

The Impact of Intellectual Capital on Business Uncertainty and Business Performance of Small Enterprises: With Special Reference to Galle District in Sri Lanka

Sri Lanka Journal of Social Sciences and Humanities
Volume 3 Issue 2, August 2023:21-32
ISSN: 2773 692X (Online), 2773 6911 (Print)
Copyright: © 2023 The Author(s)
Published by the Faculty of Social Sciences and
Languages, Sabaragamuwa University of Sri Lanka
Website: <https://www.sab.ac.lk/sljssh>
DOI: <https://doi.org/10.4038/sljssh.v3i2.97>



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Received: 28 December 2022, Revised: 23 March 2023, Accepted: 16 May 2023.

How to Cite this Article: Ranatunga, R.V.S.P.K., Uyangoda, S., & Priyanath, H.M.S (2023). The impact of intellectual capital on business uncertainty and business performance of small enterprises: With special reference to Galle District in Sri Lanka. *Sri Lanka Journal of Social Sciences and Humanities*, 3(2), 21-32.

Abstract

This study aims to study the impact of Intellectual Capital (IC) on business uncertainty in the small-scale enterprises (SE) sector in Sri Lanka and, consequently, investigate the impact of business uncertainty on enhancing their business performance. The data were collected from a sample of 150 owners of SEs employing face-to-face and telephone interviews. Partial Least Square-Structural Equation Modelling (PLS-SEM) was used to analyse the data through SmartPLS V3 software. The study findings reveal a significant positive relationship between IC and the business performance of SEs. Moreover, IC significantly affects the uncertainty faced by these businesses. Results also claim that business uncertainty plays a complementary mediating role in the relationship between IC and the business performance of SEs. Consequently, the study concludes that enhancing the IC in small enterprises builds reconfigures the available resources of SEs, ensuring expected performance and survival in economic crises. The research design, the methodology utilised, and the findings of this study will benefit researchers, policymakers, and entrepreneurs and contribute to future studies regarding the development of SEs in a developing country like Sri Lanka.

Keywords: Business Performance, Business Uncertainty, Intellectual Capital, Small Enterprises

INTRODUCTION

Today we live in a conceptualised global economy (John, 2022). Thousands of new businesses are created annually around the world with the prospect of growing into large enterprises and expanding economic activity in the global market (Emily, 2021). Small Enterprises (SEs) play a critical role in this context. SEs are considered the backbone of any country as they directly impact economic growth by creating new job opportunities and reducing unemployment, contributing to gross domestic product growth, lowering inflation, stimulating innovation, and many other economic activities (Alter, & Hagevi, 2013; Priyanath, 2017). Because of this, the SEs are more critical for a developing country like Sri Lanka, which has suffered an economic collapse and is experiencing hyperinflation. In such a case, SEs inherently contribute as a major job creator in poverty alleviation, especially in rural areas, controlling poverty resulting from unemployment arising in the collapse of the industrial sector (Gamage & Sadoi, 2013).

The effects of the Covid-19 pandemic have hit emerging economies hard. The Covid-19 pandemic directly affected the collapse of the Sri Lankan economy, which was heavily dependent on imports and remittances and managed by a poorly managed consumption economy (Gunathilake &

Jayasuriya, 2021). In Sri Lanka, revenue losses due to the pandemic have been revealed, and pre-existing economic weaknesses have worsened (Gunawardana, 2020). The economic impact of the Covid 19 pandemic has been researched in many countries around the world regarding how various industries are experiencing it, and some of the main reasons have been revealed. Decrease in employees, financial difficulties, decreases in sales and turnover, decreases in demand, and decreases in production due to health problems of employees, are the main among them (Bartik et al., 2020; Juergensen, Guimón & Narula, 2020; Nurunnabi, Alhawal & Hoque, 2020). All these cautions generate business uncertainty, especially SEs incapable of facing it with proper decision-making and finally fail in their performance.

In today's knowledge-based economies, intellectual capital is recognised as a strategic asset that provides a competitive advantage in driving businesses toward superior performance (Yalama & Coskun, 2007). It is a hidden asset in a person that can be converted into value and lead to success without perishing like other tangible assets (Edvinsson & Sullivan, 1996). Intellectual capital (IC) is considered one of the key factors affecting the success of a

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business organisation. The reason for that is the unique involvement of intellectual capital in decision-making in the face of the above-mentioned business uncertainty (Herremans, et al., 2011).

This IC-based concept has been researched for two decades to improve business performance in large-scale and medium-scale enterprises (Bontis, 2003, 2009; Johan, Göran, Edvinsson, & Nicola, 1997; Kamukama, Ahiauzu & Ntayi, 2010; Kodithuwakku, & Priyanath, 2022). Many researchers have shown a significant positive relationship between business performance and IC (Bontis 1998, 2000; Brooking, 1996; Kodithuwakku, & Priyanath, 2022). However, there have been fewer research studies on the business performance of SEs and especially business performance enhancement under such severe business uncertainty as Sri Lanka. Particularly in the Sri Lankan context, there is insufficient empirical evidence on how employers in SEs can utilize IC to enhance their business performance in an uncertain business environment. Therefore, this study aims to examine the impact of IC on business uncertainty in Sri Lanka's SEs and, consequently, investigate the impact of business uncertainty on business performance. Furthermore, research on IC in developing countries is very limited as social, political, cultural and technological factors directly influence the contextual determination and practice of IC. This makes it difficult to generalise research findings about how firms benefit from IC. Information on IC in the context of Sri Lanka is limited to IC disclosures. Therefore, it is timely to study what IC disclosures can do for the growth of business firms.

This article is organised as follows: First, a review is made of the theoretical literature on IC, business uncertainty and business performance and the relationship between those variables. Based on the literature review, hypotheses are formulated to link the different theoretical points. Then the study materials and methods are described, and the results are presented and discussed in the next section. Finally, it concludes the paper by reviewing its contributions and limitations and providing directions for future research.

LITERATURE REVIEW

As the concept of IC is still recognised as an emerging discipline in business management, it is still passing through important evolutionary milestones. IC can be defined as a collective name given to the intangible assets, intellectual property, and human-centered and related infrastructure that exist in the market (Brooking, 1996). The concept of intellectual capital has emerged as a reaction to the departure from traditional management practices that are tied to a company's intangible assets (Tseng & James Goo, 2005). Intellectual capital consists of the skills, knowledge and experience of a company to maintain performance, competitiveness and shareholder value (Seemann et al., 2000). It can be recognised as an essential capital not limited to the physical and visual assets of the organisation. Roos (1997) and Stewart (1997) have recognized IC as a modern accounting method that considers all the assets and processes not usually shown on the balance sheet of an organisation, as well as intangible assets such as trademarks, patents and brands, and the sum of the knowledge of the members associated with the organisation and the practical translation of those people's knowledge which are used for creating a wealth of an organisation (Roos, 1997; Stewart, 1997). A few decades ago, the discussion of this concept was limited to intellectual phenomena in general, but in later

research, the intellectual phenomena can be identified under several dimensions. Zhou and Fink, (2003) have recognized human capital, structural capital and relational capital as the most important dimensions of IC.

Edvinsson and Sullivan (1996) identified intellectual capital as the combination of human resources and structural capital. Bonits (1998) explained that intellectual capital combines the three dimensions of human capital, structural capital and customer capital while not including intellectual property, such as assets related to copyrights, patents and design rights. Murthy and Mouritsen (2011) identified intellectual capital, including creative human capital, organisational capital, which has best practices and relational capital, which supports drawing and developing knowledge about suppliers and customers. Murthy and Mouritsen (2011) have not considered structural capital. Demartini and Paoloni (2013) explained intellectual capital under the three components: human capital, including skill program management; structural capital, including new product patents and relational capital, including the market share and customer contract. Tayles, Pike, and Sofian (2007) emphasised that intellectual capital is a broad consensus including human capital, structural capital and relational capital as the sub phenomena. This sub-phenomena combines the intelligence found in human resources with organisational routines and relationships in organisational networks (Sharabati, Jawad & Bonits, 2010).

Business Uncertainty

According to Galbraith (1977), business uncertainty means the gap between the amount of information required to perform the task and the amount of information already possessed by the organisation. According to Williamson (1993), business uncertainty arises from not being aware of future conditions and/or the inability to determine who is more inclined to behave opportunistically. Similarly, Brashers (2001) claims that business uncertainty occurs when details of situations are ambiguous and complex, when information is unavailable or consistent; and when people feel insecure about their own knowledge or the state of knowledge in general. Perminova, Gustafsson, and Wikstrom (2008) identified uncertainty as an unexpected event or situation. It can happen due to a lack of available information about the world situation (Bosc & Prade, 1997). According to Williamson (1985), business uncertainty has two parts such as behavioural and environmental uncertainty. Business uncertainty by not disclosing, concealing, or distorting information about strategic interventions is said to be behavioural uncertainty and is based on other transaction parties' opportunistic behaviour. Behavioural uncertainty arises related person's behaviour, especially opportunism problems in dealing with the channel relationships such as shrinking activities, cheating and free-riding activities (Ranatunga, Priyanath & Meegama, 2020; Rindfleisch, 2019).

Conversely, environmental uncertainty is defined as arising from technology uncertainty, demand or consumer uncertainty, supply chain uncertainty, competitive uncertainty, political instability uncertainty, market uncertainty, inflation and similar uncertainties (Rindfleisch, 2019). Subramaniam, Collier, Phang & Burke (2011) explained business uncertainty as part of environmental uncertainty, and it is related to the unpredictable actions of major stakeholders in an organisation, such as consumers, suppliers, competitors and other regulatory groups. Sung, Lu and Ho (2010) have defined environmental uncertainty as a

situation resulting from a lack of available information related to the external environment in the organisational goals-achieving process. Environmental uncertainty is related to the control of someone, which influences the company's operation activities (Purnama & Subroto, 2016). It is also viewed as a perceptual phenomenon that has to face the individuals related to the decision in an environment (Ashil & Jobber, 2010).

Business Performance

Performance is the concept used to determine the value of the outcome of a process using a standard or benchmark (Bourne, Franco & Wilkes, 2003; Khare, Saxsena & Teewari, 2012; Morgan, 2004; Robbins & Coulter, 2013). Business performance is valued by measuring the success or failure related to an organisation in achieving its goals and objectives (Wood, 2006). According to Vij and Bedi (2016) definition, business performance measures the ability of the firm as the overall index using financial terms and operational indicators to satisfy the stakeholders; under that, subjective business performance is measured using primary data and objective business performance measures using secondary data. As well objective performance is measured using financial data as financial indicators, such as an increase in sales, profitability and investments. In contrast, subjective performance is measured using non-financial data as non-financial indicators, such as the number of new products, market share, technology and marketing activity (Ornek & Ayas, 2015). According to the Business Performance Measurement (BPM) system, business performance is categorised mainly into two broad sections that are Strategic Business Performance (SBP) measures which are considered related to major corporate goals and Operational Business Performance (OBP), which are measured daily or weekly basis of the organisation.

Empirical Evidence:

The concept of IC has been developed for several decades. As a result, some researchers have focused on conducting research studies related to IC and business performance by considering the business processes of various businesses and organisations. Bontis (2003) conducted a study on the relationship between IC and the performance of business firms. He stated that there is a reciprocal relationship between the essential components of IC, which has a positive relationship with business performance. Nazari (2010) investigated the relationship between the intellectual capital component and a firm's financial performance. Abdullah and Sofian (2012) explored the relationship between cooperative performance in Malaysian industries. Mosavi, Nekouizadesh and Ghaedi (2012) studied intellectual capital relationships between market value and financial performance. Research studies that have been conducted to examine the performance of banking and insurance studies empirically revealed that IC directly affects the performance of such a sector (Alipour, 2012; Do Rosairo & Vaz, 2005; Puntillo, 2009; Sujeewa Kodithuwakku, & Priyanath, 2022).). Chu et al. (2006) have done an empirical study and emphasised that intellectual capital is highly relevant to organisations' value creation and strategic accumulation. Huang and Hsueh (2007) found that intellectual capital can influence business performance. However, it is dominated by relational capital. Although human capital has an effect, it is not a direct effect and indirectly affects business performance through relational capital. Also, this correlation indicates that intellectual capital is more critical for business performance.

Several studies have linked intellectual capital and performance related to the SME sector. Li et al. (2020) emphasised that human capital directly and significantly supports the efficiency of SMEs in China in the transactional economic process. Still, structural capital does not significantly affect the efficiency of SMEs. A study by Khan and Terziovski (2014) using Australian SMEs found that human capital, structural capital and relational capital mediate the intellectual capital dimensions that have a positive and significant effect on the performance of SMEs. Sujeewa Kodithuwakku and Priyanath (2022) explained that the IC is the most powerful intangible resource, which has a significant positive impact on a firm's financial performance of indigenous craft industries in Sri Lanka. Consequently, the importance of developing human capital in organisational innovation was emphasised in this study.

Although a large number of researchers have focused on conducting research related to intellectual capital and business performance, only a few researchers have been motivated to study the impact of intellectual capital on business performance by integrating uncertainty. Herremans et al. (2011) conducted a study on intellectual capital integrating knowledge uncertainty to investigate its ability to reduce uncertainty related to organisation decisions in the intellectual capital environment. In their study, the intellectual capital management system supported the reduction of internal uncertainty and indicated that there is a significant correlation between internal uncertainty and intellectual capital scale, and the development of intellectual capital in the organisational structure leads to the reduction of organisational internal uncertainty. The research done by Khan and Ali (2017) reported that intellectual capital could play a moderating role in the risk management of enterprises. It has been recognised that firms with high intellectual capital are more resilient to unexpected changes in markets and economies and that intellectual capital can effectively positively influence firm performance.

Many scholars have taken intellectual capital as the independent variable and business performance as the dependent variable in their studies and set the theoretical basis for their research. Few have applied the concept of intellectual capital to the financial performance of businesses (Bontis, 1998; Vij & Bedi, 2016). In most empirical studies related to this, the quantitative method has been adopted as the research approach (Herremans et al., 2011; Maditinos et al., 2010; Li et al., 2020). The majority of quantitative approaches used Likert Scale questionnaires to collect data (Abdullah & Sofian, 2012; Bontis, 1998; Huang & Hsueh, 2007; Zhang, Lettice & Pawar, 2019). These researchers have used both primary and secondary data, and the sample sizes varied from 100 to 750 and employed mailed questionnaires and field surveys (Chu et al., 2006; Nazari, 2010; Li, et al., 2020). Research that has adopted a qualitative approach can also be seen (Bontis, 1998).

Considering the research objectives and the existing literature, no theoretical, empirical, or methodological study of small business activity and performance integrates the concept of intellectual capital and uncertainty. Also, no researcher has conducted studies on theoretically integrating the concepts of intellectual capital and business performance using uncertainty as a mediator.

CONCEPTUAL RESEARCH MODEL & HYPOTHESES

The main goal of SEs is to achieve a satisfactory level of performance in order to survive in the uncertain market environment generated by the pandemic situation and severe economic crisis. Three theoretical aspects have been introduced and combined as IC, business uncertainty and business performance to overcome the situation. The independent variable is IC, and the dependent variables are business uncertainty and business performance of SEs. IC is

composed of three forms; human capital, relational capital and structural capital. According to the literature, uncertainty comprises two dimensions: behavioural and environmental. Business performance considers profit, sales growth, profit growth, market share, overall response to competition, the success rate in new product launch and overall business performance. The study constructed three hypotheses while connecting these three variables shown in Figure 01.

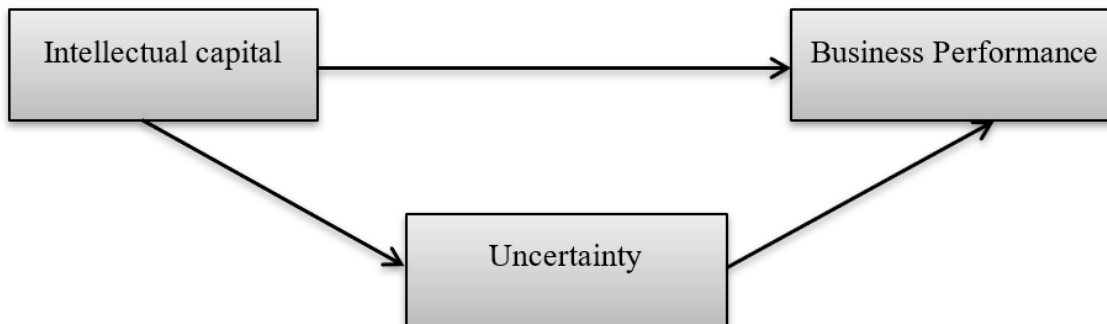


Figure 01: Conceptual Framework

Intellectual Capital & Business Performance: Achieving competitive advantage is a fundamental factor in the profitability of a business organisation, and its basis is intellectual capital (Grant, 1991). According to Nazari (2010), intellectual capital contributes to the improvement of an organisation by gaining advantages under competitive conditions. Also, it is a key factor in efficiency and effectiveness. The components of intellectual capital, human capital, structural capital and relational capital are the basis for the sustainability of business advantages and thereby enhance performance in the long run (Abdullah & Sofian 2012). Previously, business performance was analysed from a strictly financial perspective. Still, in the later period, non-financial performance was focused on using other factors, under which the overall performance growth is brought about by facing the competition based on innovation and leadership qualities. For that, the components of intellectual capital have a positive effect (Bourne, 2003).

Human capital is taken as the main component of IC, and it includes the knowledge, skills, experience and capabilities of people in the business organisation (Nazari 2010). The peculiarity of this capital is that it cannot be separated from the owner and cannot be controlled entirely from the outside. Human capital efficiency has a significant positive relationship with the market-to-book (M/B) value ratio, and greater human capital efficiency facilitates better financial performance (Mosavi et al., 2012). Relational capital refers to the ability of the business entity to interact with external stakeholders (such as customers, suppliers, business competitors, trade and industry associations, and credit providers) as well as the knowledge embedded in the people of the organisation to maintain those relationships in the long run (Bontis, 1998). Khan and Terziovski (2014) prove the positive and significant relationship between relational capital and SME performance under the study of the effect of intellectual capital on performance in Australian SMEs. Structural capital is identified as the infrastructure within a business organisation to improve human resources and add value. The organisation's information systems and databases, business culture, procedures, patents, and trademarks can be applied to this. Abdullah and Sofian

(2012) found that the structural capital of intellectual capital contains the highest positive relationship with business performance. Therefore, considering these findings, the study hypothesised that;

H₁: IC has a significant positive impact on the business performance of SEs in Sri Lanka.

Intellectual Capital and Business Uncertainty: Business uncertainty is the difference between the amount of information available for a business organisation to perform its business functions and the amount of information it currently gains for that purpose (Galbraith 1977). Enterprises' self-reliance is enhanced by intellectual capital elements such as the right skills and knowledge, a respected brand and excellent corporate reputation, strong relationships with key suppliers, possession of customer and market data, or a culture of innovation. These qualities are directly involved in decision-making under uncertainty and thus can reduce uncertainty. Although research examining the relationship between IC and uncertainty is very limited, according to the findings of Herremans et al. (2011), if managers build up the organisational control systems appropriately and enhance the IC capabilities of the organisation, consequently it will lead to minimising the faced uncertainty in business activities. Therefore, the study predicts that;

H₂: IC has a significant negative impact on the business uncertainty of SEs in Sri Lanka.

Business uncertainty and Business Performance: According to transaction cost theory, uncertainty is divided into two parts environmental uncertainty and behavioural uncertainty. These uncertainties affect SMEs because they cannot get proper information flow and knowledge about the business environment (Ahmad & Seet, 2009). If an organisation faces behavioural and environmental uncertainty, a more reliable mechanism should be implemented to prevent opportunism (Ashill & Jobber, 2010; Herremans et al., 2011). Market collapse and price control policies due to the pandemic and economic collapse, inadequate provision of government services, unnecessary regulations on taxation and finance, and political interference by subsidiaries frighten small and medium

enterprises in developing countries and thus entrench uncertainty in them. Some researchers, such as Ishengoma and Kappel (2011) noted that the poor performance of SMEs is driven by uncertainty. According to Rindfleisch (2019), behavioural uncertainties increase transaction cost, because behavioural uncertainty creates other costs for monitoring exchange partners and enforcing contracts with the partner. In the face of such a situation, the increase in cost will strongly impact reducing the performance of small industries. Sopha, Jie, and Himadhani (2020) also stated that external uncertainties significantly negatively affect SME business performance. Therefore, to test this theoretical relationship, the study hypothesised the following:

H₃: Business uncertainty has a significant negative impact on the business performance of SEs in Sri Lanka.

Intellectual Capital, Business Uncertainty and Business Performance: IC increases the business performance of SEs and creates a positive relationship with the business performance (Khan & Terziovski, 2014; Mosavi et al., 2012). Conversely, uncertainty negatively affects business performance (Sopha et al., 2020). As mentioned above, IC reduces uncertainty (Herremans et al., 2011). Even though the previous empirical studies conducted by combining IC, uncertainty and business performance do not appear, it is reasonable to consider that the negatively influencing factor of uncertainty may reduce the positive effect on business performance under IC. Conversely, the IC can reduce uncertainty's effect on business performance. Consequently, the study has considered uncertainty mediating the relationship between IC and the business performance of SEs. Therefore, the study predicts that;

H₄: Business uncertainty has a significant mediating effect on the relationship between intellectual capital and business performance.

METHODOLOGY

Three theoretical aspects have been combined to address the research problem; hence, the deductive approach is employed. Developed hypotheses were addressed according to the quantitative research design. Data collection was done using a survey method employing a questionnaire. The population has been identified as all the SEs in the Galle District of Sri Lanka. According to the Small Enterprise Development Division, 8483 registered SEs. The study used the lottery method and randomly selected SEs in Karadeniya Divisional Secretariats from 19 Divisional Secretariats of Galle District as the sample frame. Multistage sampling has been employed to select the study sample. According to Krejcie and Morgan (1970), sample size determination table was utilised to determine the 150-sample size, and it was distributed in each village of *Karadeniya DS* according to the percentage share of SEs registered in each village.

A two-step procedure has been utilised to prepare the seven-point Likert scale questionnaire, which included (1. Strongly disagree; 2. Disagree; 3. Somewhat disagree; 4. Neither agree nor disagree; 5. Somewhat agree; 6. Agree; 7. Strongly agree) scales. After carefully reviewing the past literature, confirmatory factors for all the constructs have been utilised for the questionnaire items. A pilot survey was conducted before organising the original questionnaire to examine whether the obtained data was appropriate for achieving research objectives as well as clear and understandable for the respondents to give their responses which is the procedure recommended for increasing the

validity and reliability of gathered data. The owner or manager of each SE participated in the face-to-face interview, and a trained research assistant filled out the questionnaire according to the responses of the interview.

Established hypotheses were tested using the Partial Least Square Structural Equation Modelling (PLS-SEM), a statistical analytical technique for evaluating the relationships between multiple independent and dependent variables and evaluating more than one construct simultaneously. Data were analysed employing a two-step procedure, including testing the measurement model, followed by testing hypotheses with the help of the structural model. The measurement model is assessed by examining reliability (indicator reliability and internal consistency reliability) and validity (convergent validity and discriminant validity) tests. The study developed latent variables to measure all the variables (IC, uncertainty, and SE business performance), following a hierarchical model using PLS path modelling. The efficiency of the structural model was tested by multicollinearity issues, R² and predictive relevance (Q²).

For the current study, three IC dimensions were recognized namely human capital, structural capital and relational capital. Human capital is divided into skills, attitudes and intellectual agility (Jurczak, 2008). It was measured using the dimensions of education level, practical knowledge, technical expertise, creativity and experience (Subramaniam & Youndt, 2005). Structural capital was divided into two constructs: organisational and technical capital. Organisational capital was measured using structure, routines, process and culture; also technical capital was itemised as innovation capabilities, research and development, and implementation of technologies (Bonits, 1998; Subramaniam & Youndt, 2005; Yıldız, Meydan & Güner, 2014). Relational capital consists of both business and social relational capital (Raza, 2012). These main aspects of relational capital were divided into business relations and social relations, and business relations were categorised as customer relationships, supplier relationships, Internal networks, and strategic alliances. Conversely, social relations were measured as community and government relations (Bonits, 2000; Raza, 2012). Mediating variable uncertainty was formed with two constructs: environmental and behavioural uncertainty. Demand, supply and competitive business uncertainties have been utilised to measure environmental uncertainty (Boccia & Alfred, 2009; Buvik & Gronhaug, 2000). behavioural uncertainty was determined by difficulty in assessing the partners' performance and opportunistic behaviour (Chen & Chen, 2003; Ranatunga et al., 2020). The dependent variable of business performance was measured based on past research studies concerning the SEs business sector. Seven items were used to measure the business performance: profit, sales growth, profit growth, market share, overall response to competition, the success rate in new product launch and overall business performance (Bonits, 1998; Ranatunga et al., 2020).

RESULT & DISCUSSIONS

This study used multivariate techniques to analyse the data, and as Hair et al. (2012) pointed out, it must be assumed that some degree of measurement error is involved. According to him, the validity and reliability of such measures should be assessed. The validity of a measure refers to the degree to which the measure accurately

represents what it is intended to be used for (Hair et al., 2012; Robson, 2002; Thatcher, 2010). Based on the PLS-SEM measurement of the outer model, first, the study evaluated nine first-order endogenous latent variables. Table 01 shows standardised factor loadings which were above the minimum threshold criterion of 0.7, confirming the indicator

reliability of first-order reflective constructs and factor loading also statistically significant at 0.05 level. Further, it shows that Cronbach's α was higher than the required value of 0.7 and the composite reliability was higher than the recommended 0.7 value, as well as depicts and confirms the convergent validity of the first-order constructs.

Table 01: Analysis of First-Order Constructs

Construct	Indicator Reliability		Internal Consistency Reliability		Convergent Validity
	Loadings	t-statistics	CR	α	AVE
1 Human Capital			0.931	0.921	0.632
Skills in successfully solving a business problem	0.818	32.886			
Having a high level of practical knowledge	0.765	21.415			
Doing business with maximum dedication and motivation	0.760	19.562			
Maintaining good leadership qualities	0.858	42.707			
Doing business using new creative ideas	0.808	31.195			
Introduce new products or value-added products	0.790	29.720			
The ability to adapt to new technology	0.790	20.995			
2 Structural Capital			0.912	0.923	0.756
Maintains business records systematically for accurate price decisions	0.770	20.449			
The efficient business process to deal with the impact of competing business	0.822	23.616			
Good organisational culture	0.856	37.799			
High potential to launch new products	0.856	35.631			
Business or product development activities	0.876	37.778			
Use of new technology	0.825	25.604			
3 Relational Capital			0.926	0.924	0.782
Customer satisfaction is high	0.894	67.782			
High degree of customer loyalty	0.866	41.303			
Mutual trust between suppliers	0.857	33.798			
Deals with suppliers in high mutual respect	0.811	24.656			
Good corporate image	0.809	27.994			
4 Environmental Uncertainty			0.938	0.931	0.762
Customer demand for an existing product	0.863	35.521			
Customer demand for new product	0.883	34.634			
The market condition of suppliers	0.856	35.535			
Competitors price actions	0.909	64.722			
The entry of new competitors	0.814	24.726			
5 Behavioural Uncertainty			0.940	0.951	0.821
Buyers are not trusted	0.876	27.059			
Financiers are not trusted	0.875	34.512			
Byers opportunistic behavior	0.882	37.369			
Suppliers opportunistic behavior	0.894	46.738			
6 Business Performance- Growth			0.915	0.682	0.884
Opening of new factory	0.825	21.153			
Increment in the number of employees	0.828	25.212			
Establishing new buildings	0.795	16.089			
Establishing new Machines	0.858	32.647			
Growth of investments	0.823	24.089			
7 Business Performance- Profit			0.970	0.869	0.962
Growth of monthly sales volume	0.968	126.045			
Growth of monthly income	0.926	59.015			
Growth of profit	0.946	73.546			
Decrement of sold product returning volume	0.909	40.559			
Increment of stock movement	0.910	66.941			
8 Business Performance -Customer Satisfaction			0.971	0.828	0.965
Customer feedback on production	0.937	57.091			
Changes in production on customer feedback	0.920	41.554			
Customer request on new production	0.905	34.066			

	Growth of customers in each marketing area	0.888	41.952			
	Complaints on the production(s)	0.894	26.929			
	Frequency of returning items	0.886	30.479			
	Growth of popularity of the tradename	0.939	49.029			
9	Business Performance- Employee Satisfaction					
	Growth of Expenses on training programs	0.759	26.589	0.864	0.560	0.808
	Growth of providing gifts and bonuses for the employee	0.775	18.233			
	Decrement of resignation	0.700	9.635			
	Increment in employee salary	0.755	10.859			
	Increment in employee welfare	0.750	10.559			

(n=150), Source: Survey data, 2022.

According to Fornell and Larcker (1981), the square root of AVE in each latent variable can be used to establish discriminant validity. These values should be larger than other correlation values among the latent variables. As mentioned in Table 02, all the inter-construct correlation values are lower than the square root of the AVE and satisfy the discriminant validity criterion of first-order constructs.

Table 02: Discriminant Validity of First-Order Constructs

	1	2	3	4	5	6	7	8	9
1. Behe Uncertainty	0.902								
2. Envi Uncertainty	0.636	0.901							
3. Human Capital	-0.521	-0.732	0.810						
4. Relational Capital	-0.457	-0.741	0.756	0.821					
5. Structural Capital	-0.356	-0.628	0.608	0.732	0.837				
6. BP Growth	0.610	0.821	0.782	0.710	0.804	0.826			
7. BP Profit	0.641	0.641	0.615	0.641	0.615	0.813	0.932		
8. BP Customers	-0.592	-0.532	-0.628	-0.592	-0.628	0.810	0.904	0.910	
9. BP ES	-0.626	-0.663	-0.647	-0.626	-0.587	0.641	0.615	0.621	0.748

Notes: 1. Diagonal values in bold are the square roots of the AVE values. The diagonal elements must be greater than the off-diagonal elements below in the corresponding rows and columns to establish discriminant validity.

(n=150), Source: Survey data, 2022.

According to the latent variable scores, three second-order constructs were formulated: behavioural uncertainty, environmental uncertainty, human capital, relational capital, structural capital, growth, profit, customer satisfaction, and employee satisfaction. According to Table 03, all the factor loadings are higher than 0.7 and their t- statistics are significant at 0.05 level. The internal consistency reliability of the constructs was also obtained since Cronbach's α , and composite reliability evaluations are also greater than the recommended value of 0.7. These second-order constructs are permitted by the AVE values greater than 0.5 for convergent validity. Table 04 shows the discriminant validity of the second-order constructs, and the square roots of all the AVE values are higher than the inter-construct correlation values. It satisfies the criterion of the discriminant validity of the second-order constructs.

Table 03: Analysis of Second-Order Constructs

Construct	Loading	t- Statistics	CR	AVE	α^*
1 Business Performance					
Profit	0.877	31.746	0.942	0.700	0.928
Growth	0.920	67.085			
Employee satisfaction	0.747	74.611			
Customer satisfaction	0.923	14.503			
2 Intellectual Capital					
HC	0.981	162.805	0.982	0.964	0.963
RC	0.983	160.741			
SC					
3 Business Uncertainty					
Environmental Uncertainty	0.731	15.923	0.958	0.718	0.950
Behavioural Uncertainty	0.846	28.616			

(n=150), Source: Survey data, 2022.

The square root of AVE in each latent variable business performance, uncertainty, and IC can be used to establish discriminant validity. These values should be larger than other correlation values among the latent variables. As mentioned

in Table 04, all the inter-construct correlation values are lower than the square root of the AVE and satisfy the discriminant validity criterion of second-order constructs.

Table 04: Discriminant Validity of Second-Order Constructs

	Business Performance	Uncertainty	IC
Business Performance	0.837		
Uncertainty	0.750	0.847	
IC	-0.653	-0.721	0.982

(n=150), Source: Survey data, 2022.

The structural model has been assessed for collinearity issues according to the given guidance by Hair et al. (2014). Initially, collinearity issues have been examined, and Variance Inflation Factor (VIF) values should be below 5. VIF values obtained were 2.844 and 1.880, and tolerance levels are also higher than the threshold value of 0.2. Hence the analysis does not depict any collinearity issues. Therefore, multicollinearity issues between the independent and dependent constructs cannot be seen in the structural model.

Table 05: Assessment of Collinearity Issues of the Structural Model

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.738E-16	0.37		.000	1.000		
IC	.584	0.51	.584	11.499	.000	.342	2.844
Uncertainty	-.386	0.51	.584	-7.600	.000	.382	1.880

a. Dependent Variable: BP

(n=150), Source: Survey data, 2022.

The established three hypotheses between the relationships of variables intellectual capital, business uncertainty, and SME business performance tests using path coefficients β value and t-statistics provided by the PLS bootstrap process. Table 06 shows the evaluation of three hypotheses and obtained results.

Table 06: Path Coefficients and Significance Levels (T-Values)

Hypothesis	Relationship	β	t-statistics	Result
H ₁	IC -> BP	0.583	9.303	Accepted
H ₂	IC -> Uncertainty	-0.696	16.076	Accepted
H ₃	Uncertainty -> BP	-0.381	6.102	Accepted

(n=150), Source: Survey data, 2022.

When considering the result related to that hypothesis, H₁ is illustrated the relationship between IC and SE business performance. The path coefficient is 0.583 and is indicated the positive relationship between IC and business performance. When developing the IC by one amount would lead to an increment in the business performance of SEs by 0.583 amount. T-statistic value is 9.303 and confirms the significance of the relationship between IC and SE business performance. As a result of that, the H₁ hypothesis is accepted. The relationship between the two variables IC and uncertainty was hypothesised in the H₂ hypothesis. It was accepted due to the 16.076 significant t-statistic value, and the path coefficient was -0.696. It explains the negative relationship between IC and uncertainty by indicating that the development of IC by one amount will support overcoming the uncertainty of SEs by 0.696 amount. The H₃ hypothesis explained the relationship between uncertainty and the business performance of SEs. The path coefficient is -0.381 and illustrates the negative relationship between uncertainty and SE business performance. Increasing the uncertainty by one amount would reduce the business performance of SEs by 0.381. The t-statistic value is 6.102, confirming the significance of the relationship in this model

and the H₃ hypothesis is accepted. Finally, considering the result of Table 06, all three hypotheses which were established to answer the research questions were accepted.

According to Hair et al. (2014), the next step is to study the correlation between independent and dependent variables. According to the given criteria, the model having R² as 0.67, 0.33, and 0.19 are considered substantial, moderate, and weak, respectively. The relationship between IC and SE business performance contains 0.793 (substantial), and the relationship between IC and uncertainty of SEs contains 0.485 (moderate) correlations. The last two steps are to examine the effect size and the predictive relevance of the uncertainty as well as IC on all dimensions. According to Cohen (1988) and Chin (1998). According to the result, IC and uncertainty obtained 0.185 and 0.062 f² values, respectively, which indicates medium and small effect sizes. Consequently, IC and uncertainty obtained 0.492 and 0.392 Q² values proving the large effect sizes, and both statistics depict the predictive relevance and explanatory power of the variables.

Table 07: Path coefficient and Significance among the Mediate Relationship

Hypothesis	Relationship	β	t-statistics	Result
H ₄	IC -> Unc -> BP	0.265	5.973	Accepted

(n=150), Source: Survey data, 2022.

The mediate effect was identified by getting the bootstrapping result under the specific indirect effect in the Smart PLS version 3. There should be a significant t-statistic value relevance with the path coefficient value and the relationship between the three variables for establishing the significant mediating effect on the relationship between the two variables. There is a complementary mediating effect of uncertainty in the current study. Therefore, the H₄ hypothesis is accepted and reveals that there is a significant mediating effect of uncertainty on the relationship between intellectual capital and business performance.

DISCUSSION

The research study investigated the research problem: whether intellectual capital could influence the uncertainty and business performance of SEs. Therefore, the main objective of this study was to explore the effect of intellectual capital and uncertainty on business performance related to the SEs. The research study mainly argued that IC enhances business performance because intellectual capital support overcoming uncertainty and thereby increases the business performance of SEs. According to Khan and Terziovski (2014) and Mosavi et al. (2012), IC enhances the business performance of SEs, and this study proved their findings because developing IC by one unit would lead to an increment in the business performance of SEs by 0.583 amount ($\beta = 0.583$ and t-value = 9.303). Most research studies are concerned with enhancing an SE’s financial assets and capabilities to increase its performance. This study presented and proved that developing the intangible assets, not in the organisation’s balance sheet, makes more benefits for enhancing the business performance of the SEs. It is reasonable to understand that there are several reasons for this regard. If these organisations enhance their human capital, especially by absorbing knowledge from internet-based sources and using it for innovative and value-added products and services, it will enhance their performance. Consequently, they can organise their business models more profitably by applying different value additions to their products and services, enabling them to reach higher customer and supplier satisfaction levels, leading to higher business performance.

The findings revealed that IC significantly reduces the uncertainty of doing business ($\beta = - 0.696$ and t-value = 16.076). IC of the SEs enhances the decision-making capabilities as well as proper control among the suppliers and buyers (Herremans et al., 2011). IC reduces environmental uncertainty by conveniently handling customer and supplier demands as well as issues. Conversely, the opportunistic behaviour of buyers and suppliers also reduces by the IC with the help of technology adoptions, and IC develops mutual trust between suppliers and buyers. According to the third relationship, uncertainty reduces 38.1% of the business performance of SEs ($\beta = - 0.381$ and t-value = 6.102). Similar findings were obtained in a recent research study conducted by Ranatunga et al. (2020). They found that uncertainty reduced 37.1% of the

business uncertainty of SEs in Sri Lanka ($\beta = - 0.371$ and t-value = 4.942). This study proved their findings. As Rindfleisch (2019) mentioned, behavioural uncertainties increase transaction cost because behavioural uncertainty creates other costs for monitoring exchange partners and enforcing contracts with the partner. Although SEs use technology to enhance their IC and hence, the business performance still, some traditional transaction procedures were not changed; therefore, they face additional costs such as transaction cost. The result of the final accepted hypothesis also proved this phenomenon. It revealed that uncertainty has a significant complementary mediating effect on the relationship between IC and the business performance of SEs. Though the IC enhance the business performance of SEs, uncertainty still affects reduce it.

CONCLUSIONS

This study exposed a new approach that has not been empirically tested in Sri Lanka that can save SEs in a developing country when the economy of the country suffers a severe downturn. It conceptually combined three theoretical aspects to achieve the objective and established four hypothetical relationships, which assumed positive relations between IC and business performance, a negative relationship between IC and business uncertainty, and a negative relationship between uncertainty and business performance. Consequently, the study hypothesised a mediating effect of uncertainty on the relationship between IC and business performance. According to the result, all these established hypotheses were accepted. It examined and provided a better understanding of how using IC in the SEs enables them to perform well. Generally, IC can be used as an enabler in a business to make it more successful. It was pointed out that all three dimensions of human capital, structural capital, and relational capital positively influence business performance while negatively affecting business uncertainty. Meanwhile, uncertainty negatively affects business performance as well as the complementary mediating effect of the relationship between IC and the business performance of SEs. Therefore, this study indicated that the use of IC is very appropriate to put an end to the problems that arise in the development of SEs. It has been demonstrated in practice that it directly enhances small business performance, while on the other hand, it works to reduce business uncertainty, which inversely affects that performance.

According to this study, SEs require to innovate their business strategies to enhance the intellectual capital to overcome uncertainty and achieve business performance to the SEs in Sri Lanka. Human capital has a vital contribution to overcoming uncertainty. It can establish using training programs, attitude development programs, and motivational programs to acquire sufficient knowledge and skills relevant to the particular business environment to face the current unexpected business environment. Therefore, relational capital development can be done by establishing relationships with all stakeholders, critically acquiring both

skills in maintaining customer and supplier relationships and maintaining financial service providers in a trusted manner. This study has selected and examined the 150 SEs to understand how they perform successfully using IC and facing circumstances of uncertainty. Though the research study has addressed the gaps in previous literature, it still contained several limitations, which provide opportunities to continue future studies. Firstly, this research was conducted using SEs in one Divisional Secretariat in the Galle district, which is not a broader representation of the whole district or the country. Therefore, a considerable amount of the population of SEs should be involved in future research, which can expect highly generalisable results. This research was conducted in the Asian region, and researchers are encouraged to conduct similar studies in different regions with different educational, social, and cultural environments since IC can vary widely due to such contextual differences.

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