Effective Human Capital and Efficient Intellectual Capital will Enhance Bumiputra SMEs Performance in Malaysia

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ABSTRACT

This research aims to enhance the performance of SMEs by utilizing intellectual capital (IC), with a specific focus on human capital (HC) as the key aspect that will impact SME performance. The study entailed disseminating well-organized questionnaires and collecting data from 266 managers of SMEs. A purposive sampling approach was employed to determine the sample size for the study. Data was analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The study shows that the IC components (human, customer, structural, and social) enhance SME performance. It was found that HC positively correlates with customer, structural, and social capital. This study provides valuable insights for practitioners on the success of SMEs in Malaysia. In conclusion, this study will assist policymakers in developing programs conducive to SMEs. Implementing policies that facilitate training and education, research and development, and industry networks can help SMEs use their IC to improve business outcomes.

Keywords: Intellectual Capital, Human Capital, SME Performance, PLS-SEM JEL Classification Number: M1, L1

INTRODUCTION

SMEs constitute the overwhelming majority of businesses globally. SMEs play a crucial role in the economies of the world (Yusof et al., 2018). There is a suggestion that the labor productivity of SMEs is insignificant. According to the data of SME Corp. (2019), around 58% of SMEs were able to continue operating. This suggests that 42% of the business establishments that were created in 2000 had ceased operations by 2005. Hence, it is imperative to address these concerns to avert financial ruin for SME proprietors.

According to The Star (2023), a total of 26% of small and medium-sized enterprises (SMEs) closed permanently between January and May 2020. South Asia had the highest number of closures, with a 46% loss. Additionally, these firms saw a significant decline in revenues, with a reduction of 61%, as a direct result of the catastrophic impact of the COVID-19 pandemic. A study conducted in China revealed that approximately 19% of incorporated SMEs and 25% of self-employed businesses had permanently closed between February and May 2020. Furthermore, South Africa reports indicated that 42.7% of small businesses had closed due to the economic impact of the lockdowns implemented in response to the pandemic. Despite the significant impact of the pandemic on small and medium-sized enterprises (SMEs), several organizations have managed to endure by implementing proactive strategies to safeguard their operations. Contrarily, the CEO of SME Corp Malaysia asserted that SMEs had a substantial increase of 11.6% in gross domestic product (GDP) in 2022, as reported by (The Star, 2023). Thus, it is evident that SMEs play a crucial role in fostering economic development, substantially contributing to the gross domestic product (GDP), and serving as a key mechanism

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for tackling unemployment (Dundon & Wilkinson, 2018). The research aims to determine how effective administration of HC can improve both individual intellectual capital components and their overall influence on SME performance. This entails discerning the methods by which HC affects CC, SC, and SO. Additionally, examining how these synergies result in enhanced competitiveness and operational performance for SMEs.

Issues

SMEs operating in developing nations have substantial challenges in establishing a sustainable business. Following the outbreak, a significant number of small and medium-sized enterprises are facing challenges with their liquidity. SMEs are experiencing limitations in recruitment, the ability to restore employee compensation cuts, and even the ability to finance the purchase of critical raw materials for resuming their operations, all due to a lack of finances (The Star, 2023). Due to their limited financial resources, SMEs in developing nations prioritize intangible assets, namely intellectual capital (IC), to improve their competitiveness and long-term viability. Astuti et al. (2023) argue that the foundation for achieving lasting competitive advantage has moved away from tangible resources and financial capital. Instead, it now depends on the effective utilization of unique intellectual resources.

Intellectual capital (IC) is widely recognized as a significant organizational resource facilitating sustainable development (Gross-Gołacka et al., 2020). IC, including human, customer, structural, and social capital, is a source of innovation. Engaging in new activities based on these aspects can create a strong and lasting competitive advantage (Duodu & Rowlinson, 2019). Furthermore, in a market characterized by instability, the enduring competitive advantage of business organizations is significantly impacted by their IC (Lu et al., 2021).

De Frutos-Belizon et al. (2019) and Agostini et al. (2017) assert that IC, encompassing human capital (HC), such as skills and knowledge, plays a vital role in achieving exceptional performance. Hence, disregarding human capital (HC) would have detrimental consequences for the organization, including an inefficient workforce, subpar service quality, insufficient expertise, and strained client relations. This knowledge has not been disseminated to other staff. Hence, after they leave the company, they will carry their knowledge along (Hashim et al., 2018). Under these conditions, it is strongly recommended that SME firms concentrate on and give significant importance to human capital (HC) and intellectual capital (IC) to achieve success and maintain viability in the long run.

Although the effect of intellectual capital (IC) on corporate performance is extensively documented, the particular influence of human capital (HC) on other IC elements such as customer capital (CC), structural capital (SC), and social capital (SO) is inadequately examined. Comprehending these interactions is essential as HC acts as a catalyst for the advancement and enhancement of other IC components. HC enhances customer satisfaction and loyalty (CC) by providing staff with the competencies necessary to establish and sustain connections. HC enhances organizational efficiency and creativity by leveraging human expertise to optimize procedures. HC promotes collaboration and SO via interpersonal skills and knowledge exchange. The study aims to fill a significant gap in IC literature by elucidating the relationship between HC and other IC components that enhances SME performance.

Literature on SME Performance

Attaining organizational success is vital for the overall functioning of a company. The evaluation of Bumiputra SMEs will primarily rely on subjective factors. Entrepreneurs are specifically queried about their levels of contentment with sales results, profit margins, business expansion, staff acquisition, customer contentment, and the company's net value. The performance of SMEs is shaped by various factors, including internal capabilities such as human capital (HC) and operational efficiency, as well as external elements like market conditions and government policies. By investing in intellectual capital (IC) and fostering innovation, SMEs can enhance their competitiveness and long-term success (Kraus et al., 2024).

The study utilizes the theoretical frameworks of the Resource-Based View (RBV) and Knowledge-Based View (KBV) to investigate the correlation between IC and the performance of SMEs. The Resource-Based View

(RBV) offers a systematic methodology for examining how IC, a highly esteemed asset, might result in long-term competitive advantage. The KBV allows us to examine the significance of knowledge in attaining a competitive edge. The resource-based perspective emphasizes internal coordination, organizational structure, efficiency, managerial role, and allocation of decision-making authority inside a company. Resource-based view (RBV) theory asserts that the performance and value of a corporation are impacted by its internal resources, which include both tangible and intangible assets (Nani & Safitri, 2021). Furthermore, IC denotes an intangible asset that a firm possesses.

Literature on Intellectual Capital

Intellectual capital (IC) refers to the value derived from a company's knowledge, skills, business education, and other sensitive information that can give it a competitive advantage. IC refers to the valuable collection of a company's informational assets that may be utilized to increase sales, attract new customers, develop new products, or improve overall business operations (Limijaya et al., 2021). Furthermore, the intangible assets that contribute to a company's performance, such as its human resources, operational methods, and other supporting elements, are known as its IC. The subject of IC has been subjected to multiple comprehensive assessments (Capilla et al., 2021; Chatterjee et al., 2022). However, a thorough analysis was conducted on the four components of IC which are human capital, customer capital, structural capital, and social capital.

Human capital (HC) refers to the knowledge and skills possessed by the workforce as a result of education and job experience, which in turn increases its worth. Goldin (2024) defines HC as the accumulated set of talents the workforce possesses. Ibanga and Uwah (2023) defined HC as the overall result of an individual's involvement in creating commodities and services for the betterment of society. HC is acknowledged as a constituent of IC and is a crucial asset in various businesses, including software development, management consulting, and financial services (Elenwo & Tolofari, 2024). Furthermore, HC is the fundamental component of IC, comprising persons' acquired knowledge, abilities, competencies, and capacities (Hashim et al., 2018; Ahamad et al., 2022). To improve SME performance, managers should consistently strive to strengthen their IC component, namely HC (Ting et al., 2020). HC efficiency is a significant factor in the performance of firms across all industries (Tran & Vo, 2020).

Muh and Murwaningsari (2019) conducted a study that concluded there is a notable correlation between HC and consumer capital (CC). This phenomenon can be attributed to the strategic efforts of corporate managers, namely financial managers, people managers, and marketing managers. Their primary objective is to optimize the perception of products among customers, hence fostering strong customer loyalty and driving market share growth for market-oriented organizations. Moreover, there is a strong positive correlation between HC and structural capital (SC), as evidenced by industrial companies in Banten Province that possess a well-developed managerial system (Muh & Murwaningsari, 2019). By providing convenient access to essential information, fostering a supportive work environment, and implementing effective database management practices, a firm can enhance efficiency and promote innovation among its staff. This is further reinforced by intelligent, innovative, and proficient personnel in each profession. As a result, the tasks conducted yield favorable outcomes, while employees have a sense of security and contentment in their work environment. Furthermore, there is a correlation between the accumulation of knowledge, skills, and abilities of individuals and their network of social relationships and connections (Lakzaei & Ghasemi, 2024). The success of an SME relies heavily on the quality of its personnel. This implies that HC and SO should collaborate closely to support the SME in achieving optimal productivity and superior performance. Irwandi (2024) determined that enhancing HC, including advanced education, improved abilities, and extensive experience, can foster the growth of SO within communities. This study proposes the following hypothesis based on the aforementioned logic and literature research.

H1: There is a positive relationship between HC and SME performance

H2: There is a positive relationship between HC and CC

H3: There is a positive relationship between HC and SC

H4: There is a positive relationship between HC and SO

Customer capital (CC), as defined by Joshi et al. (2013), encompasses the knowledge involved in identifying, forming, and administrating external relationships. Moreover, CC allows organizations to obtain vital information and assets that are fundamental to the network of connections and are derived from it (Meles et al., 2016). CC, as described by Tsakalerou (2015) and Meles et al. (2016), is the ability of a company to create value through complex relationships with external stakeholders. Cultivating CC within a company's core skills is highly demanding, as it is the most challenging aspect of intellectual capital to develop (Scafarto et al., 2016). The research conducted by Byukusenge and Munene (2017) demonstrates a robust correlation between CC and the performance of SMEs. On the contrary, Kangarlouei et al. (2012) present a divergent viewpoint that contests the prevalent belief that CC enhances firm performance and competitive advantage. Their findings indicate that the correlation between CC and performance may not be as substantial as previously assumed. The findings of Kangarlouei provide a nuanced perspective on IC, indicating that CC alone may not ensure enhanced performance, since its efficacy is contingent upon other internal and external circumstances. Hence, Venugopalan, et al. (2018) from India provides empirical evidence demonstrating a robust association between the CC and a company's success. The statement highlights that CC is crucial in enabling the smooth flow of products and services through distribution networks, as suggested by Minovski and Jancevska (2018). Therefore, this study posits a hypothesis derived from the aforementioned approach:

H5: There is a positive relationship between CC and SME performance

Structural capital (SC) encompasses the organization's databases, process instructions and procedures, strategies, routines, and policies. It plays a crucial role in determining the value of the organization. SC substantially impacts the sustainable growth of businesses (Yusoff et al., 2019). Regarding this matter, multiple academics have offered evidence supporting the clear connection between SC and business performance (Abdirahman & Tarique, 2020; Wang & Yuan, 2017; Hashim et al., 2017). Furthermore, it represents the knowledge embedded in organizational protocols, structures, databases, and patents (Asiaei and Bontis, 2019). Bontis et al. (2015) state that SC remains within the organization even after individuals have left. A previous study suggests incorporating technology into SMEs can improve their overall business performance and sustainability (Jovanovic & Zubovic, 2019). The results were consistent with the findings of Abdirahman and Tarique (2020), suggesting that their SC influences the performance of pharmaceutical businesses listed in Pakistan. According to the previous review, this study puts forward the following notion.:

H6: There is a positive relationship between SC and SME performance

A society's social and economic development is enhanced by its interactions, attitudes, and values. These factors are combined, commonly known as social capital. Social capital (SO) refers to an organization's openness, corporate social responsibility, integrity, and ethics (Khalique et al., 2018). Generally, SO refers to the quality of a company's relationships with different stakeholders. Companies that have higher degrees of social responsibility generate a sense of collaboration and trust among stakeholders, leading to potential increases in profitability and overall company value (Wabwire, 2023). Therefore, SO can be understood as a structure of lateral connections between individuals in a community, including social networks and associated norms that impact the effectiveness and welfare of that community. Based on the aforementioned research, there is a lack of sufficient studies that examine the precise impact of SO on the growth and success of SMEs. According to the review, this study puts out the following hypothesis.:

H7: There is a positive relationship between SO and SME performance

Research on the interrelationship between HC and other IC components is sparse. Although numerous studies have investigated the specific influence of intellectual capital (IC) on organizational performance, there is a significant deficiency of research exploring the interaction between human capital (HC) and other IC elements, including customer capital (CC), structural capital (SC), and social capital (SO). Moreover, in contrast to consumer and structural capital, social capital has garnered very limited focus in the literature on intellectual capital (Nahapiet & Ghoshal, 1998). This divide is particularly significant for SMEs, where SO can be crucial in obtaining resources and accessing markets. Figure 1 presents a research framework of the interaction among

the components of IC. It demonstrates that HC acts as a driver for CC, SC, and SO, which collectively enhance SME performance.

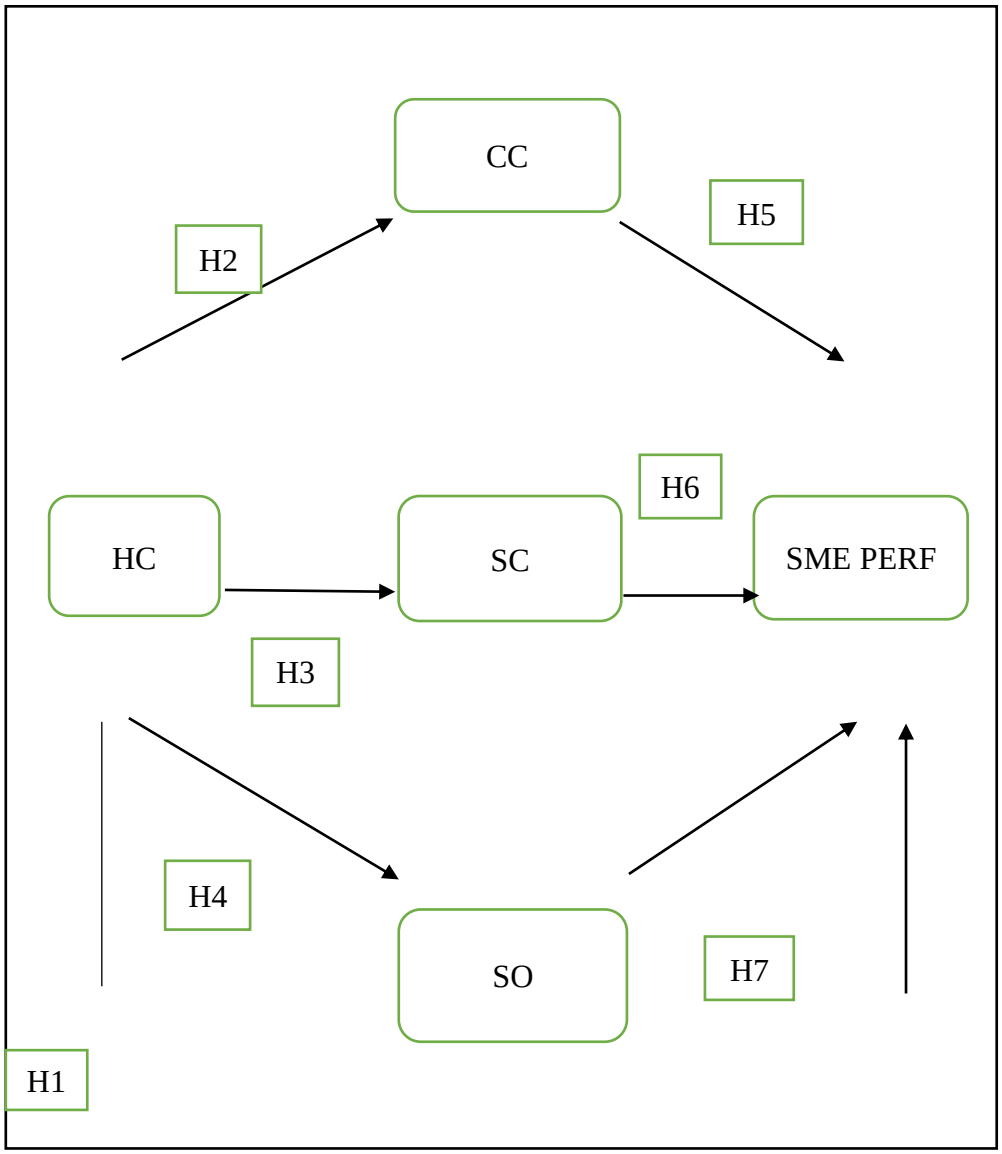

Figure 1: Research Framework

METHODOLOGY

The research utilized a quantitative methodology, with participants consisting of managers from SMEs who completed 43 questionnaires for analysis. A targeted sampling strategy established the sample size for the investigation. The organization serves as the unit of analysis, with the owners of SMEs acting as its representatives. The survey responses are evaluated on a 7-point Likert scale, where 1 signifies "strongly disagree," and 7 denotes "strongly agree." Table 1 displays information concerning the constructs, items and their corresponding sources. This research employed a cross-sectional survey methodology, as noted by Sekaran and Bougie (2016). Purposive sampling is a data collection method that selects survey participants according to predetermined criteria. The data collected for this research occurred from January to March 2024.

Table 1: Constructs, items, and sources

Constructs	**Items**	**Sources**
Human capital	12 items	Khalique et al. (2015); and
Customer capital	8 items	

Structural capital	9 items	Kamaluddin & Rahman (2013)
Social capital	7 items	
SME's performance	11 items.	Hamoudah (2015)

Sources: Khalique et al. (2015), Kamaluddin and Rahman (2013), Hamoudah (2015)

Following the recommendation by Hair et al. (2014), the researchers employed the G*power tool, available online, to ascertain the minimum sample size for the present investigation. Using G*Power analysis, with an effect size of 0.15, an alpha value of 0.05 (indicating a 95% confidence level), and a beta value of 0.20 (to achieve 80% power and minimize mistakes), G*Power determined that a minimum sample size of 77 participants is acceptable for this investigation. Out of the 500 eligible respondents who were asked to participate in the online survey, only 266 small and medium-sized enterprises (SMEs) managers completed the questionnaire. This means that the response rate was 53.2%, considered satisfactory according to Sekaran and Bougie (2016). The study model was analyzed using the partial least squares structural equation modeling approach (PLS-SEM). The operational tool Smart PLS 4.0 was utilized to assess both the inner and outer models, adhering to the guidelines provided by Sarstedt and Cheah (2019). The analytical process is separated into two main stages: the measurement model, and the structural model. The evaluation of the measurement model involves several criteria, including heterotrait-monotrait (HTMT), composite reliability (CR), variance inflation factor (VIF), and outer loadings (Hair et al., 2021; Shmueli et al., 2019; Hair et al., 2019). The analysis for structural model includes the examination of t-values, p-values, the coefficient of determination r-squared (R2), and the confidence interval (CI).

EMPIRICAL RESULTS

The results of the descriptive analysis, presented in Table 2, indicate that 176 respondents (66%) reported being in a managerial position, whereas 90 respondents (34%) identified themselves as the owners of the SMEs. Furthermore, out of the total respondents, 169 individuals (64%) identified as men, while the remaining respondents (36%) identified as women. By comparison, 86 participants (32%) fall within the age range of 26 to 35, constituting the majority of respondents (116 or 44%), aged between 36 and 45. Furthermore, a mere 8 individuals, accounting for only 3 percent of the total, fall within the age range of 20 to 25. Conversely, 47 individuals, constituting 18 percent, are aged between 46 and 55. Additionally, 9 individuals are beyond the age of 56. Lastly, another 47 individuals, also making up 18 percent, fall within the age range of 46 to 55. Regarding the educational background, 58% of the SME respondents own a degree, 21% have a diploma, 15% hold a master's degree, and only 6% have SPM credentials. Out of the total respondents, a significant proportion of 79 individuals, accounting for 30% of the sample, have a minimum of 15 years of work experience. 77 individuals, accounting for 29% of the workforce, have been hired for a duration ranging from one to five years. Of the total number of people, 61 individuals, which accounts for 23%, have professional experience ranging from six to 10 years. Out of the total, 14 individuals (5%) have worked for less than one year, whilst 35 individuals (13%) have worked for a duration ranging from 11 to 15 years. Out of the 266 respondents, 176, accounting for 66 percent, reside in urban areas, while the remaining 90 respondents, making up 34 percent, live in rural areas.

Table 2: Demographic Profile

Designation	Total	%
Owner	90	34
Manager	176	66
Gender		
Male	169	64
Female	97	36
Age		

Below 26 years old	8	3
26-35 years old	86	32
36–45 years old	116	44
46 – 55 years old	47	18
above 55 years old	9	3
Academic		
SPM	17	6
Diploma	55	21
Degree	155	58
Master	39	15
Working Experience		
< 1 year	14	5
1–5 years	77	29
6–10 years	61	23
11–15 years	35	13
> 15 years	79	30
Location		
Urban	176	66
Rural	90	34

Partial Least Square – Structural Equation Modelling (Measurement Model)

Model data was checked for missing values: item loadings, composite reliability (CR), and average variance retrieved assessed construct reliability. Few HC elements have values between 0.6 and 0.7. Assessing stress relevance determined whether to keep them in the model. The constructs' average variance extracted (AVE) and composite reliability (CR) increased above 0.5 after deleting problematic components from the PLS-SEM model. The analysis omitted HCK4, HCS6, HCS7, HCS8, and HCS9 because of poor loading (Table 3). Even though Hulland (1999) set 0.5 as the minimum loading threshold, the other indicator loadings were kept because they exceeded 0.65. These item loads demonstrate the five reflecting structures' good indication reliability. CR construct internal consistency was also assessed. Coefficient of reliability (CR) values for the five reflecting constructs: 0.866 for human capital, 0.914 for customer capital, 0.935 for structural capital, 0.905 for social capital, and 0.958 for SME performance. Hair et al. (2014) recommend CR 0.60. Construction convergence validity requires AVE values > 0.5 (Ramayah, Cheah, Chuah, Ting, & Memon, 2018). All AVE values exceeded the threshold, proving construct convergent validity. The latent component procedural barriers' AVE surpasses 0.511.

Table 3: Discriminant Validity

Construct	Loading	CR	AVE
Human Capital (HC)		0.866	0.511
HCK1	0.680		
HCK2	0.676		
HCK3	0.693		
HCK5	0.681		

HCS9	0.701		
HCS10	0.785		
HCS11	0.712		
HCS12	0.783		
Customer Capital (CC)		0.914	0.618
CC1	0.727		
CC2	0.802		
CC3	0.743		
CC4	0.824		
CC5	0.830		
CC6	0.817		
CC7	0.740		
CC8	0.796		
Structural Capital (SC)		0.935	0.652
SC1	0.762		
SC2	0.776		
SC3	0.857		
SC4	0.868		
SC5	0.790		
SC6	0.778		
SC7	0.785		
SC8	0.851		
SC9	0.792		
Social Capital (SO)		0.905	0.624
SO1	0.794		
SO2	0.805		
SO3	0.733		
SO4	0.849		
SO5	0.823		
SO6	0.783		
SO7	0.734		
SME Perf		0.958	0.691
MP1	0.794		
MP2	0.842		
MP3	0.829		
MP4	0.811		
MP5	0.856		

MP6	0.836		
MP7	0.862		
MP8	0.814		
MP9	0.815		
MP10	0.804		
MP11	0.878		

Note: Items HCK4, HCS6, HCS7, HCS8, and HCS9 were deleted due to low loading.

Average Variance Extracted (AVE), Composite reliability (CR)

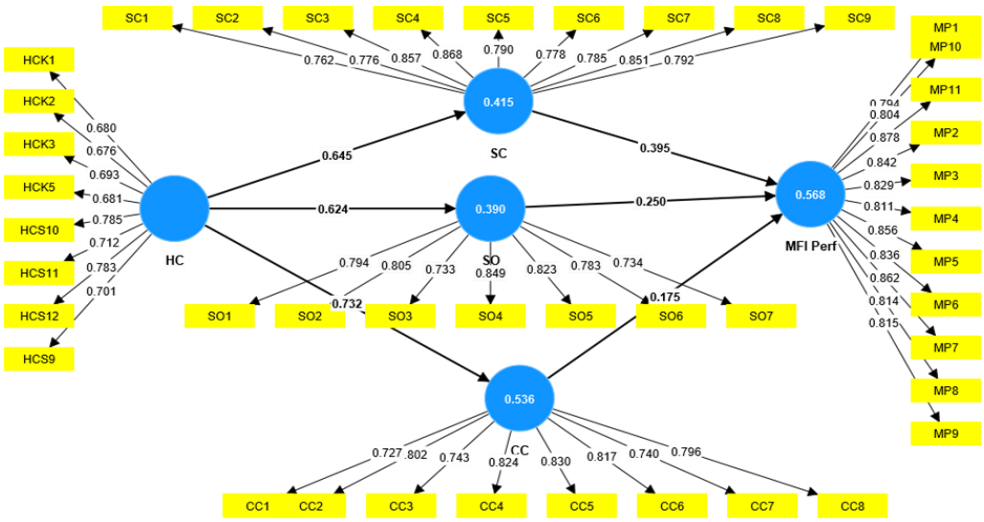

Figure 2: Measurement Model

Figure 2 shows that all five components were latent constructs. As Henseler, Ringle, and Sarstedt (2015) suggested, this analysis used the HTMT to assess discriminant validity. Henseler et al. (2015) define discriminant validity as a concept correlation below one. However, Kline's (2012) stricter criterion of 0.85 was used to distinguish the constructs better. The correlation estimates for HTMT scores appear in Table 4.

Table 4: Heterotrait-Monotrait (HTMT)

Construct	CC	HC	SC	SME	SO
CC					
HC	0.818				
SC	0.822	0.710			
SME	0.699	0.644	0.751		
SO	0.809	0.692	0.813	0.719	

There is no issue with multi-collinearity in any data since all variance inflation factor values are below the threshold of 5 (Hair et al., 2016). The questionnaire comprises 43 components categorized according to their corresponding latent dimensions (HC, CC, SC, SO, and SME performance). This categorization aids SME managers in providing consistent and focused responses. The variance inflation factor (VIF) is displayed in Table 5.

Table 5: Variance Inflation Factor

Construct	VIF
CC	2.804
HC	1.000
SC	2.930
SO	2.750

Source: Own source (Smart PLS)

Partial Least Square – Structural Equation Modelling (Structural Model)

The Smart PLS bootstrapping test finds latent construct linkages in structural model assessment. Path coefficients and t-statistics of these links are analyzed. According to Peng and Lai (2012), hypothesis testing bootstrap scores should surpass 1.96 (t-statistics >1.96, two-tailed). The study finds that all seven structural models link significantly. The route analysis in Table 6 shows that HC, CC, SC, and SO improve SME performance. The data suggest a significant link between HC and CC, as shown by H2 (β= 0.366, p<0.01). HC improves CC again, as shown by these findings. Ambidextrous HC significantly affects customer satisfaction, according to the most conclusive research. The positive effect confirms that innovation improves consumer happiness (Fernández-Pérez & Sánchez-Gardey, 2024). Additionally, H3 (β= 0.645, p<0.01) shows a significant positive connection between HC and SC. It confirms previous studies that Banten Province manufacturing companies had good management. The presence of clever, innovative, and skilled people in the sector ensures that activities are completed successfully and that employees feel secure and comfortable (Muh & Murwaningsari, 2019). A significant correlation between HC and SO is shown by the statistical analysis of H4 (β= 0.624, p<0.01). HC improves society, as seen by this result. This shows that knowledgeable people can form and maintain social relationships. Those with strong social networks often advance in their careers. Networking can lead to jobs, promotions, and career success. Studies have shown that those with high HC are more likely to socialize and make friends, improving their SO (Irwandi, 2024).

Results show that H1 (β= 0.539, p<0.01), H5 (β= 0.175, p<0.05), H6 (β= 0.395, p<0.01), and H7 (β= 0.250, p<0.01) have the most significant positive impact on SME performance among IC components. This shows that IC investments benefit SMEs, specifically. The studies by Ali et al. (2020), Wang et al. (2021), and Xu et al. (2019) show that HC, CC, SC, and SO improve organizational performance. It follows the Resource-Based View (RBV) paradigm, which holds that IC can help organizations gain a competitive edge and improve performance (Chabowski & Mena, 2017). HC influences 53.6% of CC, 41.5% of SC, and 39% of SO, according to R^2. The combined IC components explain 56.8% of SME performance variance.

Table 6: Path Coefficient and Hypothesis Testing

Hypothesis	Relationship	Beta	T statistics	P values	CI LL	CI UL
H1	HC -> SME	0.539	14.937	0.000	0.472	0.611
H2	HC -> CC	0.732	25.365	0.000	0.674	0.788
H3	HC -> SC	0.645	18.914	0.000	0.579	0.711
H4	HC -> SO	0.624	15.006	0.000	0.545	0.707
H5	CC -> SME	0.175	2.202	0.028	0.017	0.321
H6	SC ->SME	0.395	5.513	0.000	0.251	0.531
H7	SO ->SME	0.250	2.989	0.003	0.101	0.426

Source: Own source (Smart PLS)

SUMMARY AND CONCLUSIONS

In conclusion, this study found that HC (human capital), CC (customer capital), SC (structural capital), and SO (social capital) significantly affected SMEs' performance. HC is strongly linked to CC, SC, and SO. The study emphasizes the importance of HC in improving innovation and success in competitive markets. This study also seeks to bridge gaps in past research by evaluating how HC and other IC components affect Malaysian SMEs' growth and performance.

Furthermore, the study found that HC significantly affects CC. Competent and well-informed staff will provide excellent service, answer customer questions, resolve issues quickly, and increase customer happiness. Thus, establishing this expertise will increase consumer trust and loyalty, improving SME success. SMEs who invest in HC to develop their knowledge and abilities will boost consumer relations and protect CC's value.

HC and SC were also linked in the study. Creating intellectual assets requires employees with different talents and substantial SME experience. The employee must learn and develop experience to achieve this. HC partnership improves SME procedures and structures, enhancing SC. The study found that SMEs that engage in HCskills and management techniques improve their SC and performance.

Additionally, this study reveals a direct link between HC and SO. Collaboration builds trust, reciprocity, and respect between employees. Thus, SMEs may leverage their HC to establish strong social networks and relationships by improving skills, creating a cooperative work atmosphere, and encouraging trust and teamwork. This boosts SME communication, collaboration, and efficiency.

HC substantially impacts SME performance when examining the impact of specific IC components. This supports earlier research identifying IC as a competitive advantage for SMEs (Iqbal et al., 2023; Lang et al., 2022; Ramírez et al., 2021). A team of skilled individuals can help these organizations innovate, increase productivity, and stay competitive with limited resources. Regarding the second IC component, CC, the most challenging aspect of IC to develop, is difficult to integrate into a company's core skills (Scafarto et al., 2016). According to Minovski and Jancevska (2018), distribution networks need CC to transport products and services efficiently. Thus, Minovski and Jancevska (2018) state that CC is necessary for the flawless distribution of network goods and service flow. The third IC component, SC, can boost these organizations' production and efficiency (Beltramino et al., 2022). Effective processes and procedures can decrease waste, improve quality, and boost output for SMEs. Finally, SO gives SMEs access to many resources. An SME with a lot of SO can use its network to get capital, explore new markets, and learn about industry trends (Meflinda et al., 2018). SMEs can benefit from social capital (SO) optimization by building a good reputation and client trust (Boohene et al., 2020).

Practitioners can learn about Malaysian SME performance from this report. These results match the nation's 2025 vision. Practitioners recognize performance-enhancing factors supported by SME performance data. SMEs can improve performance by understanding human and IC components, including CC, SC, and SO. Personnel investment, excellent service, problem-solving, strong social networks, and effective systems and procedures will boost SME competitiveness and commercial success. Industry and corporate groups can teach and mentor SMEs to build HC and share system and process development knowledge. Policymakers may use this study to create SME-friendly programs. Training and education, research and development, and industry networks and clusters can help SMEs leverage their HC, CC, SC and SO resources to improve business performance. Understanding how different types of capital affect SMEs' success can greatly impact a nation's economy. Supporting SMEs in improving their HC, CC, SC and SO resources can boost innovation and economic growth.

From the small and medium enterprises (SMEs) practical implementation, a business must understand the concept of intellectual capital to adapt, innovate, and boost economic growth (Erdoğan & COŞKUN ARSLAN, 2024). SMEs need to focus particularly on their intellectual capital for sustainability and competitiveness, as it's of greater importance in the current economy driven by competition in relation to the resources of knowledge (Rahman et al., 2020). Intellectual assets like technology, customer loyalty, brand image, corporate culture, and management, alongside intangible assets and intellectual capital, greatly

contribute to competition and value creation (Erdoğan & COŞKUN ARSLAN, 2024). Additionally, knowledge-based resources are becoming more relevant, and SMEs utilizing their intellectual capital need to adapt to the current economy (Rahman et al., 2020). Intellectual capital comprises three primary components: human, structural, and customer, and is exercised on an individual and organizational level (Xu & Wei, 2023).

Human capital includes the knowledge, skills, abilities, and experience of the organization's employees, which helps in the effective performance of tasks and innovation. It is the most important aspect for innovation since the creation of new products, services, and improvements in processes is facilitated by innovation (Zioło, 2018). An organization's capabilities, such as its constructs, systems, processes, and cooperative frameworks that help in transforming the human capital value into company property, are referred to as structural capital (Erdoğan & COŞKUN ARSLAN, 2024). Structural capital is the knowledge and systems that, in documented form, remain within an organization after employees leave. It integrates the various components of intellectual capital by enabling the acquisition, retention, and transformation of knowledge into proprietary assets. (Erdoğan & COŞKUN ARSLAN, 2024). Customer capital refers to the value an organization derives from the relationships and networks it has with external parties such as customers, suppliers, and partners. Relational capital, as it is also known, is one of the most important components of intellectual capital, which has a significant impact on the organization's ability to create economic value. (Erdoğan & COŞKUN ARSLAN, 2024).

Apart from financial capital, a firm's reputation enhances value because of its intellectual capital (Drábek et al., 2017). According to Mohan (2017) and Erdoğan & COŞKUN ARSLAN (2024), intellectual capital is the difference between the market value of a firm and the replacement cost of its assets. Intellectual capital consists of employees, customers, IT, managerial functions, and knowledge. It binds together diverse assets and enables their use in the organization's production activities (Erdoğan & COŞKUN ARSLAN, 2024). Intellectual capital captures non-physical values which include, but are not limited to, concepts, inventions, technologies, general knowledge, software, design, data, skills, processes, creativity, and the applicative work of an organization (Areiqat, 2019). Its efficient governance is pivotal in fostering innovation, competitiveness, and overall performance of both the manufacturing and services sectors. For its significance as one of the main aspects that can affect a person's work performance, intellectual capital has the ability to combine knowledge, skills, and creativity among workers (Xu & Wei, 2023).

This paper outlines limits that may inform future research. Because the study featured few SMEs, its findings are limited. Increase the sample size and number of SMEs to improve generalizability. The findings may have been limited to a specific location or sector. These capital and SME performance research avenues are presented. Broadening research across industries can help explain how different sources of capital affect firm profitability. Data from multiple companies can reveal how capital affects SME growth, highlighting parallels and differences. Quantitative research provides valuable insights into how capital affects SME success, but qualitative studies provide a more complete picture of how different types of capital affect business results.

Overall, this study aimed to evaluate the effectiveness of HC administration on individual components of IC, such as CC, SC, and SO, and how these components subsequently improve the competitiveness and operational performance of SMEs. The results indicate that HC administration significantly enhances all three elements of IC, with clear synergies between CC, SC, and SO that foster innovation and collaboration in SMEs. These results highlight the necessity of strategically managing HC to optimize the value obtained from intellectual capital in improving SME performance. This research enhances the existing information by explicitly associating HC administration with the enhancement of IC elements, providing a new framework for SME leaders to foster competitiveness in a progressively dynamic market. The findings highlight the essential importance of HC in determining the future direction of small and medium firms, providing both theoretical and practical insights for subsequent study and management strategies.

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