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The objectives of the *Journal of Information and Knowledge Management* are:

- to promote exchange of information and knowledge in research work, new inventions/ developments of information and knowledge and on the use of information technology towards the structuring of an information-rich society.
- to assist academicians from local and foreign universities, business and industrial sectors, government departments and academic institutions, on publishing research results and studies in the areas of information management, records and archives management, library management and knowledge management through scholarly publications.

Scope

The Journal of Information and Knowledge Management publishes papers of original research work in all aspects of knowledge management, information management, records management and library management. These aspects include, but are not limited to the followings:

- Archives Management
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- Internet Technologies
- Knowledge Management
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LEVERAGING ENTREPRENEURIAL KNOWLEDGE COMPETENCIES AMONG ACADEMIC LIBRARIANS IN MALAYSIA

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Abstract: *Entrepreneurial knowledge competencies can be defined as a person's ability to recognize and exploit intellectual assets opportunities and transform them into innovations which will lead to innovation performance and competitive advantage. However, there has been little discussion on entrepreneurial knowledge competencies among academic librarians especially when the devastating effect of the global economic crisis on libraries has pressured them to use entrepreneurial approaches to generate income and explore innovative ways for sustainability. The main objective of this paper is to explore the entrepreneurial knowledge competencies among academic librarians and the outcomes measured by top management. This research capitalized on a qualitative technique which involved interpretative and descriptive analysis of words to gain in-depth understanding of a specific phenomenon. The study is significant to academic librarians and library management for improving competency and upgrading their innovation performance.*

Keywords: *Entrepreneurial competencies, innovation performance, academic librarian, competitive advantage*

INTRODUCTION

The success of knowledge-based economy depends on the optimum recognition of the role of both knowledge and technology in economic expansion. Knowledge-based economy is interpreted as the role of knowledge that has taken on greater importance compared to other natural resources, physical capital and low skill labor (OECD, 1996). In addition, an exploration into exploiting various aspects of human knowledge for competitive advantage should be in line with the objectives of the knowledge-based economy itself. It is considered as an approach in which the generation and exploitation of knowledge has turned out to play a predominant role in the wealth creation process. Further, there seems to be an accelerating shift in global economics that has changed the recognition towards universities.

Universities have experienced substantial changes in their mission and responsibilities, especially research universities (RU). The main objectives of RU are not limited to education and research aspects, but increasingly also cover technology transfer and commercialization activities (Vincent-Lancrin, 2006). Hence, they are influenced by contributors towards economic prosperity and are key institutions of innovation systems (Edquist, 2005). Fuller (2006) has articulated that the university is a basic institution for knowledge entrepreneurial activities. The constant creation of human capital (through education) and knowledge capital (through research) is invested in fostering business, governmental and societal causes. Malaysia, like many other countries, has shifted the economy base to that of knowledge economy where a much higher proportion of wealth creation and economic activity is underpinned by higher level skills and innovation. In order to enhance the Malaysian university's reputation, the Ministry of Higher Education (MOHE) is constantly encouraging universities to play a vital role in national development, as well as regional and international development, based on clustering of knowledge activities (Khaled Nordin, 2011). Up to 2012, five public-funded higher institutions were granted RU status: namely, Universiti Malaya, Universiti Kebangsaan Malaysia, Universiti Sains Malaysia and Universiti Putra Malaysia and Universiti Teknologi Malaysia. Among the criteria of auditing, RU status was granted to universities based on support facilities and professional services which were offered by libraries and professional academic librarians. In other words, academic librarians directly contributed to universities' achievements and recognition (Noh, 2012). Therefore, it is important to study and re-evaluate their competencies in line with the higher education environment (Parry, 2008).

KNOWLEDGE ENTREPRENEURSHIP

Knowledge has always been of significance in economic activity. McDonald (2002) claims that knowledge is valuable to any organization where it enables the holder of the knowledge to gain an advantage in the market. A competitive advantage can result from offering superior perceived value produced at an equal cost, equal perceived value at lower cost or both higher value and lower cost relative to competitors. This advantage might be the organization's strength to capitalize on an opportunity, or hold off a threat by acting on this knowledge and changing its behaviors. In the context of the university environment, universities transform their knowledge into new products and processes of value through the process of knowledge creation where it plays the critical role to succeed (Nonaka & Takeuchi, 1995; Gold et al., 2001). Knowledge entrepreneurship starts with the ability to recognize the potential value of knowledge, such as research findings from universities, and ends in the implementation of innovation aimed at the realization of desired value. Knowledge entrepreneurship is focused on the realization of opportunities meant to improve the production (research) and throughput of knowledge rather than to maximize monetary profit. Therefore, knowledge entrepreneurship can be defined as the capability of recognizing the accurate or precise knowledge and other innovations which lead to upgrading an achievement in knowledge production. In the context of organizational learning, knowledge entrepreneurs utilize information from the environment and knowledge that the organization already possesses, for innovations in order to improve organizational performance or customer value (Senges, 2007 & McDonald, 2002).

Przezewski (2006) has reiterated that librarians are knowledge entrepreneurs. They have the ability to manipulate the knowledge asset. He argues that the focus is placed on identifying and realizing an opportunity, rather than exploiting existing intellectual capital. Moreover, the knowledge-based economy and the growth of knowledge management have provided new opportunities for librarians to expand existing roles and utilize the skills they have honed to meet organizational objectives (Senges, 2004). However, the changing economy is not fully adapted by librarians and their competencies are being questioned especially because the great economic recession has had a negative impact on libraries and librarians (Germano, 2011). Besides that, the abnormal increase in costs of resources has pressured librarians to reach an unattainable level (Panda & Mandal, 2006). When budgets are spiraling down, it becomes increasingly hard to maintain existing subscription lists as required by users (Bosch & Henderson, 2011). In order to overcome those issues, librarians are highly recommended to use an entrepreneurial approach and demonstrate entrepreneurial competencies to face challenges and for professional survival (Alalhan, 2011; Davis, 2008; Feret & Marcinek, 1999). Additionally, as part of the

university, their performance must be aligned with the larger objectives of the university as they have an impact on the university's research achievement (Doan & Kennedy, 2009; Budd, 1995; 1996; 2006; Noh, 2012).

The main objective of this paper is to explore the entrepreneurial knowledge competencies among academic librarians and the outcomes measured by top management. To achieve the above objectives, the following research questions were used as guidance in the study:

- i. How do academic librarians demonstrate entrepreneurial knowledge competencies?
- ii. How are entrepreneurial knowledge competencies being measured as an outcome by the top management of academic libraries?

PROPOSED CONCEPTUAL FRAMEWORK

The proposed conceptual framework for this study is based on entrepreneurial knowledge competencies among academic librarians adapted from previous studies on entrepreneurial competencies and entrepreneurship literature. The dependent variable indicates competitive advantage while the independent variables are measured by entrepreneurial knowledge competencies dimensions. The mediating variable is measured by innovative performance as illustrated in Figure 1.

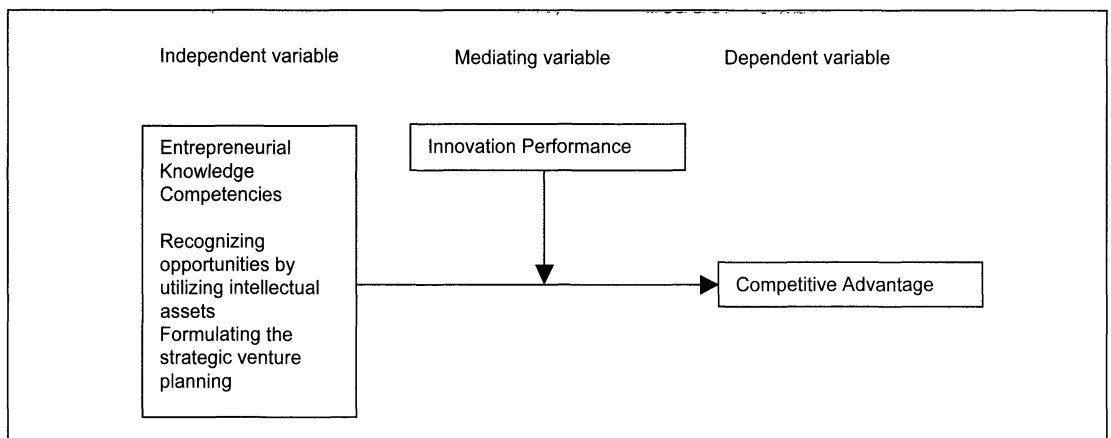


Figure 1: *Proposed Entrepreneurial Knowledge Competencies and the Outcomes among Academic Librarians*

Entrepreneurial competencies can be defined as clusters of sets of related knowledge, attitudes and skills to produce outstanding performance, and maximize profit, while managing a business venture or an enterprise (Man et. al., 2002). By adapting the definition from previous literatures, this paper offers the definition of entrepreneurial knowledge competencies as a person's ability to recognize, respond and exploit the intellectual assets opportunity and transform them into innovations

which will lead to innovation performance and competitive advantage. Previous study revealed that there is a positive relationship between entrepreneurial competencies (the antecedents focus on recognizing opportunity and strategic venture planning), innovation and competitive advantages (Covin & Miles, 1999). The constructs of the variables will be explained in the following paragraphs.

RECOGNIZING OPPORTUNITIES BY UTILIZING INTELLECTUAL ASSETS

Kirzner (1973) introduces the definition of recognizing opportunities as “alertness to changed conditions or to overlooked possibilities”. Recognizing opportunity is viewed as a personal insight to discover new methods and ending up with the new solution after the previous related venture has been well analyzed to avoid any risk for failure (Ulhoi, 2005). In the profession of librarianship, the librarian must be able to recognize opportunities offered by intellectual assets as the most potential opportunity to implement new library ventures (Skrzeszewski, 2006). Intellectual assets refer to knowledge, information, intellectual property and experience which could be manipulated and utilized for revenue generation and gaining competitive edge for organizations (Steward, 1997).

The outcome of recognizing opportunity can be at both the individual and organizational level. The employees in organizations who have this ability are regarded as part of the entrepreneurial strategy in exploring resources to generate revenue and potentially lead to the organization’s competitive advantage. In addition, this type of employee would enhance discovering opportunity and exploiting technology extensively in order to increase new ideas in the entrepreneurial venturing process (Krueger Jr, 1998; Hostager et. al., 1998; Shane, 2000; Manev et. al., 2005). Therefore in this study, recognizing opportunity can be described as the academic librarian’s capability in recognizing, selecting, utilizing and exploiting the intellectual assets as potential opportunities for improving services/products, or reducing the library expenses.

FORMULATING STRATEGIC VENTURE PLANNING

Formulating strategic venture planning is concerned with the planning patterns of organizational adaptation to the market through which a business seeks to achieve its strategic goals (Matsuno & Mentzer, 2000). The emphasis is on deciding business strategy in order to attain superior performance (Slater, Olson & Hult, 2006). Strategic venture planning is also addressed as strategic orientation in entrepreneurial literature. According to Zhou et. al. (2005), strategic orientation reflects the firm’s philosophy in conducting business through the formation of a set of values and beliefs that guide the firm’s attempt to achieve superior performance.

In the library, the strategic venture planning, also called master plan, is revised after current issues, trends, or users' needs have been analyzed (Skrzeszewski, 2006). In addition, strategic venture planning is highly required because of limited resources, expensive technologies as well as increased costs of library materials and resources (Rader, 1989). Hence, in this study, formulating strategic venture planning refers to the academic librarians' capability to plan strategically for recognizing potential opportunities in order to venture new library business projects and to achieve its strategic goals.

INNOVATION PERFORMANCE

According to Glynn (1996), the measurement of innovation performance is based on the individual level because it plays a direct role in organizational innovation performance. Innovation performance is defined as an initiative of the employees to create new process, products, market in the organization (Amo & Kolvereid, 2005). It is measured based on the supervisors' rating of the innovative behavior of their employees (Zhou & Shalley, 2003). The measures used for measuring the innovation performance are based on quality, quantity, timeliness and cost effectiveness (Lynch & Cross, 1991). In the context of this study, the innovation performance of academic librarians is measured by the evaluation of the chief librarian as prescribed in their job description.

COMPETITIVE ADVANTAGE

Peteraf (1993) defines competitive advantage as "sustained above normal returns", on the other hand, Porter (1993) argues that "competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it". The competitive advantage of the firm, created from the capability of the strategic innovation, involves what changes the firm will make in its technology, products, and processes to create value internally along with what opportunities it will pursue and what threats it will avoid outside the firm (Mintzberg, 2008; Kimberly et. al., 2012). In this study, competitive advantage refers to an advantage or superiority gained by a library from the creation of new products, services or work processes which differ from or are not offered by other libraries.

METHODOLOGY

This study uses the qualitative method as it focuses on understanding from the academic librarian's point of view, experience and interpretation. The qualitative method, such as in-depth interviews and case studies, is an excellent approach to studying the behavioral perspectives of management competencies. The methodology may provide insights into competencies from a process perspective

that traditional quantitative methods may not bring to light (Hindle & Yencken, 2004). Smith and Morse (2005) affirm that due to the broad concept of competencies, it is a challenge to measure something which is elusive and slippery as a concept manifests itself differently in different contexts, changes over time, and is not directly observable. In using the multiple cases study, the three main cases of research universities located in Klang Valley, Malaysia were selected. The summary of data collection is shown in Table 1. Based on the case study methodology of the research adapted from Yin (1994), the initial step in the study involved the development of a conceptual framework. This step was then followed by the selection of the pilot case study and three main case studies and the design of the data collection protocol.

Table 1: Summary of data collection

	Method of data collection	Academic librarian involved in data collection	Frequency of data collections session	Total number of data collection sessions.
1.	In-depth Interview (Chief Librarian)	3	40 minutes per session	3 interviews
2.	Focus group interview	15	40 minutes per session	9 focus groups interviews
3.	Document Analysis (Job description of academic librarian)	Department	Number of documents from each department	Total number of analysed documents
		Acquisition	1	3
		Reference	1	3
		Information Technology	1	3

Following the case selection and data collection steps, the individual case reports were developed. A cross-case analysis of the findings was then undertaken. Figure 2 shows the case study methodology of this study.

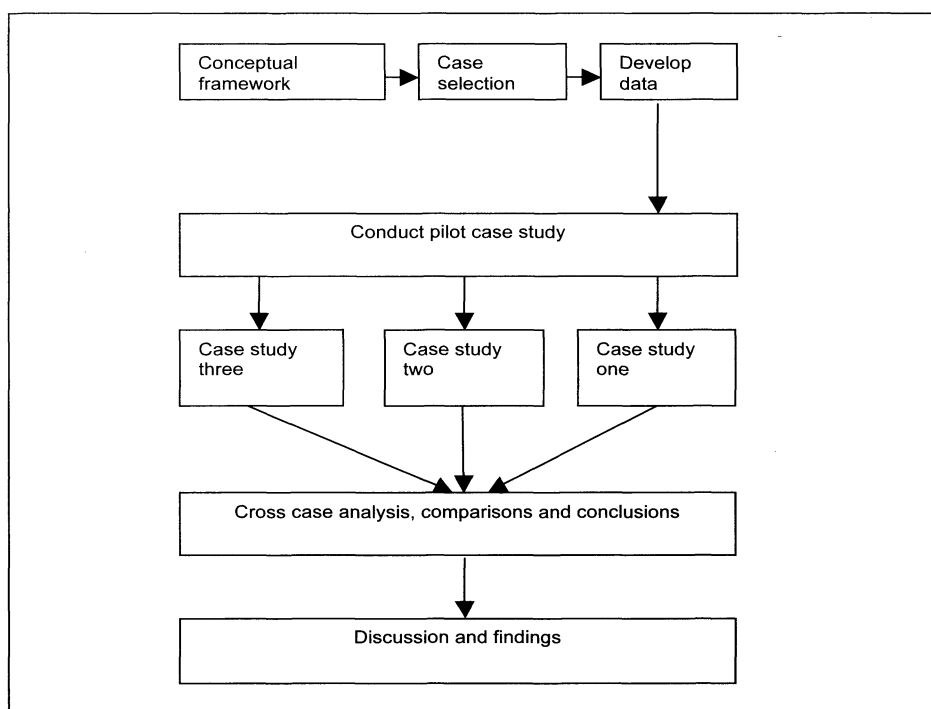


Figure 2: *Case Study Methodology Adapted from Yin (1994)*

RESEARCH DESIGN

Research design started with a literature review, which discusses the literature from numerous sources in order to exhibit an in-depth knowledge of the research problem. A well-defined research problem is required before proceeding with the process of research design and the data collection (Yin, 1994). After an extensive review of the previous literature, research problems of this study were obtained. The development of the conceptual framework is derived from the literature review discussion and research objective. Next, questions for in-depth and focus group interviews were developed. The constructs in in-depth and focus group interviews are related to entrepreneurial competencies among academic librarians based on the previous literature. Then, the sample design was developed. Both samples for pilot interviews and main case study interviews consist of academic librarians from three RU in Selangor (one of the RU for the main study is the same as for the pilot study but the researcher interviewed different sample/academic librarians). The sample of academic librarians for this study was selected by using purposive sampling. The samples of the main case study consist of forty-five academic librarians (nine groups with five academic librarians per group) and three chief librarians from selected RU. Next, five pilot interviews were conducted to improve the data collection processes before the main case studies were conducted (Yin, 1994). This phase represents the final preparation for data collection which is used more formatively to assist the researcher to develop relevant lines of questioning as well as providing some conceptual clarification for the research design as well. Permission to conduct the research was obtained from the top management of academic libraries involved.

After obtaining approval, the requested lists of academic librarians were taken from the top library management. Then, the researcher sent a letter to each of the academic librarians selected to inform them about the research and the date that the interview would take place. Each letter clearly explained the objective of the research. In addition, the academic librarians were informed about the importance of the interview, the confidentiality of their responses and that the data would only be utilized for the purpose of the research. Once the interviews have been conducted, recorded and transcribed, the information was analyzed and interpreted in order to produce the findings. Figure 3 shows the research design process.

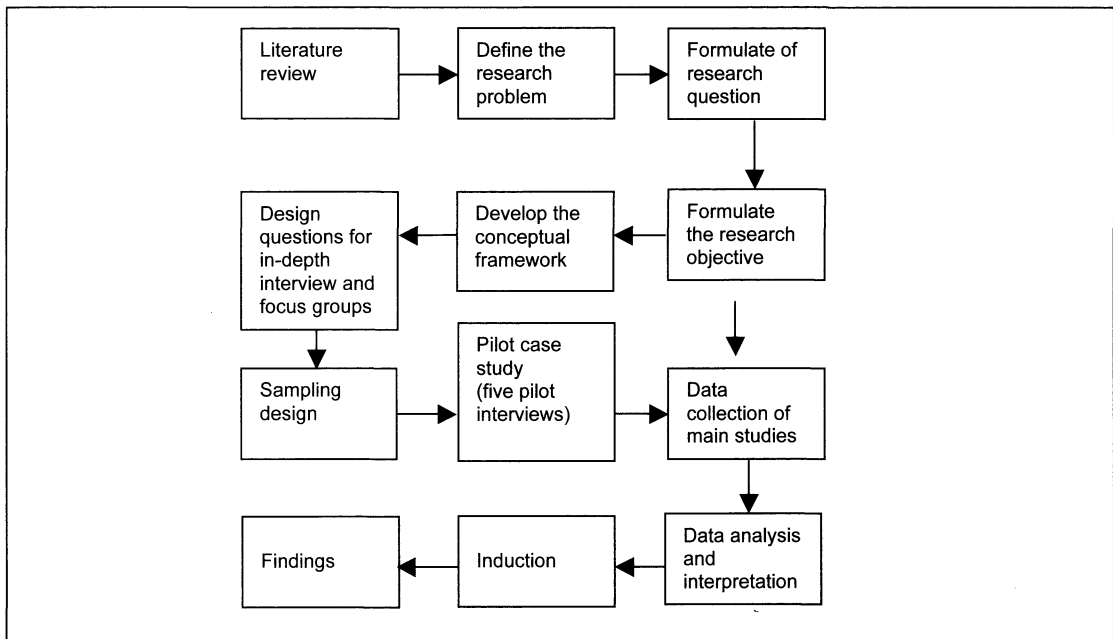


Figure 3: *The Research Design Process*

FINDINGS

The analysis of the study has produced the following findings:

ACADEMIC LIBRARIANS' PERCEIVED RECOGNITION OF OPPORTUNITIES BY UTILIZING ASSETS

The opportunity to develop or venture new library business projects is encouraged or influenced by using academic librarians' experience, knowledge and library resources which are already available in the library environment (such as technology and library resources) or by utilizing their built in competencies (such as experience and knowledge). The informant mentions that the prior knowledge has been gained from formal education in higher education and the advantages credited for those having more than one professional qualification or in various knowledge disciplines, especially related to the parent institution's market niche. Besides, personal traits such as self-alertness make them able to recognize the opportunity earlier than other employees.

ACADEMIC LIBRARIANS' PERCEIVED FORMULATION STRATEGIC VENTURE PLANNING

The academic librarians agreed that the competencies in developing strategic venture planning are vital to ensure that the recognized opportunities are successfully implemented. However, this planning is not only confined to the limited timeframe or duration of projects, but academic librarians also need to be able to think of expansion in the future. This includes forward planning on unexploited information or library resources and the unmet needs for services or resources as required by users. The academic librarians agreed that the library's mission and objectives need to be revised to be aligned with the university but have to be guided by the core values of the library.

ACADEMIC LIBRARIANS' PERCEIVED INNOVATION PERFORMANCE

From the in-depth interview with the chief librarians, in order to explore the outcome measurement, the respondents agreed that innovation performance influences the competitive advantage. The innovation performance among academic librarians is measured based on the development or implementation of new processes, new services or new solutions by utilizing their knowledge or experience. The availability of technology and their competence to exploit those technologies also relatively contributed to perform innovatively. The rewards and recognition is given by the top management to those who initiated the performance innovatively.

ACADEMIC LIBRARIANS' PERCEIVED COMPETITIVE ADVANTAGE

Competitive advantage is created when the academic library can retain the library users by constantly offering them expected services/resources which cannot be provided by another library or its competitors. It also includes the recognition, reputation and image of the library by other parties or departments in the university.

CONCLUSION

The entrepreneurial knowledge competencies perceived by academic librarians are encouraging and they agreed that the competencies should be embraced for sustainability. Overall, the findings are also significant, indicating that librarians should adopt an entrepreneurial approach for money-making opportunities as well as becoming more innovative and creative about selling commodities and services.

Moreover, the librarian or information professional must possess entrepreneurial competencies to maximize working competitiveness and strategic success.

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