Knowledge Management Impact on Corporate Entrepreneurship:
A Malaysian Study

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Abstract
In today's chaotic business environment, organizations face the need to rapidly respond to demands, explore new opportunities, apply evolving technologies, and create novel competitive advantages. Knowledge Management (KM) and Corporate Entrepreneurship (CE) are two strategic tools through which companies can concurrently exploit their competitive advantages while seeking potential opportunities. Since KM and CE practically help to improve organizational performance through their own resources, they seem not only interrelated but also influence each other. Therefore, an empirical survey was carried out among 51 Malaysian firms from different industrial sectors. In this study, Multiple Regressions is used to address the relationship between KM and CE. The results revealed that knowledge exploitation has significant positive relationship with innovation culture. However, there is no significant positive relationship between knowledge sharing culture and innovation culture. Similarly, both independent variables have no significant relationship with employees’ interest in work innovation.

1. Introduction

Among businesses around the world there is now intense competition which is fuelled by the recent global financial crisis [1]. Businesses that survive and excel in this hyper competitive environment, which continues to change and challenge us, are those that build productive and adaptive relationships between raw material, processes, human resources, and managerial capabilities [2]. In line with the resource-based view of firms, CE which is grounded on organizational knowledge and employees' innovativeness [3] has now become a focal point of attention for many organizations. On the other hand, the pressure resulting from this competition has changed the nature of economy. Commercial products are no longer the business focus. Industrial economy has shifted to knowledge economy [4, 5] where expertise and service are the main outcomes of many businesses. As the value of employees' knowledge and organizational knowledge has become more crucial to the companies' performances and competitiveness, the concept of KM has emerged. The growing recognition of the importance of creativity and innovativeness [3] has made KM more significant and important than ever before.

Corporate entrepreneurs use knowledge to identify opportunities [6]. Thus, firms must make the suitable and helpful knowledge available for their employees to help those who are most able to exploit it in a proactive opportunity creating way. KM identifies and leverages the collective knowledge in an organization and aims to increase organizational productivity [7].

Sometimes communication specialists are required to extract out the key points from detailed managerial and technical reports. Otherwise entrepreneurs will skim over that information rapidly, while they could have drawn some innovative ideas. Throughout the KM in an organization, a recorded source of knowledge, an expert or even an expertise will be identified. Then the knowledge will be captured, codified and saved. Afterward KM will disseminate that explicit knowledge in the organization and facilitate access to that [8]. KM transforms tacit knowledge to explicit knowledge [8] and shares the suitable and understandable knowledge among innovation seekers. CE often needs access to networking opportunities to discuss about the knowledge which they have obtained and explored with the others. KM can facilitate this accessibility. Hence, it seems there are some interactions between KM and CE.
As the global competition becomes more intensive and innovation and entrepreneurial ideas and activities gain importance more than ever before, companies show more enthusiasm for using CE [9]. This tendency has been displayed in a number of journals, books, academic dissertations and so forth [10, 11]. Although still there is no universal definition of CE, scholars and practitioners unanimously believe CE is a possibly viable initiative for promoting and sustaining organizational competitiveness [12]. This paper aims to make a bridge between two modern managerial concepts, i.e. KM and CE, and find out if there is connection between them amongst Malaysian organizations. Based on the brief following review resulted from a comprehensive study on the available literature regarding CE and KM, the rationale and questions (hypotheses) of this study are presented. The sampling and applied methodologies are described in the next sections. Then, the paper proceeds with statistical analysis and presentation of the results achieved from 51 respondents which had been collected through online and offline surveys. Finally, the discussion is made and the conclusion is provided.

2. Corporate Entrepreneurship

Having gone through the body of literature, like some other managerial concepts, there is no universal definition for CE [13]. This dispersion can also be seen in the use of CE concept itself. During past three decades several terms have been exploited instead of the term CE such as corporate venturing [14], internal entrepreneurship [15, 16], intrapreneuring [11], and strategic renewal [17]. CE has also been defined as a process of creating new organization or stimulating renewal or innovation in an existing organization by individual or a group of individuals [18, 19]. Some scholars take this argument a step further and make the definition narrower by excluding smaller enterprises from their definitions [11, 15, 20, 21].

Antonicic & Hisrich [22] claim that CE is not solely the creation of a new venture; rather it is an umbrella of other innovative activities like developing a new product or service, technology, solutions and strategies. Dollinger [24] states CE would enable companies to diversify from its original business by renewing their internal processes.

Jennings & Lumpkin [25] provide closure to these definitions through identification of four organizational activities associated with CE namely participative decision making, presence of innovative personnel, participative development of performance goals and the power of risk taking by managers. Indeed, CE pertains to the willingness of an employee to grab an opportunity and foster his/her idea and proceed until creation of a change [26].

The American Heritage Dictionary defines the term ‘intrapreneur’ as: “A person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk-taking and innovation”

Morris [26] asserts a corporate entrepreneur is an individual who is willing to embrace new opportunities and being aware of the possible risks tries to create a change.

Smilor & Sexton [27] analogize an intrapreneur to a Chess player, who is aware of the calculated risks of his next brave move yet knows the influencing parameters of the game and predicts the possible reactions. Sometimes he wins and sometimes his anticipations fail. Exactly the same as that Chess player who learns from his moves and his competitors, intrapreneurs learn from the marketplace and their experiences.

According to Cornwall & Perlman [28] organizational entrepreneurship process includes five basic stages namely, problem definition, coalition building, resource mobilization, project execution and venture. The CE process begins with defining the problems or opportunities. Then intrapreneurs expand their relationships and connections within the organizational bureaucracy. Before going for executing a project, intrapreneurs need to manage and prepare the financial, technological and human resources [24]. The actual implementation of an innovative idea takes place in the next phase. An evaluation and assessment will be done to find out whether the project is a success or a failure [28].

3. Knowledge Management

Schultze and Leidner [23] define KM as ‘the generation, presentation, storage, transference, transformation, application, embedding, and protection of organizational knowledge’. It is indeed the process wherein the organizational knowledge and collective expertise will be identified and captured and then distributed wherever that has the potential to produce payoff [29]. Nevertheless, Kakabadse et al. [30] believe KM is not about managing the organizational knowledge, either individual or broader and visible or invisible. They assert KM is going to change the whole organizational culture and strategies to one ‘that
Since KM helps organizations share information and knowledge and put them into action to improve the organizational performance, these two concepts - KM and CE – seem not only interrelated but also influence each other. Among KM critical success factors, knowledge sharing culture and knowledge exploitation were chosen to represent the dependent variables of this research. Therefore, the research questions of this project were as follows:

1. Do Knowledge-sharing culture and knowledge exploitation within Malaysian organizations affect their innovation culture?
2. Do Knowledge-sharing culture and knowledge exploitation influence employees' interest in work innovation among Malaysian organizations?

5. Methodology

This study aims to explore the impact of KM on CE among Malaysian organizations. Since there has been no similar study conducted with the same purpose amongst Malaysian companies, this study can be categorized as an exploratory study. According to Reynolds [41] an exploratory research allows researchers to look around in order to pursue specific phenomena with the purpose of developing a sort of suggestive ideas. Furthermore, while there is not enough evidence in hand and few researches have been conducted in any specific area, exploratory studies would be carried out to better comprehend the nature of problem [42]. Moreover, this study tries to develop the existing knowledge about relationship between two separate disciplines namely KM and CE. Thietart et al. [43] assert this kind of researches can be categorized as empirical studies. In essence, empirical explorations put a purely inductive logical method, which favors, in theory, the development of new inferences. This section talks about sample and data collection procedures and the statistical tests used to evaluate the research hypotheses.

5.1 Sampling

Among all various kinds of sampling methods, simple random sampling (SRS) was used in this survey. According to Sekaran [42], the SRS has some key features which are the ease of assembling the sample and its representativeness of the population. Upon these key features fulfilled the researcher can create generalization from the outcomes of the sample refer to the population. Another key advantage is to reduce the duration of data collection which is a big limitation for most of the studies.
Since this project aims to study the relationships between KM and CE within Malaysian organizations, all the people who are working in Malaysian companies comprise the relevant population for this research regardless of gender, race and nationality. Thanks to simplicity and clarity of the questions in the instrument of this study, any employee, regardless of her/his position, could be a potential respondent of the questionnaire.

In a scientific research, sample size needs to be large enough to be generalizable and representative of its population. For empirical research and also descriptive analysis at least 20 observations has been recommended by Sekaran [43]. Moreover, Sekaran [44] points out that sample size between 30 and 500 is appropriate for most researches. Furthermore, when a researcher aims to apply a multivariate research the sample size should preferably be 10 times more than the number of variables in the study.

### 5.2 Data Collection

In current research, both primary and secondary data were collected. For the purpose of reviewing previous literature and other researchers’ findings, sources such as books, journals and dissertations were reviewed. The primary data was used to provide descriptive analysis and to examine the research hypotheses.

Out of total 300 distributed questionnaires, only 42 paper-based and 14 online version questionnaires were responded. However, amongst these 56 collected questionnaires, 3 responses had been answered incompletely and 2 questionnaires had been responded just by choosing one row of choices. Therefore, out of 300 questionnaires, 51 questionnaires were eligible for statistical analysis.

### 5.3 Survey Instrument

In this study, for the sake of having a valid and reliable survey instrument, two separate previously-developed questionnaires were chosen and combined. The first part which measures KM variables including knowledge sharing culture and knowledge exploitation was adopted from a previously tested questionnaire used by Suzanne Zyngier [45]. This instrument had been originally developed in 1998 by the School of Management, University of Cranfield, U.K. [46]. The second part which measures CE variables including innovation culture and employees’ interest in work innovation was adopted from Corporate Entrepreneurship Assessment Instrument (CEAI) which is one of the most famous and exploited CE instruments. The CEAI was originally developed, tested and used by Kuratko et al. [6, 18]. According to Scheepers et al. [59], the CEAI questionnaire is not only reliable but also a cross-culturally validated instrument among American and Canadian managers. As [59] stated, most of the measures in the CEAI instrument met suggested minimum criterion [44] (Cronbach's alpha >0.50). Wyk and Adonis [60] report that all the measures in the CEAI questionnaire satisfied the minimum criterion suggested by Sekaran [44]. Hence, the CEAI is a powerful instrument to measure factor scales of corporate entrepreneurship. According to [60], the theoretical validity of CEAI instrument is still in its formative phase.

### 5.4 Variables

In the current study, the KM influencing factors, i.e. knowledge sharing culture and knowledge exploitation, are independent variables and the CE elements, i.e. innovation culture and employees' interest in work innovation, are considered as dependent variables. The research framework is depicted in Figure 1.

![Research Framework](image)

**Figure 1. Research framework**

### 6. Statistical Analysis

#### 6.1 Data Analysis

To analyze the primary data collected through the research questionnaires, the Statistical Package for Social Science 16.0 (SPSS) was used. Statistical analysis of the research was divided into two parts, Descriptive Analysis and Regression Analysis.

#### 6.2 Descriptive Analysis
From total 51 valid responses collected online and offline, 51% of respondents were less than 30 years old. 25.5% were between 30 and 39, 15.7% between 40 and 49, 5.9% between 50 and 59 and 2% were 60 years old or above. Among them 3% were CEOs, 4% were Chief Information Officers (CIOs) or Chief Knowledge Officers (CKOs), 4% were the Human Resource Managers of organizations, 24% were executives and 16% of respondents had different roles in organizations. Moreover, from 51 respondents, 51% had been working in their current positions for three years or less, 29.4% between 3 and 5, 5.9% between 6 and 10 and 13.7% had 10 years experiences of working in their present positions or above.

The various mean and standard deviation scores of the constructs were calculated to estimate the level of KM and CE practices perceived by the respondents. The mean score of research constructs changed from 2.95 to 3.379. According to descriptive analysis, the knowledge sharing culture received the lowest mean score of 2.95 with standard deviation of 0.93. The second lowest KM construct is knowledge exploitation with a mean score of 2.972 and standard deviation of 0.248. The innovation culture received the highest mean score of 3.379 with standard deviation of 0.2633. Finally, the second highest CE construct is employees’ interest in work innovation with a mean score of 3.451 and standard deviation of 0.346.

6.3 Multiple Regression Analysis

To determine the contribution of independent variables in the prediction of each dependent variable of this research, Multiple Regression Analysis was used. In the Regression Analysis, R-square value indicates how well the independent variable can explain the variance in dependent variable [42].

Table 1 illustrates the Pearson’s Correlation values between independent variables and innovation culture. According to this table, the level of knowledge exploitation was highly correlated with innovation culture (r=0.705, p<0.01). The results also indicate that knowledge sharing culture has no significant relationship with innovation culture (r=0.204, p>0.05).

**Table 1. Correlation for innovation culture**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Sharing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Exploitation</td>
<td>0.366**</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**:Correlation is significant at the 0.01 level (2-tailed).

The results of multiple regression analysis conducted between knowledge sharing culture and knowledge exploitation as independent variables and innovation culture as a dependent variable are depicted in the Table 2, Table 3, and Table 4.

**Table 2. Model summary**

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.709*</td>
<td>.503</td>
<td>.482</td>
<td>2.381</td>
</tr>
</tbody>
</table>

*a. Dependent Variable: Innovation Culture*

As it is depicted in Table 3, the recommended model was sufficient as F-value (F=23.78 p<0.05) was statistically significant at level of α=0.05. It means that the proposed model was significance and at least one of the independent variables can be used to predict innovation culture. According to the Table 2, the R-Square value was 0.503. This represents that 50.3 percent of variation in innovation culture can be explained by all two independent variables. As Table 2 shows, there is no autocorrelation among the error terms as the Durbin-Watson of 2.381 falls between 1.5 and 2.5 (1.5<D-W<2.5). It approves that all error terms were independent. According to Table 4, knowledge exploitation (B=0.466, p<0.01) has significant positive relationship with innovation culture amongst Malaysian organizations. In addition, Table 4 illustrates that Knowledge Sharing (B=-0.091, p>0.05) has no significant impact on innovation culture.

**Table 3. ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5.514</td>
<td>2</td>
<td>2.757</td>
<td>23.78</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>5.449</td>
<td>47</td>
<td>.116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10.963</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. Predictors: (Constant), Knowledge Sharing, Knowledge Exploitation
b. Dependent Variable: Innovation Culture*

**Table 4. Coefficients**

<table>
<thead>
<tr>
<th></th>
<th>Innovation Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.204</td>
</tr>
<tr>
<td></td>
<td>.705**</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The results of multiple regression analysis conducted between knowledge sharing culture and knowledge exploitation as independent variables and innovation culture as a dependent variable are depicted in the Table 2, Table 3, and Table 4.
Table 5 illustrates the Pearson’s Correlation values between independent variables and interest in work innovation. According to this table, the level of knowledge exploitation was not correlated with interest in work innovation \((r=-.195, p<0.01)\). The results also indicate that knowledge sharing culture has no significant relationship with interest in work innovation \((r=-.123, p>0.05)\).

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>2.271</td>
<td>.444</td>
<td>5.119</td>
<td>.000</td>
</tr>
<tr>
<td>Knowledge Exploitation</td>
<td>.466</td>
<td>.071</td>
<td>6.604</td>
<td>.000</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>-.091</td>
<td>.160</td>
<td>-.570</td>
<td>.572</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: Innovation Culture

Table 5. Correlation for work innovation

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Sharing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Exploitation</td>
<td>.366</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Interest in Work Innovation</td>
<td>-.123</td>
<td>-.195</td>
<td>1</td>
</tr>
</tbody>
</table>

\(^*\)Correlation is significant at the 0.01 level (2-tailed).

The results of Multiple Regression Analysis conducted between independent variables included knowledge sharing culture and knowledge exploitation, and interest in work innovation as a dependent variable are depicted in the Table 6.

<table>
<thead>
<tr>
<th>ModelSummary</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1.041</td>
<td>2</td>
<td>.521</td>
<td>.958</td>
<td>.391</td>
</tr>
<tr>
<td>Residual</td>
<td>25.550</td>
<td>47</td>
<td>.544</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26.591</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Knowledge Sharing, Knowledge Exploitation

\(^b\) Dependent Variable: Interest in Work Innovation

### 7. Discussion, Conclusion and Limitation

#### 7.1 Discussion

Taking a holistic approach to these concepts, some connections and relationships amongst their processes can be found. The main objective of CE is to support and nurture innovative ideas [37, 47]. On the other hand, the backbone of innovations is knowledge [48] and the process of innovation depends heavily on knowledge [49], be it tacit or [50]. Hence, it seems managing the knowledge within an organizational would facilitate the process of CE.

Shaw et al. [51] state the micro-model of CE and innovation comprises of three main phases, namely input, transformation and output. The intrapreneurship process begins with the spark of a novel idea. Creation of innovative ideas can be attributed to various reasons. However, the factor which can be considered as both the cause of creation and the facilitator for developing the ideas is “the existing knowledge” of the firms [52], in a sense that the established status quo of an organization leads the intrapreneur to broader horizons and new ideas [51]. In fact, by taking the current organizational knowledge into consideration, innovative employees will be aware of what their organizations do have and what they don’t. Consequently, CE focuses on the useful and beneficial ideas. But how this existing
knowledge is to be prepared is the well-known responsibility of KMSs.

After completion of the first stage and discovering innovative ideas, corporate entrepreneurs will begin to search for identifying appropriate opportunities. It is plainly related to the fact that even the best ideas may be wasted if they are not implemented at the right time and in the proper places. Hence, entrepreneurs are always seeking for environmental information, both inter-organization and external information.

Once the implementation phase is completed, the project will be evaluated. No matter the innovation process achieves success value or failure value [52], the learning and experiences resulted from the project potentially can improve the intrapreneurial activities of the firms in the future [51]. These experiences and learning will be captured and disseminated within the organization. It gives a hand to the next innovators to modify the failed project or maybe similar to the previous phase, will be kept for further uses [51]. As noted by Rothwell & Gardiner [53], the results of intrapreneurial activities sometimes lead to re-innovation. It means, the knowledge comes out from an innovation project, if being managed concisely, will improve the whole organizational knowledge [54, 55].

According to Roberts [56] cutting edge technologies, which are the successful results of innovative ideas, can also leverage the creation of new innovations; in a sense that, people in organizations, gradually gain new and valuable experiences since they get involved with new technologies. These technologies vary from simple yet unique software to a big complicated robot. No matter what type of technologies have been used, this cumulative experience can improve the organizational knowledge. Once this practical knowledge is distributed through the knowledge sharing process within the company, knowledge workers will become aware of the organizational existing capabilities. Having realized the organizational existing knowledge and capabilities, corporate entrepreneurs can develop and nurture their innovative ideas.

Market-pull, the second driver of innovation, results from consumers’ new needs [51]. New needs will be usually emerged due to unexpected events, changes in demographics and etc [48, 57]. Entrepreneurs who always monitor societies as well as market places, right after identification of any new need, will immediately stand to respond it. However, in the context of established firms, intrapreneurs are not as close as entrepreneurs to the market and consumers. In this context, marketing division is the first department that finds out about the occurrence of new needs among societies and individuals. Once the information about external environment is captured, the importance of KM becomes evident. This new information need to be explicated, stored and disseminated through the organization [58]. Therefore, R&D division, product designers and production manager as well as finance department and all the other people who are authorized to access the information will be aware of real time information about the market. Needless to stress, this knowledge sharing and accessibility to the flow of useful knowledge, would inspire many innovative ideas in the minds of corporate entrepreneurs.

Having compared the results of this study with the aforementioned theories, reasoning and thoughts, while knowledge sharing among Malaysian companies doesn’t affect their innovation culture but knowledge exploitation positively does, there should be evaluation, or probably re-evaluation, on the process of KM of those organizations. It shows there is a gap between sharing knowledge and exploitation of it from the innovation culture point of view. Obviously finding the reasons causing this gap needs another study and hypotheses, but what this research shows is that amongst Malaysian organization, knowledge exploitation influence their innovation culture positively. It clarifies that by exploiting their organizational knowledge, Malaysian companies can develop the innovation culture which might lead to new ideas, products or services.

7.2 Conclusion

Knowledge sharing which is one of the most important parts of any knowledge management system can potentially leverage . Apart from a formal and prolific system, a predominant culture of knowledge distributing is needed for achieving the basic objectives of organizations. This will be achieved by management support, training sessions and practice. Reward and compensation system would be helpful as well.

Knowledge exploitation is the final goal of any KMS in organizations. Creating knowledge, saving and distributing without using it is nothing but wasting time and money of the organizations and increasing the data storage. Indeed, the process of KM should be end by a precise productive exploitation system. Monitoring tools and proper feedback system can help managers to benefit from the KMS.

7.3 Limitation
The most common limitation in studies like this is to collect the primary data. In this study over 300 questionnaires were distributed online and offline, however only 51 responses were received with complete answers. If there were not time and transportation constraints, more data could be gathered and result would be more accurate. Next limitation was the lack of relevant secondary data. The number of articles which study CE and KM together was too much limited.

8. Further Research

As it was mentioned earlier, CE is a very young topic in Malaysia. It gives many opportunities to researchers to study other aspects of this concept. Some of topics that could be suggested are as follows:

- The role of organizational behavior in CE.
- The role of HRM in corporate entrepreneurship.
- A study on CE in SMEs.
- Comparative studies about CE and KM topics between Malaysia and other developing countries.
- Comparative studies about CE and KM topics between Malaysia and developed countries.

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References


