malaysia (IRBM), or 'Lembaga Hasil Dalam Negeri Malaysia' as it is referred to in the national language. The term 'Hasil' in the organization's name can be translated to mean revenue, or income, which aptly refers to the IRBM's main role as the country's tax collection agent. Hence, the research question is "how can technology be utilized by a governmental agency such as the IRBM for knowledge management?" The objectives of this paper are:

- 1. To determine the role of technology for KM in the context of IRBM.
- 2. To identify the impacts of technology on three specific KM activities, namely knowledge acquisition, knowledge sharing, and knowledge application among IRBM employees.

The IRBM makes an appealing case study as it is currently regarded as an exemplary governmental body which had gone through a successful five year organizational transformation process that made them less bureaucratic, and more efficient and corporate-like. Their success story is well known among those in the government. Much of it is made public via the mass media, public talks, and management seminars, whereby the IRBM's Chief Executive Officer (CEO), Tan Sri Dr. Shukor Mahfar, is often invited to share management strategies and practices for other organizations to learn from their achievements.

At the heart of IRBM's transformation lie the CEO himself and his passion for continuous learning and improvement, and the inculcation of an innovative and knowledge-oriented culture among Hasilians. Hasilian is a term used to refer to the organization's workforce, and in many internal communication activities, the organization itself is termed 'the kingdom of Hasil'. Under the visionary leadership of the CEO, the top management team crafted and implemented various initiatives, some of which placed technology as a key driver in its improved operations. Technology now plays a much more significant role in its operations compared to the years prior to the start of the transformation, which was when Tan Sri Dr. Shukor Mahfar took office in 2011.

This paper will trace the journey of the k-base from its original version to being IRBM's prized possession today as well as the organization's plans for its future. However, to establish the research background for the case, the following section presents a discussion on the study of KM in government institutions, with a focus on the role of technology.

2. Knowledge management technology in Malaysian government institutions

KM literature has established that organizations require comprehensive KM through the usage of information and communication technology (Kammani & Date, 2009). In today's organizations, advanced technology has made it possible for employee knowledge to be stored and managed using various technologies such as online databases, groupware, data warehouses, and information processing software (Kamhawi, 2010). However, KM researchers have long cautioned that the mere activity of storing data or information should not be equated with activities involved in extracting, transferring and creating knowledge for value creation in the organization. The creation of value from KM activities may require different technological infrastructure in different types of organizations as organizations handle knowledge in different forms (Whitehill, 1997). One category of difference is whether the organizations belong to the public or private sector.

A review of literature has shown that much of KM research has covered various KM technologies in private sector organizations, but organizations in the public sector, i.e. government agencies seem to have not been accorded similar attention. In today's digital economy, the emergence and adoption of KM technology is especially important to the government institutions of developing countries such as Malaysia in order for the countries to keep up with the more developed economies (Junoh, Osman, & Halim, 2014) However, literature on intra-organizational usage of technology for KM in Malaysian government institutions has not been found so far.

This paper aims to address the research gap on this issue. It provides a working example on the usage of technology in KM for a Malaysian government agency. It describes how technology plays an important role in KM for the Malaysia's federal tax collection agency, the Inland Revenue Board of Malaysia (IRBM).

3. Organizational background

The IRBM is a revenue collecting agency under the Ministry of Finance, Malaysia. IRBM was established based on the Inland Revenue Board of Malaysia Act 1995 to give it more autonomy in financial and personnel management as well as to improve the quality and effectiveness of tax administration in Malaysia. It was formerly known as the Department of Inland Revenue Malaysia, before becoming IRBM on 1 March 1996. The agency is responsible for the overall administration of direct taxes under Income Tax Act

1967, Petroleum (Income Tax) Act 1967, Real Property Gains Tax Act 1976, Promotion of Investments Act 1986, Stamp Act 1949, and Labuan Business Activity Tax Act 1990 (IRBM, 2016).

It currently has 12 state offices and 36 branches in various locations all over the country. The vision of IRBM is to be a leading tax administrator that contributes to nation building. Its mission is to provide excellent tax services by improving voluntary compliance, implementing an integrated and transparent taxation system, increasing operational effectiveness through innovative processes and information technology, and by enhancing a competent workforce. Its quality policy is "with a foundation based on integrity, we are committed to provide the best service to the customers" (IRBM, 2016).





The functions of IRBM (IRBM, 2014a) are:

- a) To act as agent of the government and to provide services in administering, assessing, collecting and enforcing payment of income tax, petroleum income tax, real property gains tax, estate duty, stamp duties and other taxes agreed upon between the government and the Board.
- b) To advise the government on matters related to taxation and cooperates with the Malaysian ministries and statutory bodies on such matters.

- c) To participate in meetings, discussion and agreements pertaining to domestic and international taxation.
- d) To become a collection agent for and on behalf of any statutory body to recover loans payable to it under the written law in Malaysia.
- e) To diligently carry out other functions given to IRBM under any other written law in Malaysia.

Its organizational structure is shown in Fig. 1.

4. Transformation of IRBM

Tax revenue collection is the main component of the IRBM's key performance indicators. In 2011 and 2012, IRBM had recorded a significant uptrend in tax revenue collection. Revenue collection for 2011 was posted at RM109.67 billion, which surpassed the target of RM91 billion set by the Malaysian Ministry of Finance, with an increase of 26.7% compared to collections in 2010. This phenomenon was noted by the Malaysian Government as comparisons were made to its performance in the three preceeding years when collections dipped from RM90.7 billion in 2008 to RM86.5 billion in 2010. When revenue collection for 2012 was posted at RM123.5 billion, surpassing the set target of RM110 billion, IRBM gained further recognition for its achievements (IRBM, 2014b).

IRBM publicly attributes its successes to radical changes in work culture and management styles instituted when its new CEO, Tan Sri Dr. Mohd. Shukor Mahfar took office in January 2011. He brought with him a strong belief in the need to improve the work environment of Hasilians, to re-energize them, and to get them to clearly understand and fully support the organization's strategic goals.

4.1. Change management strategies and initiatives

The organization's focus shifted from solely managing tax revenue collection to activities involving the management of its human capital, in recognition of the value of skills and knowledge resources they represent. Human capital management strategies are central to IRBM's organizational transformation strategy, and it was the area with the most significant change. Work performance targets were much more effectively communicated and details cascaded down to all levels of employees using a simple, easy-to-understand language and techniques. Word has it that the CEO insists on every employee message to be designed in such a way that it can be understood by even those in the lowest rung.

Performance is tracked and feedback is given on a monthly basis. As an incentive for targets to be met, performance was directly linked to monetary rewards such as annual bonuses as well as non-monetary rewards i.e. excellent service awards ceremonies, special badges and lanyards to be worn by employees denoting their excellent performer status, and other employee recognition programs designed to celebrate work achievements. These initiatives are different from previous practices where top level targets and strategic plans were the privy of only a few, and the performance-reward link was not clearly established.

There were various initiatives formulated to enhance learning, creativity, innovation, and the development of new ideas such as knowledge sharing sessions by local and international respected personalities, an employee suggestion program allowing for idea submission via the special email channel idea@hasil.gov.my, and the

establishment of an internal think tank comprised of Hasilians with Masters and doctoral qualifications, who gather at brainstorming workshops periodically organized by IRBM head office. Even the Malaysian public as tax payers are provided with a direct channel to the CEO via idea_desire@hasil.gov.my for the forwarding of complaints, feedback, as well as ideas for improvement. Internally, the CEO's strong leadership, his natural flair as a public speaker, charismatic persona, people-oriented personality, and dedication towards the establishment of a learning-oriented culture helped the IRBM top management team obtain the necessary buy-in from Hasilians to focus on the continuous acquisition of new knowledge and its application towards enhanced work performance.

4.2. Focus on technology

Other than human capital management strategies, IRBM's transformation toward a more efficient and agile government entity had also given priority to the development of a strong technological infrastructure. The investment in technology prior to the transformation was necessary largely due to the host of e-services introduced for the convenience of IRBM's different categories of tax payers. The 'electronic filing' of taxes i.e. e-filing was implemented in 2005, allowing self assessment to be done by tax payers followed by the filing of taxes via an online portal. During the transformation period, technology had been given a significant boost to play a more central role in its operations. The 'mobile filing' i.e. m-filing service was later introduced in 2012 to allow for tax filing via smartphones, which is more in line with the tech-oriented lifestyle trends of its customers.

Apart from the services for its customers, a strong technological infrastructure was also needed by IRBM to support the organization's internal operations. The Case Management System (CMS) for audit and investigation purposes, and the Customer Relationship Management (CRM) system for the handling of inquiries, complaints, and feedback from taxpayers are among different applications developed specifically for IRBM operations.

There are applications such as the CMS and CRM which are for the exclusive use of specific parties and departments in IRBM. However, the knowledge base is open for access by all Hasilians. It is a system that is viewed favorably by Hasilians, and IRBM management has mentioned that it supports the CEO's vision of putting IRBM onto a path of becoming a learning organization. In his messages to Hasilians, he stresses on the need to capture and analyze job-related knowledge in order to learn from past mistakes and achievements.

5. Organizational pressure points for k-base creation

The context faced by IRBM is such that tax management work is highly complex, and regular changes in the various tax legislations under its administration make it even more challenging for the tax regulating body. Prior to the creation of the k-base system, it had come to management's attention that IRBM tax officers were struggling to keep up with the need to frequently update their technical knowledge. They were also facing high workload and limited time for reference checking when making technical decisions.

The situation was further aggravated by written manuals and reference materials available to the officers contained technical information that was not systematically arranged. The paper-based manuals were cumbersome to handle and some parts featured out-dated contents, making them inadequate for use by the officers. Much of the officers' time was wasted in information search, whereby they were mostly required to rely on memory to locate and identify relevant information. It therefore took the officers much longer time than necessary to complete their tax assessment work, leading to increased case backlogs at the branches.

Increasing space needed for storage of the paper-based manuals and reference materials also became a cause for concern. Document volume increases are largely due to the yearly changes in tax provisions. Besides document storage issues, IRBM also had to bear the costs of documenting tax legislation amendments and distributing the amended documents to the branches. Further, there was an increasing need for documentation of specific knowledge and skills. The lack of documentation of this knowledge led to it being lost when the officers are transferred or when they leave the organization, resulting in interruptions in the branches' daily operations.

The officers were clearly in need of a comprehensive technical reference system that they could quickly and easily access on-the-job. It should allow for fast updates in tax legislation amendments, and enable the officers to document best practices and effective work methods for other officers to learn and adopt. Thus, it became apparent that IRBM was in need of a computerized database that could be accessed by tax officers to perform their duties more effectively.

6. K-base system

The creation of the knowledge base or k-base was first proposed by IRBM's Tax Operations Department in 1998 as a response to challenges experienced by the organization then. It was to be a 2-year system development project, which saw the kbase originally named 'Technical Reference System'. After several careful reviews of the original plan, the project finally commenced in 2001 and its name was changed to 'knowledge base'. It was developed using Lotus Notes 4 application by IRBM's Information Technology Department, according to content requirements of the Tax Operations Department as the system owner. Until today, the Tax Operations Department remains the system owner as its tax officers are the main target group of users for the kbase.

The k-base first came into use in 2007 and was later made to undergo a debugging and re-coding process in 2010 for system improvement purposes. The k-base has now stabilized and supports a high volume of content that is uploaded by authorized personnel based in the respective departments and branches. As the IRBM is a regulatory body under the Malaysian government, the language used for the k-base is Bahasa Malaysia, which is the national language used by the Malaysian government. The discussion that ensues will explain the basis for the creation of the k-base, and the system characteristics in terms of structure, content, features, user categories, and access types.

6.1. System characteristics

Based on the problems faced by IRBM described earlier, the Information Technology Department was tasked to create a computerized database that features user-friendly interface for easy information search and content that is indexed according to technical subject areas. The k-base was to support fast and accurate decision making by the tax officers. The initial two main database components were details of relevant tax legislations and their interpretations. Today, the k-base carries a variety of information

types which include operational policies and instructions of departments and branches in the form of images, videos, and documents.

The system owner, namely the Tax Operations Department grants access for specific individual users from each department and branch. The Information Technology Department then creates the 'User ID' and 'passwords' for authorized users. Only these users are allowed to upload content into the k-base. However, prior to the content upload, formal approval must be obtained from their superiors. All departments and branches are responsible for their own content. To ensure good organization of the k-base content, 'folders' that are created by the departments and branches to store relevant information must first be approved by the Information Technology Department. This move is to ensure that all departments and branches abide by standardized categories of information and also to avoid the creation of too many 'folders'. If the content does not belong to any of the subject matters indicated by the respective 'folders', requests can be made to the Information Technology Department for the setting up of a new 'folder'.

6.2. Information search features

As for the viewing of k-base content, all Hasilians are allowed access via the employee portal. However, some content can only be viewed but not printed out, such as the Tax Act 1967. When searching for information, users are to type in relevant 'keywords' into the search panel, which is similar in approach to search engines like Google. If the content type is an image, users can still find the image using a 'keyword' because all uploaded content comes with a 'content summary'. Users are also provided with three alternative types of searches, namely 'quick search', 'detailed search', and 'manual search', which respectively means that users can do a quick search involving all content in all years, a more detailed search only in selected content and in selected years, or manually select the folder, subfolder, and year of interest. Apart from the three types of searches above, k-base also features the 30 'most popular search' and also 30 'most recent search' for the convenience of users. The system allows users to 'bookmark' their search for later reference. A 'user manual' is also available in the form of a video tutorial.

7. K-base impact on IRBM

IRBM management has described the benefits of the k-base to the organization in terms of increase in the level of technical know-how among its tax officers, standardization of practices across the branches, rapid distribution of new information, cost saving by no longer depending on paper-based communication, and ease of data transfer with other internal computerized databases. There has also been a reduction in time taken by tax officers in processing case files. Equipped with a rich information source available at their fingertips, tax officers have been able to learn from other officers' best practices and as a result, they are able to perform their duties more effectively.

Apart from the above claims by IRBM management, there is evidence on the benefits of the k-base obtained from a study on leadership, people management, KM capacity, and organizational transformation in IRBM conducted by Rosdi and Norhashim (2015) of Multimedia University, Malaysia as a university-industry collaborative research project with IRBM. Citing the works of Chen and Huang (2009) and Lin and Lee (2005), the study by Rosdi and Norhashim (2015) defines the 'KM capacity' of an organization as its capacity to utilize and facilitate knowledge management activities and tools. The study further cites the work of Gold, Malhotra, and Segars (2001) in highlighting that the

term 'KM capacity' has been widely and consistently reflected in KM literature in terms of an organization's knowledge acquisition, knowledge sharing, and knowledge application activities.

The study involved 43 selected respondents who had served the organization between 2008 and 2013 so as to capture the scenario before and during the transformation period which began in 2011. The researchers had specified to IRBM that employees selected must be those involved in policy making, operations, as well as the provision of support services (HR, IT systems, etc.) during that time period. They were also to be selected from all job levels in the organization, namely from non-executive to top management. Respondents who fit the criteria were duly identified by the IRBM management team, who had subsequently issued official invites for the focus group discussion sessions. The respondents were then engaged via seven different focus group discussion sessions whereby they were group based on similarity in work functions and job levels. The sessions were conducted at IRBM headquarters by the university researchers without any involvement from IRBM personnel. This approach was intended to ensure a non-threatening environment for a more thorough and forthright sharing of views.

Respondents were engaged in discussion sessions on how various initiatives implemented by IRBM during the transformation period had influenced them on the job; more specifically in terms of their behaviours with regards to knowledge acquisition, knowledge sharing, and knowledge application. The guiding questions which helped trigger statements from respondents relevant to the k-base are listed below:

- 1. What are the initiatives implemented as part of IRBM transformation?
- 2. What are the objectives of those initiatives?
- 3. What are the KM practices in IRBM (systems, platforms, stakeholders)?
- 4. How do the initiatives impact the capacity for knowledge acquisition, knowledge sharing, and knowledge application?
- 5. What kind of knowledge critical for tax revenue collection?
- 6. How do the initiatives impacts tax revenue collection?

The findings revealed that activities of knowledge acquisition, knowledge sharing and application of new knowledge by Hasilians throughout the organizational transformation period had been significantly enhanced with the existence of the k-base. Impacts of the k-base on employees' knowledge acquisition activities are reflected in the following quotes:

"Most of our (work-related) information is highly complex and technical...fast acquisition of new knowledge is important... (it is) necessary to go through the k-base"

"What really helps (in acquiring work-related information)...is a computerized system such as the k-base"

"(We) have to be constantly updated...apart from our morning briefings...we access the k-base on a daily basis..."

"There is a lot (of work related information) that we can obtain from the k-base..."

Besides acquiring new knowledge, employees in the study had also indicated that IRBM's technological infrastructure was revitalized during the organizational

transformation process, and that the k-base enabled them to better share knowledge among fellow Hasilians. A few employees' remarks concerning knowledge sharing are as follow:

"There is a variety of information in the k-base...(as) it is our work reference system...for example, whenever there is a technical issue, the Drafting and Law Revision Department would issue a public ruling on its interpretation...(so that) every branch would refer to the same ruling"

"We share a lot (of important information) in the k-base... (such as) operational instructions, circulars, technical rulings..."

Employees in the study reported increased tendencies to apply newly acquired knowledge that had helped improve work quality and efficiency. They had the following to say on activities relevant to knowledge application:

"(In the past) everything was on print....and things were not as orderly(but) I had recently attended a convention during which they informed that the Drafting and Law Revision Department would be updating the k-base to capture everything from the past...(which means) all that we need will be in the k-base...from technical circulars to administrative information..."

"Previously, our information sources were quite limited...but with (the current) computerized systems, we have been able to widen our scope in terms of new tax revenue sources..."

"It (the k-base) helped us to achieve the (targets set for) Key Performance Indicators in our jobs and helped widen the (tax) base"

Findings from the study by Rosdi and Norhashim (2015) had concluded that enhanced levels of knowledge acquisition, knowledge sharing, and knowledge application among Hasilians during the organizational transformation period had resulted in increased work-related competencies and job performance. Work performance improvements had in turn became an important factor leading to significant increases in IRBM tax revenue collections in 2011 and 2012.

In sum, the descriptions of the k-base as well as the employee narratives above have addressed the question that the paper intended to answer, which is on how technology can be utilized by a governmental agency such as the IRBM for knowledge management. For the first objective of this paper which focuses on the role of technology in IRBM, the k-base is an example of technology used for KM. It functions as a system that is open for use by all Hasilians to connect to relevant knowledge that supports their work performance. It supports the CEO's vision of morphing IRBM into a learning organization by allowing the organization to capture and analyze job-related knowledge to learn from past mistakes and achievements.

The second objective of this paper is on the impact of technology on three specific KM activities, namely knowledge acquisition, knowledge sharing, and knowledge application. For IRBM, the impact of the k-base was positive and significant in terms of the three KM activities as well as on the organization's performance in terms of tax revenue collection.

8. Significance to the nation

From the perspective of a Malaysian tax payer, efficiency improvements in IRBM have translated into a shorter time taken to process appeals and tax refunds. IRBM's move toward technology-based operations and the management successes that followed had received positive attention not just from the Malaysian public, but also from other governmental departments and bodies. It becomes an important reference for others on how technology enable an organization to better serve its employees as well as customers. As for the nation, improvements in IRBM operations had favourable impacts on tax revenue collection, which subsequently increased the country's resources for nation-building. With such an important impact on IRBM stakeholders, it is hoped that the future will bring more positive development for the k-base.

9. Looking ahead

At the moment, there is only a number of Hasilians that have mobile access to the k-base via their smartphones. Due to the nature of their jobs, these individuals had been handpicked and allowed such access by the system owner, the Tax Operations Department. As capabilities of the k-base continue to grow, perhaps the future will see mobile access to the k-base becomes an unlimited privilege to all Hasilians. With the trend toward digitalization of services and increased roles of technology in learning, the future of IRBM's k-base appears bright. A rebranding of the k-base is in the pipeline and a name change to 'Hasilpedia' may happen in 2016. This latest development reflects the IRBM's vision of seeing the k-base plays a bigger, more important role in the organization's aspiration of becoming a learning organization in today's knowledge economy.

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