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Information Behavior of the Malaysian Managers and Their Perceived Needs of Information and Knowledge Managers

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Abstract

This study explored the information behaviour of business executives particularly those in the managerial positions in the services and banking industries in Malaysia. Among the components of information behaviour investigated involved their information use – types, sources, and criteria. The investigation was also extended to understand about effective information management and the need for information and knowledge managers from the managers' collective perspectives. Using survey questionnaires with open and close-ended questions on one hundred and forty five respondents, the findings provided rich and meaningful information about information requirements of managers and their perceived needs for competent information and knowledge managers in terms of their desired roles and competencies. The findings may assist in the effective provision of services by information or knowledge managers within the organizations and the development of more effective information system for resource sharing and inter/intra organizational collaboration or in other word a knowledge management system (KMS).

Keywords

Information management, Information behavior, Information needs of managers, Roles of information managers, Effective information management

Introduction

Information is important to any organization. Good and quality information can improve decision making, enhance efficiency and allow the organizations to gain competitive advantages. Many organizations are continuously looking for solutions to effectively seek and handle information within their internal and external environments (Karim, 2004). Business sectors also need information and effective means of managing information in order to assess their strengths and weaknesses. Porter and Miller (1985) reported that one of the most important elements in competitive advantage is information. Some information are critical enough that it is crucial for organizations to identify and manage them using various means and tools from both knowledge management and information management approaches (Soliman & Youssef, 2003).

Increasingly, companies are taking the view that information is an asset of the enterprise in much the same way that a company's financial resources, capital equipment, and real estate are assets. Properly employed, assets create additional value with a measurable return on investment. Forward-looking companies carry this view a step further, considering information as a strategic asset that can be leveraged into a competitive advantage in the markets served by the company. In this view, the assessments of information needs and requirements within the organization are considered crucial in ensuring effective information and knowledge management (Lueg, 2001). One such assessment may involve understanding managers' information behavior, whose roles are crucial to any organizations. Managers or top management officers in the business organizations regularly seek information to perform various managerial tasks. They regularly use various types of information resources such as printed materials (i.e. reports, journals and newspapers); Internet, online databases and various other sources supported by information and communication technology (ICT). They also gather information on various aspects such as customers, competitors, market fluctuations, government regulations, reports, etc. within their internal and external environments. Understanding their information needs and requirements would be a significant step in

developing information and knowledge management strategy and tools for providing effective information services and promoting organizational wide creativity and innovation.

On the other hand, advances in information and communication technology (ICT) may impose great challenge for managers to handle the existing overly loaded information. This is due to the decrease ability of managers in getting the relevant, timely, and accurate information, and in managing information and knowledge flows for future utilizations and developments. Many organizations seek to resolve this issue through some computer tools, which can perform the function of sorting, comparing, or visualizing the data quite well. However, these tools can be rather limited when applied to the processing of information that requires human cognition and interpretation.

Some organizations may resolve these overly loaded information problems by establishing a knowledge repository such as corporate resource centre or information service department as a one-stop centre to provide integrated information resources and environment that can be shared organization wide. The centre may be equipped with the facilities, infrastructures, information system (hardware and software), and qualified information or knowledge professionals. Though not many organizations can afford to have a centralized knowledge repository, they may also consider hiring an information professional or a knowledge manager to internally assist top managements perform their managerial tasks and facilitate knowledge sharing and information gathering within the organizations. Subsequently, organizations need to identify information or knowledge managers with relevant skills and qualifications who can play important roles in fulfilling broad and specific information needs within the organizations, as well as identifying the right tools in facilitating information flow and control.

This paper aims to report a study conducted to investigate the information behavior of managers in Malaysia (in terms of what, where and how information is gathered), and their perceived needs, roles and skills of information or knowledge professionals in order to effectively manage and handle information in their organizations. Accordingly, this study attempts to achieve the following objectives: to identify the information needs and requirements of managers; and to identify the needs for information managers and their perceived roles, skills and qualifications.

Background

Information Behavior

Managers seek for information for various purposes, the sources of which come from various locations and in various formats. Managers need quality information to help them make decisions, achieve company's goals and objectives, and improve services and productivity. Information needs are more likely influenced by factors such as organizational culture, individual attributes, tasks and roles in the organization, and many others (Auster and Choo, 1993). In performing their tasks, different managers would require different information. This is true for managers who work in different business sectors or industries, and in a different geographical area bounded by different cultures and backgrounds.

Limited number of research was conducted in assessing information needs and requirements of managers. Previous studies have been conducted on information use by managers in decision-making (de Alwis and Higgins, 2002; Broady-Preston and Hayward, 1999; Reid et. al., 1998; Abell, 1994) and environmental scanning as part of information seeking activities in businesses (Choo, 1994). A number of conceptual works was found available on information behaviour in various managerial activities (Oppenheim, 1997; Butcher, 1998; Brittain and Macdovigall, 1995; Taylor and Farrell, 1994). Several studies were also found conducted in various geographical location such as UK, USA, Australia, Hong Kong, Singapore (Oppenheim, 1997; de Alwis and Higgins, 2002; Broady-Preston and Hayward, 1999 and 2000), and Canada (Choo, 1994). Others focused on different business sectors such as finance and banking, retail and distribution, manufacturing and telecommunications (Oppenheim, 1997; Broady-Preston and Hayward, 2000), health (Brittain & Macdovigall, 1995) and educational institutions (Loughridge, 1996).

Three elements regularly discussed pertaining to managers' information needs and requirements were: the sources of information, which managers regularly refer to in getting the information; the information itself, which managers seek to get such as information about customers, competitors, etc.; and the information criteria that characterized the attributes of information such as accuracy, comprehensiveness, etc. (Karim, 2002). Many studies indicated that the most popular information sources used by managers were informal sources such as personal contact, subordinates, superiors and colleagues, customers and business associates (Choo, 1995; de Alwis and Higgins, 2002; Burke, 1996). Formal information sources (information that may be made available in print or electronic documents) such as newspapers, reports and journals were also considered as important (Oppenheim, 1997). Choo (1994) reported that CEO's in Canada used various types of information sources such

as customers, business associates, government, newspapers, journals, external reports, trade associates and electronic information. However, this very nature of information use may change due to the proliferation of the Internet which makes information available at a fingertip (Broady-Preston and Hayward, 2000).

Butcher (1998) reported the characteristics of useful information in organization. According to his review, the most important information criterion was 'relevance'. Relevance, according to him was "information which is needed with respect to the current task(s) or is perceived as likely to be useful in the future because it can be used to further the aims and goals of organization or help the recipient make sense of the complex business environment. Other characteristics besides relevance were timeliness, accuracy, reliability of information sources, quality information and good quality information sources (Butcher, 1998).

Constructing a profile of user on their information interest and needs is considered very important in the development of various IM and KM tools and strategy. They are expected to provide a user with the information he or she is looking for. Hence, this study attempts to contribute to the development of collective user profile of managers in terms of their information behavior and requirements. Although the needs of an individual user may vary and context specific, some common profile can be identified and dealt with through the development of KM and IM strategy, tools, and environment to facilitate the fulfillment of their information needs.

The Role of Information and Knowledge Managers

In general, it has been agreed that information professionals should play important roles in ensuring effective IM and in identifying information needs and requirements organization wide (Drucker 1994). In essence, the technology can only assist in processing the data into information that managers can later digest into knowledge and innovation. Only people who can determine which information is useful and which is not in the knowledge creation process. Drucker pointed that "managers believed it is the information professional's job to identify their information needs..." In terms of positions information professionals work in business organization as information managers, information resource managers, knowledge managers, librarian, customer supporters, trainers, product development, editors, indexers, etc. (Oxbrow, 1992). In banking industry, the role of an information manager is often played by those working in the marketing departments (Broady-Preston & Hayward, 2000).

Wilson (2002) further defines the roles of information professionals as those who are responsible for identifying recurrent activities within the organization, seeking feedbacks on information provided, monitoring the organization's changing priorities, and continually seeking to understand how customers function in the organization. On the other hand, Choo (1995) defined the notion of information professionals as 'information experts', which refers to an "individuals in the organization who have the skills, training and know-how to organize knowledge into systems and structures that facilitate the productive use of information and knowledge".

Among other common roles identified in the literature were information collection and collation, information analysis and information dissemination (Broady-Preston & Hayward, 1999; Choo, 1995). In addition, information professionals in retail bank services identified their roles which involved market research, coordinating external suppliers, evaluating information, and presenting it to colleagues and superiors (Broady-Preston & Hayward, 2000). Other roles identified include the following:

- Providing and evaluating the quality information in terms of ease of use, noise reduction, accuracy, adaptability, time saving and cost saving (Kirk, 1999; Choo, 1995)
- Discussing with managers their media preferences, and providing information services they requested (Kirk, 1999; Broady-Preston and Hayward, 1999; Choo, 1995)
- Conducting market research, and analyzing customers and competitors information (Kirk, 1999; Broady-Preston and Hayward, 1999)
- Participating in planning and decision making activities (Choo, 1995)
- Developing methods and systems of structuring and accessing information, designing information strategies and evaluating of information (Choo, 1995).

Taylor and Farrell (1994) provided guidelines for information managers in managing information in business organization. These are:

- Designing and managing an information system, or systems supported by appropriate technologies, either standalone or networked;
- Managing staff, equipping, resourcing, and maintaining adequate information flow (electronic and paper-based) within an organization;

- Determining information needs and requirements and specifying the best solutions for presenting that information;
- Producing the 'information commodity' and ensuring its passage, security and integrity throughout the organization (p.82-83).

Among important skills highlighted in the literature, but highly overlook in the IM curriculum development are communication skills, business impact awareness skills, and personality or analytical and logical thinking skills (Breen et. al., 2002; Oxbrow, 1992; Broady-Preston and Hayword, 2000, Rowley, 1994). Communication skills may refer to the ability to explain how and why subject classification works to people, the ability to inform them about how a database should be designed to effectively manage information, the ability to inform people about information architecture, the ability to work as part of the project management team, and the ability to ascertain client's information needs and requirements (Breen et. al., 2002).

Evidently, some works have been done in defining the role of information professionals in organizations. For instance, Snyman (2001) investigated how the real business world define and perceive the role and responsibilities of the information and knowledge manager by looking at the job advertisements. However, much of these works are less empirical in nature. Even if there are such works such as Snyman's, these studies are subjected to numerous limitations due to methodological constraints, geographic location, culture, individual traits, and differences in various organizational factors. In defining the role of the information or knowledge professional, it is best to do it by getting the perception of managers in a specific setting, who are more likely in need for their services.

Therefore, in addition to what Snyman (2001) offered in his study, this study attempts to redefine the role of the information and knowledge managers through the collective perception of other managers. The contribution should be apparent for organizations hiring the IM personnel and the development of the IM and KM curriculum at the university level.

Methodology

This study is meant to be dominantly exploratory and descriptive in nature. This study used questionnaire-based survey and interviews for data collection. The population unit involved managers in business organizations by focusing on the banking industry, oil and gas, and IT and Telecommunication services around the Klang Valley area (Kuala Lumpur and Selangor state). A total of 500 questionnaires were sent out and 145 questionnaires were gathered from managers working in 13 business organizations (29 percents response rate).

The instrument was constructed into several sections using both open and close-ended questions. The items used in the questionnaire for the constructs information sources, information types, and information criteria were developed based on the review of literature on studies on information behaviors such as those conducted by Choo (1994), de Alwis (2002), Broady-Preston and Hayword (2000), Burke (1996) and Openheim (1997). Additional information was gathered through preliminary interviews with several managers working in several departments at a university in Malaysia and an information manager from an oil and gas company to ensure the items were relevant with the current information needs of managers in the context of the Malaysian environment. A pilot study was also conducted on 35 managers to explore the actual study environment and to further refine the research instruments.

Both quantitative and qualitative approaches were used to analyze the data. Various descriptive statistical tools were used to analyze the quantitative data. On the other hand, a qualitative approach of content analysis was used to analyze qualitative data gathered through text responses in the open-ended section of the questionnaire. This method allows us to derive a list of collective opinion or perceptions of managers based on their own responses.

Findings and Discussions

Among the 145 respondents who participated in this study 68 percent (99 respondents) were males and the remaining 32 percent were females (46 respondents). This is somewhat expected due to the nature of the current managerial position, which is still monopolized by men. Managers who participated in this study were mostly from the finance and banking industry (68%). This is followed by IT and telecommunication services (24%), and oil and gas companies (8%). According to their age distribution, as expected most of them were at the age of 36 and above (69 %). This is due to the level of maturity and long years of experience required to become a manager. While many of the managers representing the banking industry were branch managers, a considerable proportion of managers were also holding various other managerial positions such as marketing manager, human resource manager, IT manager, etc.

Information Sources

Managers were asked to indicate on a scale of 1-5 (where 1=never, 2=seldom, 3=sometimes, 4= often, and 5=always) from 18 items on where they seek the information required to perform their tasks. The finding showed that managers used various information sources to acquire information in performing their managerial tasks. Table 1 shows the list of sources used by managers and the respective mean score as arranged in descending order.

From the Table 1 below, the high mean scores would indicate the high percentage of responses on the scale closest to five, which showed that the proposed information sources were regularly used by the respondents. The use of printed materials such as books, newsletters, internal report, etc. (mean=3.92) was highest in mean score, followed by Internet and online services (mean=3.90). The high ranking in the use of Internet and online services is somewhat expected due to the widespread use of Information and Communication Technology (ICT) to support various information needs organization wide.

Table 1: Information sources referred to by managers

Information resource	N	Min	Max	Mean	Std. Dev.
1. Printed materials (books, journals, newspapers, magazines, reports, bulletins, newsletters)	143	1	5	3.92	.87
2. Internet/Online services	144	1	5	3.90	.97
3. Colleagues	143	1	5	3.81	.84
4. Organizational intranet/databases	140	1	5	3.76	.98
5. Superiors	143	1	5	3.76	.89
6. Subordinates	142	1	5	3.47	.92
7. Business associates	143	1	5	3.46	1.00
8. Customer	140	1	5	3.17	1.16
9. Broadcast media (TV, Radio, etc)	141	1	5	3.13	1.08
10.Resource centre/ library services	140	1	5	3.05	1.05
11. Department officials	140	1	5	3.00	1.06
12. Experts/ Consultants	140	1	5	3.02	1.04
13.Information managers/ library managers	144	1	5	2.93	1.06
14. Library database	141	1	5	2.79	1.05
15. Brokers/ Vendors	140	1	5	2.57	1.01
16. Government officials	140	1	5	2.55	1.00
17. Contractors	141	1	5	2.35	1.11
18. Board members	140	1	5	2.00	1.09

The use of other informal sources such as colleagues, superiors, subordinates, business associates and customers were also considered as important. These sources can be categorized as intermediaries, which may be unique to this category of information user (Niezwiedzka, 2003). However, the use of library or resource center fell within 3.05 mean, which indicated that this information source was not regularly used by managers in getting information. As an intermediary, the resource centre or IM manager was also in the not so important list. Although, managers depend highly on intermediaries, as Niedwiedzka (2003) claimed, such intermediary may not include information manager.

Information Types

Information sources lead the managers to the type of information they need. Sources such as printed materials (i.e. reports) may lead to information about the content of the reports from various meetings or about customers and competitors. In the questionnaires, the respondents were asked to indicate the types of information they commonly gathered in performing their managerial tasks. Thirteen types of information were listed in the mutually exclusive categories measured with five-point Likert scale (see Table 2 below).

Table 2: Type of Information needed by managers

Information types	N	Min	Max	Mean	Std. dev
1. Internal data and reports (meeting reports, program reports, past report, etc)	142	1	5	4.07	.89
2. Customers and clients	142	1	5	3.93	.99
3. Business trends and news	145	1	5	3.86	.99
4. Products and services	143	1	5	3.82	.97
5. Markets	142	1	5	3.81	1.06
6. Industry	143	1	5	3.75	.94
7. Finance	140	1	5	3.70	1.04
8. Technology	142	1	5	3.58	.98
9. Government regulations/policies	141	1	5	3.58	.98
10. Competitors	142	1	5	3.50	1.04
11. Staff members	143	1	5	3.51	1.04
12. Conferences, seminar proceedings and reports	140	1	5	3.29	1.06
13. Politics	140	1	5	2.75	1.14

Most of the items listed received score above three in the scale, only one item falls below 3. This means that the respondents have used at some points or look for the information types listed in the questionnaire. The results showed that the most commonly used or looked for information were information about the content of the internal reports such as meeting reports, program reports, past projects (mean = 4.07), followed by customers and clients (means = 3.93), business trends and news (means = 3.86), product and services (means = 3.82), etc. The ranking also reflects the nature of the information used within the finance and banking industry which focuses more on business trends and news, customers, markets, industrial news, and financial news. The needs for other types of information such as staff members, government regulations/policies, competitors, technology, and others are somewhat moderate.

Information Criteria

Respondents were asked about the information criteria that they think may lead to effective information management in the organization. Twelve criteria were listed on a scale (1 – not important to 5 – very important). The result shows that majority of the respondents agreed that all the criteria asked in the questionnaire were important for effective information management. Table 3 shows the list of information criteria and their mean scores in descending order.

Table 3: Perceived Information criteria for effective IM in organization

Information criteria	N	Min	Max	Mean	Std. deviation
1. Information should be accurate	144	3	5	4.75	.48
2. Information should be reliable	145	3	5	4.74	.50
3. Information must be up to date and current	145	3	5	4.59	.61
4. Information should be available in a timely manner	144	3	5	4.51	.61
5. Information must be available and trustworthy	143	3	5	4.50	.60
6. Information should have good coverage and comprehensive	144	2	5	4.33	.66
7. Information should be easy to use	143	3	5	4.32	.62
8. Information should be accessed conveniently	145	2	5	4.29	.73
9. Information must be available in various sources (printed, online, etc)	145	2	5	4.11	.78
10. Information must be shared within the organization	143	2	5	4.08	.77
11. Information should cover all aspects (technology, industry, finance and banking, service sector, etc)	143	2	5	4.08	.81
12. Information must flow within organization	141	2	5	3.97	.82

All the criteria in the table above were rated highly in mean scores. The table shows that the top five most important criteria of information were accuracy, reliability, up to date and current, available in a timely manner, and available and trustworthy. The lowest ranked criteria were comprehensiveness in coverage and its flow

within organization. This finding also indicates that quality information as represented by accuracy and reliability is regarded as the most important criteria by managers.

The need for information managers

In addition, the study also investigated the importance of hiring or employing information managers/professionals in the organization. Majority of the respondents, 112 (78%) believed that employing information managers in the organizations was important. However, 17 (12%) were not sure and about 15 (10%) of them did not agree that it was important for their organization to employ information managers. The figures are somewhat surprising and contradictory to the finding on the perceived important source of information that they rated earlier, which implied that information manager is not an important intermediary or source of getting information.

For those who indicated that an information manager is not important in their organizations, their justification was somewhat diversified. Among the responses were such that, "...it would be better to train internal staffs, who already have relevant background in the business operations of the organizations". In addition, they believed that the use of the Internet to gather information did not require the assistance of an information manager. This finding is in line with the conclusion made by Snyman (2001) which indicates that there is a lack of comprehensive understanding by organizations on how to manage information and knowledge. Although an awareness of effective information and knowledge management in organizations does exist, a comprehensive understanding of the field is lacking and should be improved. Not much is understood about the significance or the presence of an information or knowledge manager in many organizations.

For those respondents who responded "yes", their justifications (from 49 respondents) were summarized in Table 4 below:

Table 4: Reasons Respondents' Perceive Information Managers as Important

Reasons	No. of Response
1. As a source of information - someone who helps to collect and deliver good quality information in a timely manner	14
2. As someone who can manage information effectively and efficiently	8
3. As someone who can help achieve organization performance through good decision making	7
4. Due to professional Qualification they possess	6
5. As someone who can manage info system (MIS) and database	5
6. Depend on organizational need	5
7. Someone who can assist in public relation	2
8. Someone who can assist in developing information policy	1
9. Someone who can assist in research	1
Grand Total	49

The Role of Information Managers

The respondents were asked to rate 17 potential roles of information managers listed in the questionnaire from 1- least important to 5- most important. The results were presented in Table 5.

Table 5: Important role of information managers

Roles of information managers	N	Min	Max	Mean	Std. dev.
1. To identify the quality of information	143	3	5	4.39	.63
2. To acquire, collect and deliver information (e.g. reports, records, projects)	142	1	5	4.37	.77
3. To identify organizations' information needs and requirement	142	1	5	4.29	.73
4. To evaluate information effectively	143	2	5	4.26	.68
5. To identify and analyze customers and competitors	143	1	5	4.24	.76
6. To facilitate effective communication	143	2	5	4.24	.80
7. To organize and maintain online information	143	2	5	4.22	.73

Roles of information managers	N	Min	Max	Mean	Std. dev.
8.To distribute information within and outside organization	142	2	5	4.19	.76
9. To develop and maintain database	144	1	5	4.15	.86
10. To develop and maintain information resources web site	143	2	5	4.09	.84
11.To conduct organizational environmental scanning for external and internal information	144	2	5	4.06	.80
12.To conduct and manage research projects	143	2	5	4.01	.84
13.To develop and manage library	142	1	5	3.99	.90
14.To form contact and liaise with others	143	2	5	3.95	.86
15.To analyze market opportunities	142	1	5	3.94	.96
16.To participate in decision making with superiors	143	1	5	3.85	.86
17.To be a mediator within an overall marketing environment	143	1	5	3.70	.93

All the potential roles of information managers listed were found important with the minimum mean score of 3.70. However, among the five highest roles of information managers were to identify the quality of information, to acquire, collect and deliver information (e.g. reports, records, projects), to identify organizations' information needs and requirement, to evaluate information effectively, and to identify and analyze information about customers and competitors. The importance of identifying quality information is consistent with the fact that managers value quality information through accuracy and reliability as their most preferred information criteria reported earlier.

This study also investigated managers' perception of the skills and qualifications of information managers. The questionnaire listed 13 statements to be responded based on 1-5 point likert-scales (1-least important to 5-most important). The findings show that majority of the statements achieve high mean scores (minimum of 3.99). Table 6 showed the list of skills and qualifications and the corresponding mean distribution.

Among the statements rated, those high in mean scores were ability to collect, organize, store and utilize information and knowledge, possess information and knowledge management background, skills and professional, have strong awareness of the business environment, have good communication skills, ability to work in team, and ability to ascertain customer needs.

Table 6: Skills and qualifications of information managers

Skills and qualification	N	Min	Max	Mean	Std. deviation
1. Ability to collect, organize, store and utilize information and knowledge	143	3	5	4.50	.63
2.Information and knowledge management background, skills and professional	143	3	5	4.45	.64
3. Strong awareness of the business environment	144	3	5	4.43	.59
4. Good communication skills	143	2	5	4.40	.68
5.Ability to ascertain customer needs	143	3	5	4.38	.65
6. Ability to work in team	142	3	5	4.35	.65
7.Pro-active in marketing the information	143	2	5	4.30	.70
8. Information specialist	141	2	5	4.19	.80
9. Strong IT application skills	144	1	5	4.16	.79
10. Leadership skills	144	2	5	4.14	.71
11.Creative in creating new strategies to market services	144	2	5	4.09	.81
12.Innovative by seeking new goals and objectives	143	2	5	4.01	.71
13. Management experience	142	2	5	4.00	.71

Based on their personal statements given in the open-ended section, the perceived skills involved ability to interact and understand the users' information needs, possess various IT skills, strong background in

management, marketing, business, effective communication, ability to conduct research, good attitude, knowledgeable, and informative.

Conclusion

This study reports the status of the Malaysian managers' information requirements and their defined needs for information and knowledge managers from the descriptive and exploratory approaches. As far as information requirements are concerned, the Malaysian managers may not be seen as highly diverse in their information needs. It is somewhat expected that information needs of these group of people are fulfilled dominantly through informal information interaction with colleagues, subordinates or superiors, clients, etc. Information needs has also been achieved through information gathered from various resources in printed documents, electronic resources such as the Internet, and various databases developed and maintained by the organization. The findings are also in agreement with Wilson's general model of information behavior (1999) of managers.

Gathering information about the profile of information users such as those of managers is crucial in order to develop effective information system as well as knowledge management strategies and tools. In this respect, the findings of this study allow us to develop such profile of user information needs. In respond to this understanding as well, a good model of effective IM or KM should accommodate work environment, or as Lueg (2001) referred to as work ecology that take into consideration the social perspectives in influencing the fulfillment of information needs. The managers' dependency on social interactions and informal communication to perform their tasks is a good example of information behavior that requires a good social information environment provided by IM and KM.

The quality of information should also be regarded an important element in IM. The findings show that accuracy, timeliness, and accessibility as important element that IM should provide in order to assist managers make good decision. In addition, effective IM should also ensure that information can be shared, flexible (available in various resources and format), comprehensive, and flow efficiently throughout the organization. Ability to identify the most crucial information with the specified quality found in the finding is another aspect that IM or KM should provide.

The findings of this study are expected to serve as an initial framework in developing a strategy and tools for effective IM and KM particularly in the Malaysian organizations. Future research may be conducted further by testing some of these concepts to see the effectiveness of the IM and KM as practice in the Malaysian organizations in particular, and in various other organizations in general. The restrictions in this study are perhaps due to the limited scope of the study, the lack of representativeness of the sample due the difficulty faced in getting a bigger sample, and constructs validity. In addressing these issues, this study should be interpreted with caution and be treated as descriptive and exploratory.

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