
Determinants of Innovative Performance: The Case of an Emerging Country SMEs

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Abstract:

Purpose: Malaysia aspires to vie with other developed countries and achieve similar status shortly. Thus, to generate a more knowledge-intensive and innovation-driven economy is crucial for the country. Considering the significance that an Innovation Economy is designed from an amalgamation of knowledge, technology, entrepreneurship, and innovation to hasten productivity, which is the core of economic growth; this study analyzed the relationship of entrepreneurial attitude orientation (EAO), market orientation, and entrepreneurial competencies to competitive intelligence and its impact on the innovative performance of SMEs in Malaysia.

Approach/Methodology/Design: This study adopted a cross-sectional research design and collected data from small, medium enterprises from 13 states and two federal territories of Malaysia.

Findings: The findings revealed that market orientation has a positive impact on entrepreneurial competencies. It is also found that EAO constructs, in particular conceptual, strategic, and technical competencies, have a significant relationship with competitive intelligence and thereby have an impact on the Malaysian SMEs. Likewise, competitive intelligence positively influences the innovative performance.

Practical Implications: Apart from contributing to the body of existing literature on innovative firm performance, the study gives a guideline to the SMEs, government agencies, and universities to create the database and designing their training and development programs to cultivate the sense of innovativeness among Malaysians regardless of age, race, and education background.

Originality/Value: This study contributes by supporting that conceptual, strategic, and technical competencies have a significant relationship with competitive intelligence and is achievable to be used by SMEs.

Keywords: Entrepreneurial attitude orientation, market orientation, entrepreneurial competencies, competitive intelligence, innovative performance, SMEs.

JEL classification: L26, M31, O31, O39, O53.

Paper Type: Research Paper.

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1. Introduction

SMEs are extensively known as important national development mechanisms in modern, technologically advanced, and unindustrialised economies. In Malaysia, SMEs took part in the national development by filling the economic gaps unattended by the macro or large-scale organizations (Chatterjee and Das, 2016; Ratnawati, Soetjipto, Murwani, and Wahyono, 2018). According to Poon, Mohamad, and Wan Yusoff (2018), micro-entrepreneurial activities can enhance the local economy to fulfill the residents' standard of living and hence are considered fundamental to accumulate assets. More than 95% of the business entities in the world today can be classified as SMEs (Heslina, Payangan, Taba, and Pabo, 2016) that contribute more than 36 percent to the Gross Domestic Product and over 60 percent to employment. Hence many nations who aspire to be a high-income nation have revamped their countries' SMEs.

The reason behind a nation's success is its substantial investment in its SMEs' innovation capability by leveraging on its competitive intelligence (Kim and Ha, 2010). Although the concept of competitive intelligence (CI) is not strange in business, it has been disregarded by many organizations, especially within the SMEs. CI's effectiveness is evident when the Republic of Korea dramatically improved its economy and became the world's 11th largest economy by 1995 (International Monetary Fund, 2014). It could be argued that Malaysia could follow neighbors like the Republic of Korea and Taiwan in these regards to become a fully advanced, modernized, and industrialized-based country by advancing SME growth through CI. Unfortunately, there have been limited studies to discover the interior factors that would impact CI's endeavor by Malaysian SMEs. Therefore, important aspects, including attitudes, competencies, strategies, and administrative or planning skills, are disregarded (Carrier, 2007). In a related context, Stokes and Blackburn (2002) suggested that the organization's innovation success relies on the entrepreneurs' attitude, competencies, and business direction, which is worth examining. Hence based on the above, we attempt to bridge the gap in the literature by examining the relationships of variables that are important to the survival of Malaysian SMEs, such as market orientation, entrepreneurial attitude orientation, entrepreneurial competencies, and competitive intelligence (Choe, Loo, and Lau, 2013) to improve innovative performance.

2. Literature Review

Theoretical Foundation

To develop a solid theoretical research framework that integrates entrepreneurial attitude orientation, market orientation, enterprising abilities, competitive intelligence, and innovative performance, the study employs the Resource-Based-View (RBV) as its supporting theory. RBV remains well established in existing product innovation literature (Freel and de Jong, 2009; Kumar and Sanchez Rodrigues, 2020). RBV emphasizes that to achieve competitive/innovative

advantage from the organization's resources, incorporating various resources is the key to shaping solid organizational capabilities. This study emphasizes understanding the relationship between EAO, EC, CI, and IP because, according to Tywoniak (2007), attitude or the sense-making perspective is biased towards 'bounded cognition' which is the construction of the mind that select, acknowledge data, and later direct the behavior and performance. Entrepreneurs make choices based on their perception or attitude, which directly relates to their learning, competencies, and adaptation ability. Their learning process is proven to have been impacted by entrepreneurial cognition and cognitive biases (Tripsas and Gavetti, 2000). Furthermore, affective attitude is a strong indicator of entrepreneurship (Vamvaka, Stoforos, Palaskas *et al.*, 2020). It is self-evident that attitude can influence competencies.

Also, RBV corresponds that entrepreneurial competencies are important resources for increasing and sustaining competitive edge/innovation (Vijaya, Manjula, and Mitrabindha, 2015). The RBV is also used to extend the idea that CI within an organization is a valuable resource, asset, and capability because CI is a process and a product. CI is a rare resource and acts as a competitive advantage by adding an organization to develop and implement strategies that enhance its effectiveness and efficiency (Daft, 1983). In CI, the final course of action is for the entrepreneur to decide for the organization's betterment after obtaining all the intelligence. According to Charity and Joseph (2013), an organization with a proactive CI process will respond quicker and wiser to markets and competitors' changes in the long term in a highly dynamic competitive market. The CI's utilization can also help the organization understand how competitors build their exclusive capabilities and assets, access competitors' ability to duplicate others and assess bundle resources to create value to the stakeholders uniquely. One important aspect of CI is that it is an integral practice within the strategy (Maritz and du Toit, 2018). This strongly suggests that CI status as a rent-producing asset can be proven in many ways. Based on the RBV literature above, it could be conjectured that attitude, strategies, and competencies play an important role in innovative performance. Apart from the RBV, we summoned the dynamic capabilities concept in this study to support the framework portraying the association of MO with entrepreneurial competencies, competitive intelligence, and innovative performance. Strong dynamic capabilities are the critical success factor for an organization that wants to pioneer a market or innovate and extend a product category. Dynamic capabilities are pivotal for innovation and competitive advantage in business, as confirmed in Zheng, Zhang and Du (2011), and improve firm performance (Zhou, Zhou, Feng and Jiang, 2019). Hence, based on the aforesaid, this study propounds that the forwarded theory may build dynamic capabilities and promote innovative performance.

Finally, the study also utilizes the entrepreneurial competency concept. According to Bird (1995), entrepreneurial competencies are the underlying characteristics of an individual that can be general or specific knowledge, motives, traits, self-images, social roles, and skills which bring about the initiation, endurance, and development

of an organization. The idea of entrepreneurial competency supports the RBV to advocate that competencies are crucial and valuable resources. Such resources include the intangible resources, which is the acceptable attitude of the members of the organization. Therefore, this study contends that it is fundamental to recognize the entrepreneur attitude and market orientation and their relationship to entrepreneur competencies, which facilitates competitive intelligence, leading towards superior, innovative performance among Malaysian SMEs.

Entrepreneurial Attitude Orientation (EAO)

EAO is very consistent in measuring an entrepreneur's demeanor towards the processes, practices, and decision making (Pihie and Bagheri, 2010; Shariff and Saud, 2009). Sánchez-Báez, Fernández-Serrano, and Romero (2018) noted that entrepreneurial attitudes positively mediate innovation. The entrepreneurial attitude orientation contains four dimensions, but conceptually only three dimensions are typically related to business motivation. They include the need for achievement, locus of control, and innovation (Qiu, 2008). The connection between entrepreneurs' EAO and EC and CI is crucial to be explored as their entrepreneurial attitude affects SMEs' decision making (Smith, Wright, and Pickton, 2010). EAO incorporates an attitude scale to predict the entrepreneurial orientations that are more domain-specific, which increases its correlation with the actual behavior. Since attitude is the key to understanding EC and CI, part of this research will also analyze EAO and EC's link. This effort is necessary considering the inadequacy of findings on the impact entrepreneurial attitude on entrepreneurial competencies and innovative performance on SMEs in Malaysia.

Market Orientation

In management studies, Market Orientation (MO) is perceived as a major aspect of business strategy for viewed as the main strategic orientation and development of specific positioning strategies (Hunt and Lambe, 2000; Pramod, Davari, Zolfagharian and Paswan, 2019). To remain in front of its respective markets, MO demands organizations to develop a market sensing capability. In this study, MO comprises two behavioral parts: customer orientation and competitor orientation (Narver and Slater, 1990). The reason to limit the selections is because the study is on SMEs and many of these organizations have limited staff and not many departments. MO is considered market scanning and therefore is a subset of CI and relates well with this study's focus, examining the relationship between MO and EC.

Entrepreneurial Competencies

Entrepreneurial competencies (EC) suggests the "underlying characteristics such as specific knowledge, motives, traits, self-images, social roles, and skills which result in venture birth, survival, and/or growth" (Bird, 1995). In the context of this study, EC describes entrepreneurs' general business skills, including enterprising, managerial, and technical expertise (Man, Lau, and Chan, 2002). A Finnish study by Taipale-Eräväla, Henttonen, and Lampeda (2019) relates that entrepreneurs with EC such as preparedness and proactiveness are inclined to be innovative. The two

capabilities are what CI is based on. The EC selected from Man (2001) for this study are entrepreneurial competencies from the behavioral perspective, namely, opportunity, strategic, relationship, and conceptual competencies that are expected to affect the CI process in any possible way.

Competitive Intelligence

Competitive Intelligence (CI) has gained increasing importance in the last few decades. CI has proved to be a valuable tool in today's convoluted and unstable global environment. Although CI has gained popularity among the larger organizations, it remains poorly studied in the academic literature (Calof and Wright, 2008) with limited empirical studies in SMEs' context (Tarraf and Molz, 2006). However, despite the lack of empirical evidence portraying CI's impact on SMEs, small organizations have shown interest in CI as a tool that allows entrepreneurs to remain alert and avert business risk (Zha and Chen, 2009). In the past years, few countries have intervened to attract entrepreneurs' attention to apply CI in SMEs and provide help in the skill development as part of the effort (Larivet, 2009; Smith *et al.*, 2010; Thalassinou and Thalassinou, 2018). For example, Tarraf and Molz (2006) confirmed that small multimedia organisations in Canada regard CI activity is crucial to their businesses' success. African SMEs substantiated that SMEs are applied CI to remain competitive (Tarek, Zouhayer and Adel, 2019). An organization is that SMEs that practices CI can anticipate technological and potentially disruptive innovation (Vargas and Perez, 2017). Although the literature on CI management in Asia has grown in the last decade, it is still underdeveloped in Malaysia. Research on CI use has to be stepped up because CI can be a vital tool in the strategic business formulation and gain competitive advantages among Malaysia's business organizations regardless of their size.

Innovative Performance

In the business sector, any SMEs' survival is determined by its knowledge, technology, and innovation in entrepreneurship, parallel to the current globalized world. Additionally, innovation enhances existing knowledge and opens to new ideas, as Rogers (2008) explained. Similarly, Damanpour (1996) postulated that inventiveness might not be applied only to business processes and product, but it also includes business managerial. As agreed by many authors, SMEs' survival is also determined by its entrepreneurial competencies, which will stimulate innovation. These competencies that precede CI activities influence an organization's innovative performance (Nag, Neville, and Dimotakis (2020). This research is product incremental innovation because SME mainly focuses on the gradual improvement of its products/services and processes compared to larger organizations that typically opt for radical innovation (Baregheh, Rowley, Sambrook, and Davies, 2012). Thus, it is crucial to analyze the connection between CI and innovativeness in Malaysian SME.

3. Methodology

Population, Sample, and Research Instrument

The target population of this study was the Malaysian SMEs from diverse sectors. In order to choose the right participants, information was collected from SME Corporation Malaysia. Using purposive sampling and applying the criteria inclusion technique, a list of 1000 out of 1050 SMEs were selected from organizations owned by Malaysian entrepreneurs. 15 out of 1000 were used for pre-testing. In this study, the mail survey was employed because of its wider coverage. In this study, 167 samples were collected by the researcher following the suggestion by Hair *et al.* (2010), which recommend 50 samples as the minimum number to conduct a multivariate analysis. Nevertheless, the statistical G*Power analysis suggested (Faul, Erdfelder, Buchner and Lang, 2009) that the minimum sample size with a medium effect size of 0.15 is 138. Both requirements are met in this research sampling size. A questionnaire was used as the main tool in this study to collect data. The questionnaire items were modeled on the past studies by Robinson *et al.* (1991); Narver and Slater (1990); Man *et al.* (2008); Ahmad (2007), Chandler and Jansen (1992); Saayman *et al.* (2008); as well as Johannessen *et al.* (1997).

Common method variance (CMV) and Data Analysis

A self-report survey was used in this study to obtain the response of CEOs/owners of SMEs, and the questionnaire was created specifically so that only they could respond. Thus, the issue of common method variance is unavoidable. Nevertheless, to limit the issue of variances, this study conducted a pre-testing procedure and the statistical Harman-single factor test. It was found that the single factor concern did not arise, and the common method variance was not a major issue. As for statistical remedy to address CMV, we employed the SPSS, and the fun-rotated factor Eigenvalue was greater than one criterion analysis. The result shows that 15 factors explain 74.86% of the variance, while the first factor explains 36.24% of the variance from the data collected. Therefore, neither a single factor nor one general factor accounts for the majority of the total variance. In conclusion, the data collected was not likely to be contaminated by the common methods biases. This study used SPSS version 22 and SmartPLS 3.0. SPSS version 22 was used for data input, screening, demographic profiling, and descriptive statistics, whereas the SmartPLS was used for hypothesis testing using Structural Equation Model (SEM) utilizing the Partial Least Square approach.

4. Results

From the respondents in Table 1, 65 were from the manufacturing sector, and 102 were from the services and others sector. Majority of the respondents have been operating their enterprises between 4 and 10 years (31.14%), and 25.15 % have been operating for 21 years or more. The majority are micro-size businesses run by most of the respondents of the survey (43.71%), followed by small size businesses (37.13%) and medium-size businesses (19.16%). Majority of the respondents run private limited companies (61.08%). The largest group of the respondents in this

study are recorded between 40-49 (28.14%) years old and the highest level of education attained by most of the respondents is the degree level (52.69%).

Table 1. Socio-demographic profile of the participants

Demographics	Category	Manufacturing	Services	Frequency	Percentage
Years in Operation	3 years only	12	28	40	23.95
	between 4 - 10	23	29	52	31.14
	between 11- 15	3	9	12	7.19
	between 16- 20	14	7	21	12.57
	above 21	13	29	42	25.15
Respondent is the Owner of the Organisation	YES	65	102	167	100.00
SMEs Criteria (Micro, Small or Medium)	Micro	16	57	73	43.71
	Small	34	28	62	37.13
	Medium	15	17	32	19.16
Types of Ownership	Sole Proprietorship	8	30	38	22.75
	Partnership	6	21	27	16.17
	Private Limited	51	51	102	61.08
Gender	Male	45	59	104	62.28
	Female	20	43	63	37.72
SME Entrepreneur s CEOs Age Group	20-29	9	24	33	19.76
	30-39	20	21	41	24.55
	40-49	15	32	47	28.14
	50 above	21	25	46	27.54
	Chinese	20	13	33	19.76
SME Entrepreneur CEOs Education Level	Others	2	0	2	1.20
	Postgraduate	9	20	29	17.37
	Degree	39	49	88	52.69
Education Level	Diploma	5	16	21	12.57
	Secondary	6	16	22	13.17
	Primary	6	1	7	4.19

Source: Own.

Reliability and Validity

Table 2 presents the construct reliability of this research and the values extend from 0.861 to 0.961 which is higher than the cut off value of 0.7, which means that all the reflective constructs of this framework indicates internal consistency reliability. Therefore, it is safe to say that the measurements are reliable. From the SmartPLS analysis, it was found that loadings for several items (LOC10 and LOC7) were 0.04 and 0.596 and the AVE for LOC was 0.461 with CR of 0.807. Hence, LOC10 and LOC7 were deleted and the new reading for the LOC AVE was 0.553. As per Hair

et al. (2014) recommendation, loading between 0.4 and 0.7 ought to be given further attention. Items for Entrepreneurial Conceptual Competency also have loadings between 0.4 and 0.7. The items are ECC11 (0.657), ECC12 (0.559) and ECC13 (0.618). The ECC AVE before any deletion is 0.49 and CR was 0.869. Item ECC12 is first to be deleted because it has the lowest loading. After the ECC12 was deleted the ECC AVE was 0.525 and the CR was 0.868. Next, items ECC13 and ECC11 are deleted and the AVE and CR improve to 0.628 and 0.871. Items CI1 and CI5 loadings are 0.671 and 0.585 respectively with AVE and CR of 0.584 and 0.959. After deletion, the AVE for CI increases to 0.611 and the CR remains at 0.959.

The items for 'Entrepreneurial Attitude Orientation Need for Achievement', 'Entrepreneurial Attitude Orientation Innovation', 'Market Orientation Customer Orientation', 'Market Orientation Competitor Orientation', 'Entrepreneurial Opportunity Competency', 'Entrepreneurial Relationship Competency', 'Entrepreneurial Strategic Competency', 'Entrepreneurial Technical Competency', and Innovative Performance are all retained after the loadings are checked for any inconsistency.

Table 2. Reliability of Reflective Constructs

Constructs	Items	Loading	AVE	CR	Item(s) deleted due to low loadings
EAO NFA	NFA1	0.875	0.776	0.933	
	NFA2	0.887			
	NFA3	0.892			
	NFA4	0.870			
EAOLOC	LOC5	0.834	0.611	0.861	LOC7
	LOC6	0.786			LOC10
	LOC8	0.854			
	LOC9	0.632			
EAOINNV	INNV11	0.797	0.618	0.890	
	INNV12	0.724			
	INNV13	0.855			
	INNV14	0.844			
	INNV15	0.701			
CustOrient	CUSOrient1	0.759	0.717	0.927	
	CUSOrient2	0.859			
	CUSOrient3	0.889			
	CUSOrient4	0.876			
	CUSOrient5	0.845			
CompOrient	COMOrient6	0.890	0.789	0.918	
	COMOrient7	0.885			
	COMOrient8	0.890			
	COMOrient9	0.890			
Strategic Comp	ECS1	0.755	0.652	0.944	
	ECS2	0.743			

	ECS3	0.849			
	ECS4	0.782			
	ECS5	0.866			
	ECS6	0.787			
	ECS7	0.852			
	ECS8	0.854			
	ECS9	0.769			
Conceptual Comp	ECC10	0.751	0.628	0.871	ECC11
	ECC14	0.808			ECC12
	ECC15	0.802			ECC13
	ECC16	0.806			
Opportunity Comp	ECO17	0.845	0.681	0.895	
	ECO18	0.804			
	ECO19	0.847			
	ECO20	0.805			
Relationship Comp	ECR21	0.757	0.608	0.903	
	ECR22	0.783			
	ECR23	0.818			
	ECR24	0.758			
	ECR25	0.776			
	ECR26	0.787			
Technical Comp	ECT27	0.795	0.689	0.898	
	ECT28	0.812			
	ECT29	0.828			
	ECT30	0.882			
CI	CI2	0.753	0.608	0.961	C1
	CI3	0.734			C5
	CI4	0.752			
	CI6	0.771			
	CI7	0.829			
	CI8	0.829			
	CI9	0.755			
	CI10	0.763			
	CI11	0.763			
	CI12	0.837			
	CI13	0.837			
	CI14	0.773			
	CI15	0.839			
	CI16	0.683			
IP	IP1	0.800	0.587	0.895	
	IP2	0.799			
	IP3	0.791			
	IP4	0.652			
	IP5	0.767			
	IP6	0.779			

Note: Loadings > 0.7, AVE>0.5, CR>0.7
Source: Own.

To test the discriminant validity, an analysis of the loadings and cross loadings outputs are conducted to detect discriminant validity problem. Table 3 also shows that the square root of the AVEs for each construct is higher than the correlation for each construct which also indicates adequate discriminant validity for the constructs recommended in this study.

Table 3. Discriminant Validity of Construct

	CI	CO	CUS	EAO INN	EAO LOC	EAO NFA	ECC	ECO	ECR	ECS	EC	IP
CI	0.780											
CO	0.540	0.888										
CUS	0.405	0.673	0.847									
EAO INN	0.496	0.504	0.510	0.786								
EAO LOC	0.421	0.517	0.615	0.718	0.781							
EAO NFA	0.348	0.368	0.413	0.428	0.647	0.881						
ECC	0.630	0.622	0.565	0.567	0.514	0.404	0.792					
ECO	0.576	0.635	0.567	0.523	0.480	0.391	0.785	0.825				
ECR	0.571	0.590	0.510	0.601	0.437	0.302	0.713	0.658	0.780			
ECS	0.585	0.640	0.633	0.459	0.542	0.411	0.656	0.667	0.668	0.808		
ECT	0.603	0.451	0.416	0.463	0.455	0.174	0.670	0.570	0.658	0.663	0.830	
IP	0.662	0.464	0.452	0.462	0.455	0.300	0.609	0.577	0.513	0.576	0.507	0.766

Note: Values in the diagonal (bolded) represent the square root of the AVE while the off diagonals are correlations
Source: Own.

Structural Model Direct Relationship

In this research, all the endogenous variables seem to have R2 values between 0.318 and 0.509. As suggested by Cohen (1988), R2 values between 0.02 and 0.12 are small, 0.13 to 0.25 is moderate, and above 0.26 is considered substantial. Since the R2 for the endogenous variables are above 0.26, an assumption is made that the model used in this study fits the data well. The structural model is tested for the first thirty-one hypotheses. From Table 4, out of the thirty-one hypotheses, only twenty-one hypotheses fulfill the statistical conditions. These are H1, H3, H9, H10, H11, H12, H13, H15, H16, H17, H18, H19, H21 H22, H23, H24, H25, H28, H29, H30, and H31. The relationship between Competitive Intelligence and Innovative Performance is particularly noticeable as it has a positive effect with β value at 0.662, $p < 0.01$ significance level, and t-value equals 15.968.

Table 4. Hypothesis Testing

Hypothesis	Relationship	Standard β	Stan Error	t-Value	Decision
Hypothesis 1	EAO NFA -> ECOppportunity	0.127	0.081	1.565*	Supported

Hypothesis 2	EAO NFA -> ECRelationship	0.041	0.073	0.561	Not Supported
Hypothesis 3	EAO NFA -> ECConceptual	0.119	0.079	1.493*	Supported
Hypothesis 4	EAO NFA -> ECStrategic	0.078	0.071	1.097	Not Supported
Hypothesis 5	EAO NFA -> ECTechnical	-0.210	0.086	2.460	Not Supported
Hypothesis 6	EAO LOC -> ECOppportunity	-0.093	0.115	0.808	Not Supported
Hypothesis 7	EAO LOC -> ECRelationship	-0.199	0.108	1.856	Not Supported
Hypothesis 8	EAO LOC -> ECConceptual	-0.061	0.102	0.599	Not Supported
Hypothesis 9	EAO LOC -> ECStrategic	0.128	0.097	1.322*	Supported
Hypothesis 10	EAO LOC -> ECTechnical	0.289	0.129	2.248**	Supported
Hypothesis 11	EAO INN -> ECOppportunity	0.245	0.088	2.768***	Supported
Hypothesis 12	EAO INN -> ECRelationship	0.484	0.087	5.565***	Supported
Hypothesis 13	EAO INN -> ECConceptual	0.301	0.080	3.740***	Supported
Hypothesis 14	EAO INN -> ECStrategic	0.015	0.080	0.195	Not Supported
Hypothesis 15	EAO INN -> ECTechnical	0.191	0.107	1.789**	Supported
Hypothesis 16	CUSOrient -> ECOppportunity	0.185	0.085	2.178**	Supported
Hypothesis 17	CUSOrient -> ECRelationship	0.141	0.091	1.548*	Supported
Hypothesis 18	CUSOrient -> ECConceptual	0.167	0.084	2.002**	Supported
Hypothesis 19	CUSOrient -> ECStrategic	0.278	0.094	2.967***	Supported
Hypothesis 20	CUSOrient -> ECTechnical	0.068	0.154	0.442	Not Supported
Hypothesis 21	COMPOrient -> ECOppportunity	0.389	0.084	4.644***	Supported
Hypothesis 22	COMPOrient -> ECRelationship	0.339	0.074	4.591***	Supported
Hypothesis 23	COMPOrient -> ECConceptual	0.346	0.087	3.973***	Supported
Hypothesis 24	COMPOrient -> ECStrategic	0.351	0.086	4.085***	Supported
Hypothesis 25	COMPOrient -> ECTechnical	0.237	0.132	1.803**	Supported
Hypothesis	ECOppportunity	0.104	0.110	0.946	Not

26	-> CI					Supported
Hypothesis 27	ECRelationship -> CI	0.078	0.092	0.840		Not Supported
Hypothesis 28	ECConceptual -> CI	0.235	0.121	1.940**		Supported
Hypothesis 29	ECStrategic -> CI	0.156	0.092	1.698**		Supported
Hypothesis 30	ECTechnical -> CI	0.232	0.081	2.870***		Supported
Hypothesis 31	CI -> IP	0.662	0.041	15.968***		Supported

Note: *** $p < 0.01$ (2.33), ** $p < 0.05$ (1.645), * $p < 0.10$ (1.28)

Source: Own.

Mediating Effect

Hypotheses 32 to 36 propose that competitive intelligence mediates the relationship between opportunity competency, relationship competency, conceptual competency, strategic competency and technical competency with innovative performance. From Table 6, it is discovered that H34, H35 and H36 fulfil the conditions required for a mediating effect with a 95% and 99% significance levels. Table 5 reveals that conceptual, strategic and technical entrepreneurial competencies are positively mediated by competitive intelligence. Thus, the indirect effect is statistically significant.

Table 5. Summary of Mediating Results

Hypothesis	Path a	Path b	Indirect Effect	SE	t-value	Bootstrapped Conf. Interval	
						95% LL	95% UL
H32	0.104	0.66	0.069	0.04926	1.402	-0.027	0.166
H33	0.078	0.66	0.051	0.05034	0.049	-0.047	0.150
H34	0.235	0.66	0.155	0.07686	2.021**	0.005	0.306
H35	0.156	0.66	0.104	0.00931	11.11***	0.085	0.122
H36	0.232	0.66	0.154	0.06765	2.270***	0.021	0.286

Note: *** $p < 0.01$ (2.33), ** $p < 0.05$ (1.645), * $p < 0.10$ (1.28)

Source: Own.

Predictive Relevance (Q^2)

In SmartPLS, the omission distance is between 5 and 10 and is used to value the predictive relevance. The omission distance in this study is 6. The study found a cross-validated redundancy Q^2 of 0.322 and a cross-validated commonality of 0.676 for Entrepreneurial Opportunity Competency 0.293 and 0.610 for Entrepreneurial Relationship Competency, 0.304 and 0.622 for Entrepreneurial Conceptual Competency, 0.329 and 0.647 for Entrepreneurial Strategic Competency, 0.219 and 0.699 for Entrepreneurial Technical Competency and finally a cross-validated redundancy Q^2 of 0.282 and a cross-validated commonality of 0.553 for

Competitive Intelligence. The Q2 values are greater than 0, which shows that the model has considerable predictive relevance. Table 6 represents the predictive relevance values.

Table 6. Blindfolding Result: CV-Redundancy and CV- Communality

Endogenous Variables	CV (Red) Q ²	CV (Com) H ²
Entrepreneurial Opportunity Competency	0.322	0.676
Entrepreneurial Relationship Competency	0.293	0.610
Entrepreneurial Conceptual Competency	0.304	0.622
Entrepreneurial Strategic Competency	0.329	0.647
Entrepreneurial Technical Competency	0.219	0.699
Competitive Intelligence	0.282	0.553
Innovative Performance	0.247	0.570

Source: Own.

Global Criterion of Goodness of Fit measure

In Table 7, the GoF value is 0.548 which bypasses the value of 0.36 estimation of large effect size R². Therefore, the GoF of 0.548 indicates that the statistical approach has a finer prediction power in contrast to the baseline values and offers sufficient support to validate the PLS model globally (Wetzels *et al.*, 2009).

Table 7. Goodness of Fit (GoF)

Construct	AVE	R ²
EAO Need For Achievement	0.776	
EAO Locus Of Control	0.611	
EAO Innovation	0.618	
Customer Orientation	0.717	
Competitor Orientation	0.789	
Entrepreneurial Opportunity Competency	0.681	0.485
Entrepreneurial Relationship Competency	0.608	0.488
Entrepreneurial Conceptual Competency	0.628	0.497
Entrepreneurial Strategic Competency	0.652	0.509
Entrepreneurial Technical Competency	0.689	0.318
Competitive Intelligence	0.608	0.484
Innovative Performance	0.587	0.438
AVERAGE	0.654	0.460

Source: Own.

5. Discussion and Conclusions

The results show that two EAO (LoC and innovativeness) constructs positively influence specific entrepreneurial competencies. The results indicate that market orientation has a positive impact on entrepreneurial competencies. The results also reveal that three out of the five constructs, namely conceptual competency, strategic competency, and technical competency, positively influence competitive

intelligence. Competitive intelligence result also positively influences innovative performance. It is found that competitive intelligence functions as an intermediary for only conceptual competency, strategic competency, and technical competency.

To achieve similar economic status as its neighbors like Taiwan and the Republic of Korea, Malaysia must create effective game plans. This research offers several important theoretical inferences for academics. This research provides realistic evidence on competitive intelligence's contribution as an intermediary between entrepreneurial attitude orientation, entrepreneurial competencies, market orientation, and innovative performance. This study, which sets out to link five entrepreneurial competencies to innovative performance, has provided empirical evidence that competitive intelligence does strengthen the relationship between entrepreneurial competencies, especially the specific competencies and innovative performance in Malaysian SMEs. While this finding suggests its relevance to SMEs' experience in the developing world, its implication may be relevant to the SMEs in general regardless of country status. This study affirms the RBV, which acknowledges that entrepreneurs may achieve competitive/innovative advantage by harnessing particularly internal factors from the organization's resources. Two constructs of entrepreneurial attitude orientation and market orientation are both confirmed by this study as antecedents of entrepreneurial competencies. They are cognitive and aptitude behavioural mechanisms behavioral essential for the achievement of innovative performance. While the study focuses on entrepreneurs, its findings are relevant to all private and public industries' levels. Through the inculcation of the pertinent elements of entrepreneurial attitude in the rank and file, a culture of innovativeness and enhanced thinking skill can be engendered on a wider scale.

To inculcate an innovative mindset requires no less than a solid commitment of management to its cause; it is defining innovation behavior as the foundation upon which the organization rest. It is recommended that the organizations review their human capital development plans periodically to check on innovative performance progress. The human resource practitioners can tailor use the EAO constructs of need for achievement and locus of control on specific individuals rather than generalizing their use to all. The organizations should be convinced that entrepreneurial attitude orientation could positively influence strategic thinking among the rank and file on the outset. This fits in well with the new economic paradigm characterized by self-analysis, self-reliance, and self-renewal (Sewdass & Toit, 2014). Government agencies must acknowledge that the managerial, entrepreneurial, and technical competencies are required to operate an SME is different from an MNC. Thus the programs designed for SMEs must be tailor-made to fit the SME requirement. The key for Malaysian SMEs to achieve entrepreneurial growth lies in the innovation adoption, rather than through managerial influence.

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