

Relationship between Intellectual Capital and Intrapreneurship in Academia

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Abstract: This study attempts to determine the relationship between intellectual capital and intrapreneurship in academia. It is crucial for academicians to have entrepreneurial behaviour. They are the key to ensuring that future graduates are equipped with an entrepreneurship mindset. The Ministry of Higher Education highlights that 1,500 academicians with entrepreneurship expertise are expected to become advisors for students' business and entrepreneurship projects. Data are obtained from 286 Public University academicians and analysed using SmartPLS 3.2 to generate a hypothesised research model finding. The research finding reveals that intellectual capital influences intrapreneurship among academicians.

Keywords: Human Capital, Intellectual Capital, Intrapreneurship, Relational Capital, Structural Capital

1. Introduction

Investing in knowledge creation contributes to creating high-income employment and productivity growth that eventually contributes to the country's economic growth, as the people who run the country need to be knowledgeable with higher skills. QS Asia News Network (2018) mentioned that the higher education industry plays a vital role in providing a quality workforce, supporting business and industry, and promoting research and development. For the post-pandemic in Malaysia, the engagement of educators in

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higher education allows research output to be transformed into actions to help the country, as it is closely related to the socio-economic facets of the country (New Straits Times, 2020). QS World University Ranking (2020) performance was supported by university staff efficiency in delivering their work. Dealing with current economic trends, entrepreneurship skills among graduates are highly important, and they need to make themselves more marketable by equipping themselves with multiple skills (New Straits Times, 2020), especially during the post-pandemic. Academicians play their role in encouraging more graduates to embark on entrepreneurship without relying on job opportunities. Based on the Department of Statistics Malaysia statistics, a report by New Straits Times (2020) revealed that there were 746,400 unemployed individuals in November 2020, leading to an increasing unemployment rate by 0.1 per cent.

It is crucial for academicians to have entrepreneurial behaviour. They are the key to ensuring future graduates have equipped themselves with an entrepreneurship mindset. The Ministry of Higher Education Minister supported it by stating that 1,500 educators with entrepreneurship expertise are expected to become advisors or mentors for students' business and entrepreneurship projects (New Straits Times, 2017). It is important to have high competency educators to ensure entrepreneurship education effectiveness. However, the competency of educators in Malaysia still lacks in terms of entrepreneurship competency (Rahim et al., 2015). Most studies focused on SMEs or business organisations. There is a lack of studies on intrapreneurship among academicians. Therefore, this paper aims to study entrepreneurial behaviour among academicians. Anggraini et al. (2018) suggested that intellectual capital significantly reflects higher education performance through the human capital, structural capital, and relational capital elements at public universities. These elements are crucial in order to ensure the performance of higher education institutions.

Intrapreneurship is essential for the competitiveness of organisations as they face dynamic competition unleashed by globalisation. Lim and Kim (2019) defined intrapreneurship as an individual entrepreneurial behaviour (Burgelman, 1983; Burgers and Covin, 2016; Lim and Kim, 2019). As defined by Anggraini et al. (2018), university performance is a result of actions or activities conducted by the members of the organisation accomplished towards the university goals. The authors measured university performance through academic and management performance. The academic performance was divided into research and educational dimensions. Meanwhile, the management performance was divided into financial and human resource dimensions. Hence, this research aims to investigate the relationship between intellectual capital and intrapreneurship among public university academicians.

This research is designed to determine relationship between human capital and intrapreneurship among academicians, between structural capital and intrapreneurship among academicians and between relational capital and intrapreneurship among academicians.

2. Literature Review

Anggraini et al. (2018) proposed that higher education invests in intellectual capital, consisting of human capital, structural capital, and relational capital. Yolanda et al. (2015) created a model to measure and manage intellectual capital in Spanish higher education institutions, focusing on the intellectual capital of universities and research centres. It was measured by the contribution in organisational capital, technological capital, and relational capital and their relationship with intellectual capital. Jose and Miriam (2018) studied the role of intellectual capital in developing the employees' intrapreneurial behaviour at the workplace. The findings proposed a conceptual model identifying the opportunity as an input, innovation as the output of the phenomenon, and intellectual capital as a leverage source in the intrapreneurship process. The research outcome focused on the implementation of an intrapreneurship strategy to encourage innovations at the workplace. The literature indicated that studies on intellectual capital had been conducted in various non-educational sectors. Thus, this study aims to fill the contextual gap to determine the influence of intellectual capital among public university academicians.

Human capital refers to the knowledge, competencies, talents, abilities, and innovation of employees, as well as various resource elements, such as attitude and intellectual agility, implicit knowledge, and people's talents (Anggraini et al., 2018; Khalique, Shaari, Isa, and Agel, 2011). On the other hand, according to Ramírez-Córcoles et al. (2007), Ramírez-Córcoles et al. (2011), Pedro, Leitão, and Alves (2019), human capital is described as the combination of explicit and tacit knowledge held by all human resources in the educational establishment (teaching, research and development, top-management, and managerial staff in all divisions), developed through both formal and non-formal education and the ongoing training included in their activities.

Structural capital refers to the explicit knowledge linking to the internal process of spreading, communication, and administration of scientific and technical knowledge at the higher education institution (Anggraini et al., 2018), comprising infrastructure, system policies, and procedures (Khalique et al., 2011). According to Pablos (2004), Sharabati, Jawad, and Bontis (2010), Stevens (2011), and Anggraini et al. (2018), structural capital primarily creates an environment in which employees are motivated to invest their human capital in areas, such as innovation and development, technology, quality management, creativity, and organisational development. They are also motivated to leverage their knowledge to improve organisational performance.

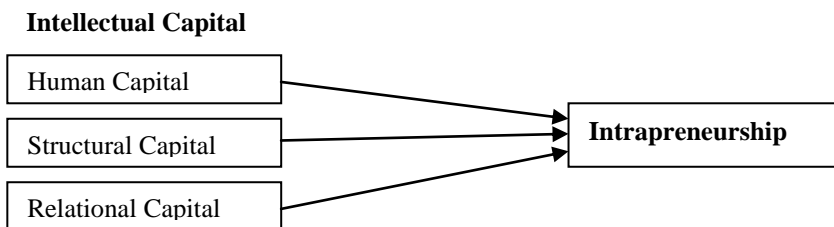
Relational capital is defined as an invisible asset based on developing, maintaining, and nurturing high-quality relationships with any organisations, individuals, or groups influencing business performance. Anggraini et al. (2018) defined relational capital as an extensive collection of economic, political, and institutional relationships developed and maintained between the university and its non-academic partners, such as businesses, non-profit organisations, local governments, and society in general, including other people’s perceptions of the university, such as its image, appeal, and dependability.

Intrapreneurship is a system allowing an employee to act like an entrepreneur within an organisation. Intrapreneurs are self-motivated, proactive, and action-oriented people with leadership skills and thinking out of the box. Meanwhile, employees with intrapreneurial skills are innovative and significant contributors to organisational development. Petra et al. (2019) conducted an exhaustive systematic literature review on intrapreneurship aspects identified between organisation and individual. The authors integrated organisational and individual aspects of intrapreneurship. They proposed a new definition of intrapreneurship, stating that it is a process in which employees recognise and exploit opportunities and create new products, processes, or services to improve organisational performance. The thematic results of the study have proposed a model identifying three major dimensions as intrapreneurial behaviour, characteristics, and attitude contributing to higher employees’ performance in organisations. Ruud et al. (2020) studied the effectiveness of firms’ performance after adopting New Ways of Working (NWW) on work performance. The impact of several NWW factors on innovation encourages intrapreneurial behaviour among employees. It has been investigated, and the study findings stated that time, location, and independent work have a positive effect on management output. The relationship between a freely accessible open workplace and intrapreneurial behaviour is mediated by transformational leadership. The research also identified that social interaction does not have any mediating effect on the employees intrapreneurial behaviour.

3. Research Framework

The framework of this study is summarized in Figure 1.

Figure 1: Research Framework



Based on the research framework (Figure 1), the following research hypotheses were expected in this study:

H1: Human capital has a significant influence on intrapreneurship.

H2: Structural capital has a significant influence on intrapreneurship.

H3: Relational capital has a significant influence on intrapreneurship.

4. Methodology

In quantitative research, a research design consists of procedures to select research participants and to determine how data will be collected from those participants (Sekaran and Bougie, 2013). This research aims to obtain as much data as possible related to the topic of interest. This study employed the analytical or causal research approach. This study was carried out in a non-contrived setting. Surveys were conducted in the natural environment among entrepreneurship lecturers at all Universiti Teknologi MARA (UiTM) campuses in Malaysia. It targets to investigate the importance of intellectual capital among UiTM Lecturers. Concerning the literature review, this study intends to find the relationship between predefined intellectual capital and the public university staff performance. This study used a cross-sectional type of survey design. The primary data were gathered through questionnaires and interviews to answer the research questions. The structured questionnaire obtained quantitative data, which then were analysed statistically and generalised the result. The unit of analysis for this research is individual. The data were gathered from individuals among lecturers throughout UiTM.

This research targeted lecturers from the Faculty of Business and Management (FBM). The output from the Raosoft table showed that the minimum sample size for the said population size was 286 samples. The sample size determination was based on three criteria: level of precision, level of confidence, and degree of variability. It included all the lecturers, especially those with experience in the field of entrepreneurship. The questionnaires were distributed to all selected respondents. The non-probability sampling method, specifically convenience sampling, was used to select the samples from the population. The questionnaire was divided into two (2) parts; demographic and independent/dependent variable items. The independent and dependent variables comprised human capital, structural capital, organisational capital, entrepreneurship, and lecturers' performance. Most of the parameters were measured using the five-point Likert scale, representing "1 – Not Important at all", "2 – Not Important", "3 – Neutral", "4 – Important", and "5 – Very Important". This scale was used to indicate the respondents' degree of agreement for every statement in the questionnaire.

The proposed framework can be assessed using Structural Equation Modeling (SEM). The researchers decided to use the Partial Least Square (PLS) path modelling, using Smart

PLS 3.2 (Ringle et al., 2012) that does not require such assumptions. PLS path modelling involves the two-step approach (Hair et al., 2017). The first step evaluates the measurement model (i.e., outer model). Meanwhile, the second step evaluates the structural model (i.e., inner model). The measurement model focuses on the relationship between construct and its indicators. In contrast, the structural model focuses on the relationship between constructs.

5. Data Analysis

The measurement model was tested based on item reliability, internal consistency reliability, discriminant validity, and convergence validity (Straub, Boudreau and Gefen, 2004). Accordingly, Table 1 shows that the value of the load factor for each item is greater than 0.7, indicating that the items for each construct meet the validity and reliability standard set (Fornell and Larcker, 1982; Gefen and Straub, 2005). Subsequently, each construct has a composite reliability value of more than 0.8, meaning the measurement scale has a high internal consistency (Henseler et al., 2009). Then, the Average Variance Extracted (AVE) for each construct ranges from 0.525 to 0.615, exceeding the critical value required that is 0.5 (Hair et al., 2012). It indicates that the study constructs meet the criteria of convergent validity (Fornell and Larcker, 1981; Henseler et al., 2009).

Table 1: Results of Item Loading and Composite Reliability

No.	Variables	Items	Item Loading (≥ 0.70)	Composite Reliability (≥ 0.80)	AVE (≥ 0.50)
1	Human Capital	5	0.726 – 0.847	0.873	0.581
2	Structural Capital	5	0.713 – 0.847	0.868	0.568
3	Relational Capital	5	0.731 – 0.802	0.846	0.525
4	Intrapreneurship	9	0.731 – 0.861	0.905	0.615

The hypotheses testing results show that an independent variable (intellectual capital) in the SmartPLS path model contributes 12.4 per cent to changes in the dependent variable, and the values can be considered acceptable (Cohen, 1988). On the other hand, the results of the hypotheses testing using the SmartPLS path model analysis resulted in three (3) important findings. Firstly, human capital has a positive and significant relationship with intrapreneurship ($\beta = 0.128, t = 2.231$); hence H1 is supported. Secondly, structural capital has a positive and significant relationship with intrapreneurship ($\beta = 0.135; t = 2.133$); hence H2 is supported. Thirdly, relational capital has a positive relationship with intrapreneurship ($\beta = 0.174, t = 2.730$); hence H3 is supported. Overall, the results confirm that intellectual capital (human capital, structural capital, and relational capital) is an important predictor of intrapreneurship in the working environment in academia.

Table 2: Results of Hypotheses Testing

Relationship between	Beta (β)	t-Value	p-Value	R²
Human Capital and Intrapreneurship	0.128	2.231	0.026	12.4
Structural Capital and Intrapreneurship	0.135	2.133	0.033	
Relational Capital and Intrapreneurship	0.174	2.730	0.007	

Note: Significant level= * $p < 0.05$ and $t > 1.65$.

6. Conclusion and Recommendation

Overall, the study findings confirm that human capital, structural capital, and relational capital serve as important predictors to creating an intrapreneurship structure. Intrapreneurship is a system that allows an employee to act like an entrepreneur within an organisation. Intrapreneurs are self-motivated, proactive, and action-oriented people with leadership skills, thinking out of the box. Employees with intrapreneurial skills are innovative and significant contributors to organisational development. Furthermore, the study findings indicate significant implications to the theories and practices. The findings support the study by Ruud et al. (2020) on the effectiveness of firms' performance after the adoption of New Ways of Working (NWW) on work performance. The impact of several NWW factors on innovation encourages intrapreneurial behaviour among employees. It has been investigated, and the study findings state that time, location, and independent work have a positive effect on management output. The relation between a freely accessible open workplace and intrapreneurial behaviour is mediated by transformational leadership.

In conclusion, researchers need to consider the limitations of the conceptual framework and methodology of the study. First, the cross-sectional method used in this study cannot detect the dynamic changes and the relationship pattern among more specific variables in the study sample. Second, this study does not highlight the relationship between specific indicators of independent variables and dependent variables. Third, the SmartPLS path model analysis results only explain the level of employees' development variance influenced by the variables involved in the study.

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