Catalytic Agent for Strategic Innovation Ambidexterity: The Role of Human Capital

[1]Faizah Mashahadi, [2]Noor Hazlina Ahmad, [3]Osman Mohamad, [4]Mohd Ghazali Mohayidin, [1]Razmah Mahmud, [5]Noraznira Abd Razak and [5]Najihah Hanisah Marmaya

[1] Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia
[2]School of Management, Universiti Sains Malaysia, Pulau Pinang, Malaysia
[3]Graduate School of Management,Multimedia University,Cyberjaya, Selangor, Malaysia
[4]Open Universitiy Malaysia, Bandar Baru Bangi, Selangor, Malaysia
[5]Universiti Teknologi MARA, Melaka, Malaysia

***Abstract* - Developing exploitation and exploration innovation capability is enormously critical for small and medium enterprises (SMEs) to attain comprehensive endurance in borderless business battlefield. To better understand the extent to which SMEs realize strategic innovation ambidexterity, this study develops a theoretical framework that associates human capital to strategic innovation ambidexterity. Grounded by the Theory of Dynamic Capability, this present study examines the effects of the subsequent predecessor in predicting technological and non-technological innovation ambidexterity among SMEs operating internationally specifically; general human capital and specific human capital. Data were collected via self-administered questionnaires from herbal-based SMEs who participated in this study. A quantitative approach was adopted, and hypotheses were tested using Partial Least Squares (PLS) analysis. Findings showed that general and specific human capital positively influenced the development of strategic technological and non-technological ambidexterity. This study provides evidence on the pivotal role of human capital in SMEs located in a developing country.**

Keywords : *human capital, technological innovation ambidexterity, product innovation ambidexterity, non-technological innovation ambidexterity, market innovation ambidexterity, small and medium enterprises*

ARTICLE INFO

Received 10 November 2017
Received in revised form 5 December 2017
Accepted 18 December 2017
Published 31 December 2017

I. Introduction

Globalization evidently has transformed the world into a huge and borderless marketplace. Overcoming restricted market in the homeland, globalization can be contemplated as an alternative platform to achieve greater success. As a matter of fact, foreign business expansion renders entrepreneurs to unique challenges and liabilities, namely liability of smallness, foreignness and outsidership. For that reason, dynamic capability is regarded as the means for entrepreneurs to crack into the international marketplace. The Dynamic Capability Approach denotes dynamic capability as the most valuable capability and effective mechanism in the turbulent nature of business environment that absolutely creates positive impact on business growth and survival (Teece & Pisano, 1994: Teece et al., 1997; Zahra et al., 2006; Voss & Voss, 2013).

Dynamic firms are able to respond rapidly to environment changes that are continuously changing its capability through innovation and adaptation (Teece et al., 1997 & Zahra et al., 2006). In a stable environment, SMEs may only need to align or exploit their existing innovation capability. However, in a dynamic environment the focus should be directed for new innovation exploration. Lubatkin et al. (2006) spell out the importance of simultaneous or subsequent exploitation and exploration capability as the means to achieve competitive advantage. Having a balance measure between these two capabilities, which is known as strategic ambidexterity (Lubatkin et al., 2006) is a virtue for entrepreneurs' business sustainability in the global market. The current scenario of business has placed innovation in a crucial position for business to be more successful, competitive and responsive to environmental changes (Buenechea et al., 2016). Therefore, this study draws attention to strategic ambidexterity in technological and non-technological innovation as the subject matter. While technological innovation is related to process and product development, non-technological innovation refers to the managerial and marketing approach (O'Cass & Weerawardena, 2009).

While research interest in strategic ambidexterity is immense, much of understanding about the predecessor is still underdeveloped. According to Lafuente and Rabetino (2011) the association between human capital and organizational capability has not been broadly tested among SMEs. Hence, this offers a research gap for this study. This study expands upon strategic ambidexterity literature by investigating the link between human capital and innovation ambidexterity. Human capital is the foundation for new invention, new capability and new strategy that can assist SMEs to respond efficiently to the changing business atmosphere. Most often, human capital explains why firms are different and outstanding in their performance (Hitt et al., 2001; Voss & Voss, 2013). Knowledge is a fundamental element of human capital (Hitt et al., 2001) as it improves entrepreneurs' responsiveness to the changes in business environment. For SMEs, decision in acquiring knowledge is largely determined by the owners of the firms (Varis & Littunen, 2010). To keep updated with the current move, learning activity must be stimulated to enhance the quality of human capital henceforth creating human capital as the basis for innovation ambidexterity. Drawing from the previous literature, this study aims to test the effects of different dimensions of human capital as key covariates in predicting innovation ambidexterity among internationally-operated SME namely, general human capital and specific human capital.

II. Literature Review

Dynamic Capability View

A review of the available studies demonstrates an inclination of dynamic capability in predicting organizational capability and performance. The Dynamic Capability View is an extension of the Resource-Based View that regards internal resources and capabilities as valuable henceforth source for competitive advantage (Warnerfelt, 1984; Barney, 1991). This theory assumes intangible and intangible resources that firms utilize for strategy execution and enable firms to sustain competitive advantage and assist to improve business performance. The former refers to factors that can be controlled by firms and the latter explains firms' capability in deploying the resources (Barney, 1991). In this light, Teece and Pisano (1994) highlighted dynamic capability as a new method for wealth creation activity. The Theory of Dynamic Capability stressed that in the presence of competitive international business environment, *"continuous effort undertaken in honing internal technological, organizational, and managerial processes inside the firm to address rapidly changing environments"* is more likely to determine and sustain business competitiveness (Teece et al., 1997). The central of dynamic capability is related to the efforts undertaken to renew and reconfigure competencies in response to changes in business environment. In connection to this point, Tushman and O'Reilly (1996), highlighted strategic ambidexterity as the basis to establish business competencies in the challenging business environment to pledge short-term and long-term business performance (Tushman & O'Reilly, 1996).

Strategic ambidexterity refers to business capability to address two different things at the same time (March, 1991; Tushman & O'Reilly, 1996; Lubatkin et al., 2006; O'Reilly & Tushman, 2013). It indicates business capability to efficiently manage today's business position and simultaneously able to adapt to the changes in the future business environment. This capability allows firms to manage today's business demand and simultaneously adapt to the changes in business environment (Raisch & Birkinshaw, 2008). Being ambidextrous does not mean firms must respond simultaneously to the changes in the context of business, it also includes subsequent response to the changes in business environment (Han, 2005).The bottom line of strategic ambidexterity lays down on firms' capability in building its existing capabilities

through exploitation activity, while at the same time not to neglect the effort in developing new capabilities through exploration activity (Tushman & O'Reilly, 1996; Lubatkin et al., 2006).

Innovation Ambidexterity

The significance that innovation has gained in current international business atmosphere has been comprehensively explained in the literature. Competitive pressures, technological advances, globalization, among others have positioned innovation in an outstanding position for SMEs in order to be more flourishing, to achieve greater performance and to respond to environmental changes. The growing evidence in the literature points out to the significant relationship between innovation ambidexterity and SME business achievement internationally. In addition, firms that depend heavily on refining or improving its existing technology capabilities and do not invest in new technology, choosing wrong technology or not much responsive to the culture of a particular market have high propensity to be unsuccessful in their businesses (O'Reilly & Tushman, 2013; Scott, 2014; Wei et al., 2014). Innovation comprises of two major categories, including technological innovation and non-technological innovation (O'Cass & Weerawardena, 2009). Technological innovation is related to process and product development whereas non-technological innovation refers to the managerial and marketing approach. Exploitative innovation is established to meet *"the needs of existing customers or market"* while exploration innovation is meant "*to grasp the latent needs of customers or markets"* (Li et al., 2008).

In this study, innovation ambidexterity is defined as exploitation of the existing capabilities which can be obtained by using existing products, process and marketing approach while simultaneously or subsequently explores new innovation in response to the changing international business environment, which can be obtained through establishment of new product, process and marketing. In some industry, product innovation is the essence to remain competitive (Caiazza, 2016). Exploitative technological innovation involves small changes made on the products or technology, whereas explorative technological innovation involves major changes on products and technology that require firms to abandon the existing ones. On the other hand, non-technological ambidexterity is related to improve and refine current skills and procedures applicable in the current market, current segment, positioning, distribution and other marketing mix and concurrently identify new segmentation, new positioning, new products or new channel (Prange & Schlegelmilch, 2009).

Empirically, innovation ambidexterity improves business existing performance, and promotes the improvement of long-term performance (Stettner & Lavie, 2013). Venkatraman et al. (2009) monitored the importance of simultaneous ambidexterity in product innovation for the sales growth of software firms. Organizational ambidexterity is also found to positively and significantly affect the performance of manufacturing and service firms (Wei et al., 2014). In a study conducted amongst SME, strategic ambidexterity has been observed to affect SMEs business performance (Lubatkin et al., 2006). Consistently, innovation ambidexterity is confirmed to positively affect SME performance (Wulf et al., 2010; Chang et al., 2011). In the service industry, Voss and Voss (2013) have reported the positive impact of product ambidexterity on the revenue of old and large firms, while market ambidexterity affects the performance of large firms. Apparently, the action of taking a balance measure between exploiting existing innovation capabilities and exploring new innovation capabilities appear to improve business performance in various sectors.

Therefore, in the competitive business milieu, where customers demand for sophisticated and updated products, existing resources and capabilities need to be constantly renewed. On the other hand, when the existing capabilities are inadequate in meeting customers' new demands, SMEs should embark to explore new kind of capabilities such as establishing new manufacturing technology, new products and adopt new marketing approach to address the changes in business environment. The exploration of new product, process and marketing approach allows SMEs in achieving distinctive competencies, realizing competitiveness and eventually accomplish greatest performance.

Human Capital

Human capital results from knowledge, experience, and capabilities embedded within entrepreneurs. The capability is vital for value creation activity (Baron, 2011; Marvel et al., 2014). Generally, it comprises of general and specific human capital. While general human capital is related to the possession of explicit or objective knowledge, the latter refers to the possession of tacit or implicit knowledge. Such example of explicit knowledge is related to entrepreneurs' general knowledge about international business, while tacit

knowledge is related to specific knowledge, skills and experience in conducting business internationally. Typically, these capitals are inter-related in which according to Hitt et al. (2001), when entrepreneurs start their businesses, they begin their business journey as apprentices and bring over objective knowledge into the firms. Over time, explicit knowledge may not be appropriate to be applied, for example when firms operate internationally. In this case, implicit knowledge is rather critical as it guides entrepreneurs to assess environment based on their specific knowledge and experience.

General human capital refers to the possession of knowledge derived from formal education (Wang et al., 2009). Formal education equips entrepreneurs with high level of objective knowledge in a specific area. Entrepreneurs who graduated from the best universities are more likely in a better position to obtain objective knowledge (Hitt et al., 2001). General human capital is established by attending tertiary education. Universities are the avenues where general human capital is nurtured to increase entrepreneurs' knowledge related to entrepreneurship and business management (Lafuente & Rabentino, 2011). Attending formal education enables entrepreneurs to cope faster with the changing nature of international business environment (Wang et al., 2009). Lafuente and Rabetino (2006) recommend a degree in management studies as the most relevant course in developing general human capital for business firms since it provides basic information and theoretical aspects on business conduct and administration. Switzer and Huang (2007) associate the most relevant program for entrepreneurs is Master in Business Administration (MBA). Other than enrolling in business administration programs offered by education institutions, entrepreneurs may generate this basic information from short-term business courses conducted by government and private institutions. Business courses expose entrepreneurs with general ideas about business environment, management and marketing aspects, as well as challenges, opportunities and ethics in business environment. Although it only provides basic ideas on business management, objective knowledge has been suggested to have a great influence on the development of skills, disciplines, motivation, information and self-confidence (Lafuente & Rabetino, 2006).

Specific human capital refers to possession of expertise, knowledge and experience about specific market and industry derived from learning and industrial related trainings (Lee et al., 2016; Unger et al., 2011). Learning activity allows individuals to obtain specific knowledge, experience and skills beneficial in shaping the future of internationally operated firms (Autio et al., 2005). Specific human capital can be obtained by attending trainings in a specific industrial area (Wang et al., 2009). For entrepreneurial firms, attending industrial training, seminar and obtaining professional advice in a specific area conducted by related agencies provides necessary and detail guidelines in conducting business internationally. The activity ascertains firms with specific information that they need to know such as what is the best approach to market their products, where to market the product, what is the best mode of entry and others. In Malaysia, agencies such as Malaysia External Trade Development Corporation (MATRADE) and Federation of Malaysian Manufacturers (FMM) have been targeting entrepreneurs for attending international business courses as an internationalization start-up mechanism or to further promote their engagement in international business activity. The available literature on entrepreneurship has demonstrated that the predictive power of specific human capital in explaining SMEs internationalization performance is noticeable. For instance, Goxi (2010) has revealed the significant impact of training in determining SME-achievement in international marketplace. Similarly, more recent investigation on the effect of specific human capital towards internationalization performance echoed the previous finding (Loi, 2018).

The influence of human capital on SMEs is rather significant only if human capital can be utilized effectively and transformed into something that is profitable for the firms (Baron, 2011; St-Pierre and Audet, 2011). An earlier study by St-Pierre and Audet (2011) has revealed the significant impact of human capital on innovation capital, relational capital, organizational capital and structural capital. Similarly, more recent investigation on the effect of human capital indicates the significant impact of human capital in determining SME productivity (Onkelinx et al., 2016). Jogaratnam (2017) confirms that human capital must be used collectively with other capabilities to generate a unique bundle of resources labelled positional advantage that contributes to SME- performance. The present study tends to hold on this thought and decides to examine the extent in which human capital can affect the establishment of internal capability among internationally operated SMEs. This is consistent with previous studies that explained a significant association between human capital and SME- internal capability namely innovation capital, relational capital, organizational capital and process capital (Wang & Chang; 2005; St-Pierre & Audet, 2011). Here, human capital is employed to predict the establishment of dynamic capability of both technological and non-technological innovation ambidexterity in internationally-operated SMEs (Figure 1).

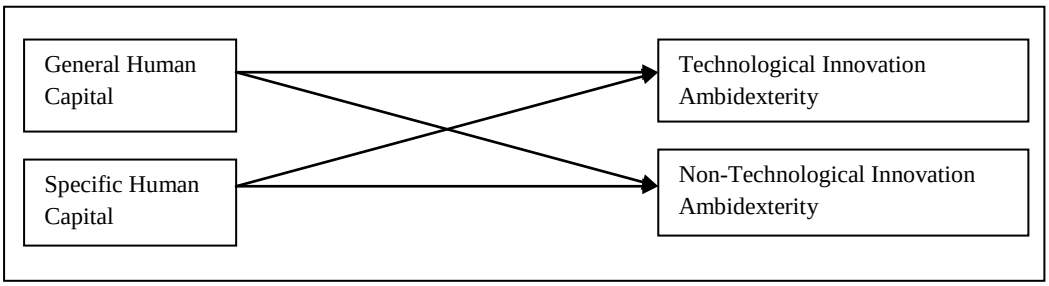

Figure 1: Theoretical Framework

Based on the literature reviewed, the following hypotheses have been constructed to be examined in this study.

H1: General human capital positively influences technological innovation ambidexterity.

H2: General human capital positively influences non-technological innovation ambidexterity.

H3: Specific human capital positively influences technological innovation ambidexterity.

H4: Specific human capital positively influences non-technological innovation ambidexterity.

III. Methodology

The measurement items for technological and non-technological innovation ambidexterity were adapted from Lubatkin et al. (2006) and Chang et al. (2011). There were five items used in measuring exploitation and exploration of technological innovation capability, while seven items were employed to measure exploitation and exploration of non-technological innovation capability. On the other hand, the measurement items for human capital were adopted from Sharabati et al. (2010). There were 8 items employed as indicators for general human capital while nine items were adapted to measure specific human capital. All items are classified as reflective items. Expert review was used in pre-testing the questionnaire where experts were assigned to review and determine the problematic items in measuring the constructs (Rothgeb et al., 2001). This study selected academicians and practitioners as experts in pre-testing the questionnaire. The unit of analysis comprised of key informants in internationally operated Herbal-based Small and Medium Enterprises (HbSMEs). There were 310 HbSMEs. All of them were selected as respondents. In Malaysia, herbal-based industry has been identified as one of the promising industries to be promoted for overseas market. At present, the global demand for herbal-based products is growing steadily in the international market, as people are gradually more conscious on the disadvantages of consuming artificial drugs and the high cost of drugs sold in the market (Euromonitor International, 2011). This study engaged in primary data approach to gather the requisite data. The questionnaires were distributed via e-mail or self-administered to the respondents. 103 SMEs responded to the survey in this study.

Statistical measure to calculate innovation ambidexterity

Innovation ambidexterity was calculated by following the method by Lubatkin et al. (2006). The ultimate objective of this process was to obtain the indices for technological and non-technological innovation ambidexterity. First, the actual scores or the mean scores for each indicator representing exploitative and explorative innovation were calculated. Then, the addition of these contradictory dimensions resulted in the formation of new variables known as technological and non-technological innovation ambidexterity.

IV. Data Analysis

Common Method Variance

The independent t-test is used in testing non-response bias when data were collected via self-reported questionnaires, in which both the antecedent and criterion variables were gathered from the same person (Podsakoff et al., 2003). The Harman single factor test was used to detect this issue. The test was done by entering all the principal variables into a principal component factor analysis (Podsakoff et al., 2003;

Ramayah, 2011). Method bias is persistent when a single latent construct accounted for the majority of the covariance among the measures (Podsakoff & Organ, 1986). All variables were entered into an explanatory factor - using unrotated factor analysis in SPSS. Using eigen-value greater than one criterion, findings revealed that 10 distinct factors accounted for 68.6 % of the variance. The first factor only explained 31.1% of the variance in the dataset which was much lower than the majority, indicating that the method bias was not pervasive and problematic.

Descriptive analysis

A total of 310 questionnaires were distributed to SME entrepreneurs engaging in international business activity and 103 questionnaires were returned, yielding a response rate of 33.22%. The distributed questionnaire consisted of two sections. The first section consisted of entrepreneurs' demographic profile and their business profile. In the second section, questions were related to human capital and innovation ambidexterity.

The descriptive statistics show that majority of the respondents comprised of - owner-managers and export managers (67%), 24.3 % were export consultants and assistance managers and 8.7 % were the owners of the firms (8.7%). Among the entrepreneurs, 62 % entrepreneurs were male and 38 % were female. Respondents were mostly from 26 and 45 years of age (56.6 %), with 16.5% below age 25 (16.5%), 15.55 % were between 46-55 years and 11.7 % were more than 55 years old. More than half of the respondents attended tertiary education with a majority of them had a qualification in either Diploma or Bachelor Degree in their respective fields (67%), 5.8% with Master Degree, 27.2% attended secondary school. Most of the respondents had a wide experience in conducting exporting activity since more than 90 % of the respondents had between 1-15 years experience in exporting activity and 5.8 % had export involvement between 15-20 years and 1% of the respondents conducted exporting activity for more than 20 years.

In term of business portfolio, sole proprietorship business entities made up 56.3% %, partnership accounted for 39.8 % and only four HbSMEs were built based on family business (3.9%). Herbal-based drinks and foods constituted more than half of the exported herbal-based product, herbal supplements and medicinal products as well as herbal-based cosmetic accounted for 28.2% and 12.6 % of the exporting volume respectively. Most HbSMEs, 47.6% exported their products to the neighbouring countries within South East Asia such as Thailand, Brunei and Singapore, 34% concentrated in the Asian region such as China, Japan, Korea and Taiwan, 8.7% exported to Middle East, 7.8% export to Europe and 1.9% to North America. Most probably, Asian markets were more preferable as these markets shared similar culture. In term of mode of entry, 49.5% engaged in direct exporting and 48.5% appointed export agents.

PLS-SEM

Partial Least Squares (PLS) was used to analyze the research model. In this study the analysis is conducted using the SmartPLS 3.0 software (Ringle et al., 2015). The study followed the recommended two-stage analytical procedure of Anderson and Gerbing (1988). The study first tested the measurement model; by estimating validity and reliability of the measures followed by an examination of the structural model; by estimating the hypothesized relationship (Hair et al., 2014; Ramayah et al., 2011; 2013). The significance of the path coefficients and the loadings were estimated using a bootstrapping method of 5000 samples.

The Measurement Model

The indicator loadings, CR and AVE of the construct of the study are indicated in Table 1. All items exceeded the threshold value of 0.5 (Byrne, 2010). It indicated that the loadings confirmed construct validity of the items used in this study. AVE was used to measure convergent validity, in which the AVE for GHC was 0.5 and 0.625 for SHC. It met the minimum cut off point of 0.5 as stated by Hair et al. (2014). All AVEs met the cut-off value of 0.5 as recommended by Hair et al. (2014). Hence, the items met reliability and convergent validity requirement.

Table 1 Cross Loading Result

		Scale type	No of items	Loadings	CR	AVE
Non-technological ambidexterity	AmbidNT	SIC	12	SIC	NA	
Technological ambidexterity	AmbidTech	SIC	12	SIC	NA	
General Human Capital	GHC1	Reflective	7	0.591	0.887	0.500
	GHC2			0.570		
	GHC3			0.725		
	GHC4			0.703		
	GHC5			0.761		
	GHC6			0.827		
	GHC7			0.818		
	GHC8			0.613		
Specific Human Capital	SHC1	Reflective	7	0.813	0.937	0.625
	SHC2			0.780		
	SHC3			0.678		
	SHC4			0.672		
	SHC5			0.725		
	SHC6			0.842		
	SHC7			0.858		
	SHC8			0.843		
	SHC9			0.871		

Note: SIC=Single Indicator Construct

In checking discriminant validity, cross loading criterion and Fornell and Lacker's criterion were used. Discriminant validity was conducted to provide explanation that a set of indicators are expected not to possess unidimensionality feature (Sekaran & Bougie, 2010). The first test conducted to check discriminant validity was cross loading. Specific Human Capital (SHC) and General Human Capital (GHC) fulfilled the criterion of cross loading where each item indicated higher loadings than the loadings of that particular construct with other constructs (refer to Table 2). In other words, cross loading is not an issue for this study.

Table 2 Discriminant Validity Using Cross Loading

	General Human Capital (GHC)	Non-technological Ambidexterity	Specific Human Capital (SHC)	Technological Ambidexterity
AmbidNT	0.544	SIC	0.572	0.826
AmbidTech	0.507	0.826	0.534	SIC
GHC1	**0.591**	0.391	0.633	0.444
GHC2	**0.570**	0.375	0.316	0.288
GHC3	**0.725**	0.301	0.363	0.322
GHC4	**0.703**	0.427	0.457	0.348
GHC5	**0.761**	0.259	0.381	0.231
GHC6	**0.827**	0.443	0.495	0.378
GHC7	**0.818**	0.408	0.524	0.368
GHC8	**0.613**	0.376	0.350	0.393
SHC1	0.557	0.472	**0.813**	0.437
SHC2	0.521	0.563	**0.780**	0.527
SHC3	0.469	0.439	**0.678**	0.418
SHC4	0.399	0.433	**0.672**	0.323

SHC5	0.472	0.375	**0.725**	0.374
SHC6	0.513	0.424	**0.842**	0.373
SHC7	0.528	0.447	**0.858**	0.431
SHC8	0.494	0.421	**0.843**	0.391
SHC9	0.583	0.445	**0.871**	0.463

SIC=Single Indicator Construct

As for the Fornell-Lacker's criterion, the data was evaluated based on the square root of AVE where the values should indicate higher scores than the cross correlations among constructs. Based on the results in Table 3, the diagonal elements indicated the square root of the AVE for GHC and SHC was higher that the cross correlation between that particular construct and other constructs.

Table 3 Discriminant Validity using Fornell & Lacker's Criterion

	General Human Capital	Non-technological Ambidexterity	Specific Human Capital	Technological Ambidexterity
General Human Capital	**0.707**			
Non-technological Ambidexterity	0.544	SIC		
Specific Human Capital	0.643	0.572	**0.790**	
Technological Ambidexterity	0.507	0.826	0.534	SIC

Note: Diagonal (in bolds) represents the square root of AVE, while nondiagonal elements are the latent variable correlations.

The Structural Model

Prior to estimating the structural model, the collinearity of the indicators was checked by estimating the Variance Inflation Factor (VIF). Based on the result, SHC7 recorded the highest VIF value (5.655). Therefore, the VIF values were below the minimum cut-off value as suggested by Gholami et al. (2013). Next, the assessment of structural model involved estimation of R2, beta and the corresponding t-values via a bootstrapping procedure with a sample of 5000 (Hair et al. (2014).

Hypothesis	Std Beta (Coefficient)	s.e	t- test	Decision
GHC→ AmbidNT	0.301	0.103	2.910	Supported
GHC→ AmbidTech	0.280	0.092	3.042	Supported
SHC → AmbidNT	0.379	0.109	3.487	Supported
SHC →AmbidTech	0.354	0.100	3.538	Supported

The R2 for technological ambidexterity was 0.331 indicating that 33.1% of the variance in technological ambidexterity can be explained by general and specific human capital. A close investigation indicated that general human capital (β=0.280 and t-value = 3.042), specific human capital (β=0.354 and t-value=3.538) were positively and significantly related to technological ambidexterity. Thus, H1 and H3 were supported. The R2 values of 0.331 was above the 0.26 value as highlighted by Cohen (1988) indicating a substantial model.

The R2 for non-technological ambidexterity was 0.380 indicating that 38% of the variance in non-technological ambidexterity can be explained by general and specific human capital. A close investigation indicated that general human capital (β=0.301 and t-value = 2.910), specific human capital (β=0.379 and t-value=3.487) were positively and significantly related to technological ambidexterity. Thus, H2 and H4 were supported. The R2 values of 0.380 was above the 0.26 value as highlighted by Cohen (1988) indicating a substantial model.

V. Discussion and Implication

The findings of this study exposed several critical views that add to the body of knowledge in the dynamic capability and entrepreneurship mainstream literature. First, the study offers explanation that strategic ambidexterity is directly generated by general and specific human capital of SME entrepreneurs with business operation in the foreign country. As hypothesized, the study unveiled that both specific and general human capital are positively related to the establishment of technological and non-technological ambidexterity. Remarkably, it confirms recent findings indicating the significance of human capital in explaining innovation and organizational capital among information technology industry (St-Pierre-Audet, 2011). Hence, findings support the view that knowledge and experience embedded in SME entrepreneurs work as catalyst for strategic innovation ambidexterity.

This study is not without limitations. Firstly is the utilization of cross sectional studies that only considered the current state of internationally-operated SME. As such, even though it was found that the association between human capital and strategic ambidexterity are positive, it is recommended that a longitudinal study, which allows the study to examine the relationship between the subjects overtime, is best for understanding the process of dynamic capital development. Secondly, the study focuses on only internationally-operated herbal-based SMEs. Given that other segments of SMEs that also contribute to the export market, understanding the importance of human capital in developing dynamic capability could have provided different perspective that could add value to the mainstream dynamic capability literature.

VI. Conclusion

In the competitive business scenario, the significance of dynamic capability, particularly in the areas of technological and non-technological innovation ambidexterity has been confirmed in determining business performance. This study is important in that it verifies the applicability of general and specific human capital in predicting technological and non-technological innovation ambidexterity in HbSMEs. Based on this ground, policy makers should undertake initiatives to create human capital through holistic education and trainings given that human capital is a critical component of the Economic Transformation Programme (ETP), in which human capital could most likely contribute to the competitiveness and performance of internationally-operated SMEs particularly in the herbal-based sector.

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modelling in Practice: A review and Recommended Two-Step Approach. *Psychological Buletin, 103* (3), 411-423.

Autio, E., Sapienza, H.J., & Arenius, P. (2005). International social capital, technology sharing, and foreign market learning in internationalizing entrepreneurial firm. *International Entrepreneurship: Advances in Entrepreneurship, firm emergence and growth, 8*, 9-42.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17* (1), 99-120.

Baron, A. (2011). Measuring human capital. *Strategic HR Review*, *10*(2), 30-35.

Buenechea, M., Sáenz, J., & Kianto, A. (2016). Exploring the Role of Human Capital, Renewal Capital and Entrepreneurial Capital in Innovation Performance in High-tech and Low-tech Firms. *Theory and Applications in the Knowledge Economy*, 617.

Caiazza, R. (2016). Internationalization of SMEs in high potential markets. *Trends in Food Science & Technology, 58*, 127-132.

Chang, Y. Y., Hughes, M., & Hotho, S. (2011). Internal and external antecedents of SMEs' innovation ambidexterity outcomes. *Management Decision, 49*(10), 1658-1676.

Annual Report, *Economic Transformation Programme 2011* (ETP, 2011).

Gholami, R., Sulaiman, A. B., T. Ramayah, & Molla, A. (2013). Senior managers' perception on green information systems (IS) adoption and environmental performance: Results from a field survey. *Information & Management*, *50*(7), 431-438

Goxe, F. (2010). Human and social capital interplay among internationalizing SMEs. *Journal of Knowledge-Based Innovation in China, 2* (1), 73-88.

Hair, J. F., Sarstedt, M., Ringle, C.M., & Mena, J.A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Academy of Marketing Science, 40*, 414-433.

Hair, Jr., J. F., Black, W. C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate data analysis a global perspective*, Seventh Edition, Pearson.

Han, M. (2005). Achieving superior internationalization through strategic ambidexterity. *Journal of Enterprising Culture, 15* (1), 43-77.

Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective. *Academy of Management Journal, 44* (1), 13-28.

Jogaratnam, G. (2017). The effect of market orientation, entrepreneurial orientation and human capital on positional advantage: Evidence from the restaurant industry. *International Journal of Hospitality Management, 60*, 104-113.

Lafuente, E., & Rabetino, R. (2011). Human Capital and Growth in Romanian Small Firms. *Journal of Small Business and Enterprise Development, 8* (1), 74-96.

Lee, T. S., & Tsai, H .J. (2005). The effects of business operation mode on market orientation, learning orientation and innovativeness. *Industrial Management and Data Systems, 105* (3), 325-348.

Loi, M. (2018). Dynamics of Entrepreneurship Education: How Human and Social Capital Interact With Learning. In *Global Entrepreneurship and New Venture Creation in the Sharing Economy* (pp. 37-53). IGI Global.

Lubatkin, M. H., Simsek, Z., Ling, Y & Veiga, J. F. (2006). Ambidexterity and performance in small-to medium-sized firms: the pivotal role of top management team behavioral integration. *Journal of Management, 32*, 646-672.

Marvel, M. R., Davis, J. L., & Sproul, C. R. (2016). Human capital and entrepreneurship research: A critical review and future directions. *Entrepreneurship Theory and Practice*, *40*(3), 599-626.

O'Cass, A., & Weerawardena, J. (2009). Examining the role of international entrepreneurship, innovation and international market performance in SME internationalization. *European Journal of Marketing, 43* (11/12), 1325-1348.

Onkelinx, J., Manolova, T. S., & Edelman, L. F. (2016). The human factor: Investments in employee human capital, productivity, and SME internationalization. *Journal of International Management*, *22*(4), 351-364.

O'Reilly, C., & Tushman, M. (2013). Organizational ambidexterity: Past, present and future. *The Academy of Management Perspectives*, amp-2013

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903

Ramayah, T., Lee, J. W. C., & In, J. B. C. (2011). Network collaboration and performance in the tourism sector, *Serv Bus, 5*, 411-428.

Prange, C., & Verdier, S. (2011). Dynamic capability, internationalization processes and performance. *Journal of World Business*, *46*, 126-133.

Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science*, *20*(4), 685-695.

Ringle, C.M., Sarstedt, M. & Straub, D. (2012). A critical look at the use of PLS-SEM. *MIS Quarterly, 36* (1).

Rothgeb, J., Willis, G., & Forsyth, B. (2001, May). Questionnaire pretesting methods: Do different techniques and different organizations produce similar results. In *Proceedings of the Annual Meeting of the American Statistical Association* (pp. 5-9).

Scott, N. (2014). Ambidextrous Strategies and Innovation Priorities: Adequately Priming the Pump for Continual Innovation. *Technology Innovation Management Review*, *4*(7).

Sharabati, A. A. A., Jawad, S .N., & Bontis, N. (2010). Intellectual Capital and Business performance in the pharmaceutical sector of Jordan. *Management Decision, 48* (1), 105-131.

Stettner, U., & Lavie, D. (2013). Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances, and acquisitions. *Strategic Management Journal*.

St-Pierre, J., & Audet, J. (2011). Intangible assets and performance: Analysis on manufacturing SMEs, *Journal of Intellectual capital, 12* (2), 202-223.

Switzer, L. N., & Huang, Y. (2007). How Does Human Capital Affect the Performance of Small and Mid-Cap Mutual Funds? *Journal of Intellectual Capital, 8* (4), 666-681.

Teece, D., & Pisano, G. (1994). The dynamic capability of firms: An introduction. *International Institute for Applied System Analysis.*

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capability and strategic management. *Strategic Management Journal*, *17* (7), 509-533.

Tushman, M. L., & O'Reilly III, C. A. (1996). Managing evolutionary and revolutionary change. *California Management Review, 38*(4), 8-28.

Unger, J. M., Rauch, A., Frese, M. & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, *26*, 341-358.

Varis, M., & Littunen, H. (2010). Types on Innovation, sources of information and performance in entrepreneurial SMEs. *European Journal of Innovation Management, 13* (2), 128-154.

Voss, G. B., & Voss, Z. G. (2013). Strategic ambidexterity in small and medium-sized enterprises: implementing exploration and exploitation in product and market domains. *Organization Science*, *24*(5), 1459-1477

Wang, W. Y., & Chang, C. (2005). Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital, 6* (2), 222-236.

Wei, Z., Yi, Y., & Guo, H. (2014). Organizational learning ambidexterity, strategic flexibility, and new product development. *Journal of Product Innovation Management*, *31*(4), 832-847.

Wei, Z., Zhao, J., & Zhang, C. (2014). Organizational ambidexterity, market orientation, and firm performance. *Journal of Engineering and Technology Management*, *33*, 134-153.

Wernerfelt, B. (1984). A resource-bases view of the firm. *Strategic Management Journal, 5*, 171-180.

Wulf, T., Stubner, S., & Blarr, H. (2010). Ambidexterity and the Concept of Fit in Strategic Management– Which Better Predicts Success. *HHL Working Papers, Leipzig Graduate School of Management.*

Zahra, S. A., Sapienza, H. J., & Davidson, P. (2006). Entrepreneurship and dynamic capability: A review, model and research agenda. *Journal of Management Studies*, *43* (4), 917-955.