# Impact of Intellectual Human Capital and Knowledge Acquisition Capabilities on Financial Performances of Indigenous Craft Industries in Sri Lanka

Sri Lanka Journal of Social Sciences and Humanities
Volume 2 Issue 2, August 2022: 93-104
ISSN: 2773 692X (Online), 2773 6911 (Print)

Published by Faculty of Social Sciences and Languages, Sabaragamuwa University of Sri Lanka
Website: https://www.sab.ac.lk/sljssh
DOI: http://doi.org/10.4038/sljssh.v2i2.76
SLJSSH

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**Received:** 21 March 2022, **Revised:** 17 May, 2022, **Accepted:** 26 June 2022.
**How to Cite this Article:** Sujeewa Kodithuwakku, & Priyanath, H.M.S. (2022). Impact of Intellectual Human Capital and Knowledge Acquisition Capabilities on Financial Performances of Indigenous Craft Industries in Sri Lanka. *Sri Lanka Journal of Social Sciences and Humanities, 2*(2), 93-104.

**Abstract**

The study seeks to investigate the impact of intellectual human capital and knowledge acquisition capabilities on the firm's financial performance, particularly in indigenous craft industries in Sri Lanka. The quantitative data were collected from 355 owners of indigenous craft industries located in traditional handicrafts villages in Sri Lanka and analyzed with the help of a Partial Least Squire Structural Equation Model (PLS-SEM). The empirical results show that intellectual human capital has a significant positive impact on the financial performance of indigenous craft industries. Further, it was found that knowledge acquisition capabilities have a significant positive impact on the firm's financial performance. In addition, the study identified that knowledge acquisition capabilities have a significant positive mediating effect on the relationship between intellectual human capital and the firm's financial performance. Thus, the study found that the intellectual human capital of owners is the most powerful intangible resource, which has a significant positive impact on a firm's financial performance. The study suggests to owners of the indigenous craft industries, policymakers, donors, and others to incorporate the strategies to develop and strengthen the efficiency and productivity of intellectual human capital to improve their financial performance.

**Keywords:** Firm Financial Performance, Intellectual Human Capital, Indigenous Craft Industries, Knowledge Acquisition Capabilities

## INTRODUCTION

The craft industries are considered heritage industries, which are contributed significantly to Gross Domestic Production (GDP) through creating job opportunities and business opportunities, generating foreign exchange, etc. (Abrahman & Ramli, 2016; Tambunan, 2011). According to the Department of Census & Statistics (2017), 16.92% of the total employment was recorded from craft and related industries. Sri Lankan Indigenous Craft Industries (ICIs), is famous for the variety of craft-based products, which are based on a national indigenous culture other than agriculture, mining, services, etc. (De Silva, 2019). However, the ICIs sector still runs with lots of struggles and obstacles such as stagnated or reduced profits, low level of sales growth rate, lower market share, and low financial and business performances. Consequently, affects the competitiveness of ICIs in both national and international markets, low productivity, lack of loan facilities, limited adoption of new technology, lack of managerial skills, low entrepreneurial experiences and competencies, and unbearable competition from large-scale enterprises (Bailetti et al., 2012; Clark & Estes, 1998; Hallback & Gabrielsson, 2013; Kannan, 2013). Most scholars have already addressed most of these issues and problems encountered by craft industries. In contrast to those findings, some of them recognized Intellectual Human Capital (IHC) as a major corporate intangible asset capable to generate sustainable competitive advantage and superior financial performance (Barney, 1991; Marimuthu, et al., 2009; Muhammad & Ismail, 2009; Saeed et al., 2013). They have found that IHC and Knowledge Acquiring Capacities (KACs) developed through family and society have an impact on the improvement of financial performance and the growth of the entity through minimizing production costs and wastage loss, transaction costs, asymmetrical information, exchange of resources and knowledge, moral support, providing social security, etc.

Mention & Bontis (2002) evaluated the relationship between Intellectual Capital (IC) and financial performance within the banking sector of Luxembourg and recognized that the IHC dimension of IC highly contributes to the financial performance of those banks. Ozkan et al. (2017) analyzed the relationship between IC performance and financial performance of 44 banks operating in Turkey and found that IC performance of the Turkish banking sector is generally affected by human capital efficiency. Further, they found that human capital efficiency positively affecting to the firm's financial performance. Ousama and Fatima (2015) conducted

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a study on Islamic banks and deduced that human capital efficiency is higher than the structural capital and capital employed efficiency of those banks. Al-Musali & Ismail (2014) examined IC and its effect on the financial performance of listed commercial banks in Saudi Arabia and suggested that Saudi commercial banks need to highly depend on IHC to create value. Denford, (2013), Helfat et al., (2007), Li and Liu, (2014), Teece, (2007), and Wang et al., (2007) mentioned that KACs of the human capital of an entity have the potential to systematically solve problems and improve their performance.

In the existing literature discussed above, scholars have integrated some selected dimensions of IHC and KACs into a financial performance perspective and most of the scholars synthesize selected variables of IHC and KACs with business performance (Li & Liu, 2014; Muhammad & Ismail, 2009). But there is no complete single academic work in the literature synthesizing all the variables of IHC with financial performance focusing on the interaction between IHC, KACs, and FFP, particularly of ICIs in Sri Lanka. Further, most of these studies are based on firms in developed economies, which may not be fully applicable to emerging economies like Sri Lanka (Lin & Germain, 2003). A notable exception to this gap in the literature is that the current study incorporated to evaluate IHC and its influence on FFP through KACs and the mediating role of KACs that are rarely studied together. Therefore, this study attempts to investigate the impact of IHC on FFP of ICIs in Sri Lanka and to find out the mediating effect of KACs on the relationship between IHC and FFP of ICIs in Sri Lanka.

The remainder of this paper includes the past literature on the impact of IHC on FFP, the theoretical framework underlying the proposed model and hypotheses, the research methodology used followed by the results of data analysis, and a discussion of the results. Finally, the conclusion of the study, limitations as well as implications and recommendations for future research and practices are presented.

## THEORETICAL BACKGROUND

The concept of IC is highly linked with the Resource-Based Theory (RBT) of the firm and its variations – the concept of dynamic and core capabilities (Schultz, 1961; Becker, 1962). The Resource-Based View (RBV) and the Theory of Human Capital have been adopted by the majority of entrepreneurship researchers who conducted a large number of studies and recognized IHC as a prediction of entrepreneurial success (Schultz, 1961; Becker, 1962). The RBT identifies IHC as a key resource that enhances institutional growth. The Human Capital Theory (HCT), is highly connected with the IHC because HCT is highly associated with the RBV and the firm's sustainable competitive advantage is attained through its resilient human resources pool (Schultz, 1961; Becker, 1962).

IHC represents the individual knowledge stock of an entity generated by its employees through their competence, in terms of skills and knowledge, their attitude as well as the behavioral component of employees' work (Bontis, 2001). IHC can be defined as the unique or genetic knowledge, skills, and experiences such as innovation, capacity, creativity, know-how, and previous experiences, teamwork, employee flexibility, tolerance, ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training, and education that employees take with them when they leave the company (Bontis, 1998; Edvinssion & Malone, 1997; Roos & Roos, 1997). Acquiring knowledge is the border activity of accepting knowledge from the external environment and transforming it into a representation within an organization. The key aspects of KACs are improving existing knowledge and effective acquisition of new knowledge (Gold et al., 2001). Further, an organization with better KACs will have a positive level of absorptive capacity. On the other hand, tacit knowledge is an essential part of knowledge acquired by individuals during work, which contains person, situation, or context-oriented interactions (Gold et al., 2001). Therefore, KACs can be recognized as the backbone of organizational learning and bring enormous benefits such as lower costs, improved delivery, fewer quality problems, early insight into new technologies, and on-time product launches (Hsu, 2006; Sher & Lee, 2004). Furthermore, it improves the quality of the business processes, products, and services offered by the firm and better operational performance of an organization (Law & Ngai, 2008). The Firm's Financial Performance (FFP) is the bottom line, which means profit, which represents financial performance (Verboom & Ranzijn, 2004). Venkatraman and Ramanujam (1986) treated FFP as sales growth and profitability. Therefore, the FFP of an entity might be judged on the firm's profit-generating potential (profitability). Financial Performance can be defined as 'the extent to which the organization performs in relative profitability, Return on Investment (ROI), and total sales growth (Nahapiet & Ghoshal, 1998). As per the theoretical and empirical literature, the performance measures fall into two broad categories: financial and non-financial measures (Henri, 2006; Hoque & Adams, 2008; Hoque & James, 2000; Ittner et al., 2003; Kaplan & Norton, 1996). The current study utilized financial measures and they are principally quantitative measures. In literature, some researchers (Barnes, 1983; Edwards, 2004; Frank et al., 2003) identified many difficulties in measuring FFP, especially in informal entities as well as small entities like ICIs, which were established as sole proprietorships or partnerships.

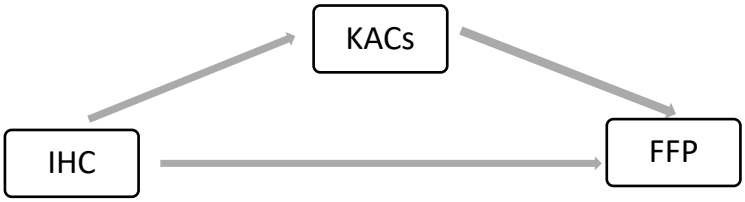
## CONCEPTUAL FRAMEWORK AND HYPOTHESES

In literature, a significant number of studies discussed the relationship between IHC and a firm's financial performance and have found that IHC has a huge impact on firms' performance than other aspects. (Chan, 2009a, 2009b; Chen, et.al (2005); Firer & Williams, 2003; Shiu, 2006a, 2006b; Ting & Lean, 2009). Banimahd, et al. (2012) suggested that there is a significant and positive relationship between IHC and accounting-based performance indicators such as profitability and productivity. Al-Musali & Ismail (2014) showed a significant positive association between value-added IHC and financial performance indicators. But scholars have not given adequate attention to how Intellectual Human Capital affects the Financial Performances of Indigenous Craft Industries, particularly in Sri Lanka. To study this, a conceptual framework is developed synthesizing Intellectual Human Capital and financial performance.

The current study conceptualizes IHC as "the sum of the sources of strategic innovation and invention (Yildiz et al., 2014) knowledge, experience, competence, professional skills, innovativeness, attitude, commitment, wisdom, and abilities which represent the individual knowledge stock embedded with and utilized by a firm's owners to reach their targets" (Bontis et al., 2007; Cabello-Medina et al., 2011; Campbell et al., 2012; Nick & Alexander, 2007; Nieves & Haller, 2014; Ruzzier et al., 2007; Schultz, 1961; Subramaniam & Youndt, 2005). Further, the current study categorized all these features of IHC into two broader groups for the study purpose such as managerial skills and entrepreneurial skills.

Further, the relationship between IHC and FFP was further developed by considering a mediating variable of KACs to explore the knowledge about the relationships between IHC and FFP as figure 01. Based on figure 01, this study developed three direct hypothetical relationships between IHC and FFP. Further, it developed a mediating effect of KACs on the relationship between IHC and FFP.

**Figure 01: Conceptual Framework**




Although the exact nature of the relationship varies, most of the past studies recognized a positive relationship between IHC and financial performance. Clarke et al. (2011) examined the effect of IC on a firm's performance by using a sample of Australian listed companies and identified a direct relationship between IHC and the performance of Australian public listed companies. Komnenic and Pokrajcic (2012) empirically investigated the impact of IC on the corporate performance of multinational corporations in Serbia. They revealed that human capital is positively associated with Return on Assets (ROA), Return on Equity (ROE), and Assets Turnover (ATO). Unger et al., (2011) concluded that IHC has a significant positive impact on the FFP, and therefore, the firm can be rewarded by investing in IHC. According to Walker (2001), there is a positive relationship between IHC and financial performance for both low knowledge-based and high knowledge-based corporates. Arslan and Zaman (2014) revealed that there is a positive and significant relationship between a firm's profitability and IHC efficiency. Ozkan, et al. (2017) mentioned that there is a positive impact of IHC efficiency on financial performance. Kamath (2008) argued that IHC has a considerable influence on the profitability and productivity of the firm. Al-Musali and Ismail (2014) showed a significant positive association between IHC efficiency and financial performance indicators. Some researchers such as Youndit (1998) mentioned that the influence of IHC on firms' performance is uncertain. Based on these arguments, the current study predicts that;

**H1-Intellectual Human Capital positively relates to the Financial Performances of Indigenous Craft Industries in Sri Lanka.**

An organization with better KACs will have a positive level of absorptive capacity (Hsu, 2006; Sher & Lee, 2004). According to past literature, acquiring knowledge is a candidly initiated effort to strategically alter and attempt at competitiveness to ensure dominance among competitors. Denford, (2013), Helfat et al., (2007), Li and Liu, (2014), Teece, (2007), and Wang et al., (2007) mentioned that knowledge seizing or acquiring the capacity of the human capital of an entity has a potential to systematically solve problems and improve their performances. Hence, these arguments highlight the rewards ascribed to a firm's ability to acquire knowledge for all purposes because of IHC of an organization is developed progressively. The IHC of an entity can be considered as the input to the organizational system, whereas KACs can be recognized as its process and financial performance as its output. Therefore, KACs translate their IHC into performance. Thus, this study hypothesizes that;

**H2-Intellectual Human Capital positively relates to the Knowledge Acquisition Capabilities of Owners of Indigenous Craft Industries in Sri Lanka.**

The owner's capabilities to acquire and strengthen the knowledge is discussed in the literature had proved that there is a link between KACs and several outcomes of an entity such as employee performance, business performance, financial performance, firm's value, etc. When analyzing the recent research works, their view is that effective or precis KACs of an owner has a significant effect on performance (De Brentani & Kleinschmidt, 2004). Studies such as Darroch, (2005), and Nunes et al., (2006) concluded that the firms which develop and effectively apply KACs attain positive operational results and organizational performance. In addition, Chen, (2004), Darroch, (2005), and Mills and Smith, (2011) mentioned that the KACs help the organization generates strategies to face the critical issues impeding its good performance and knowledge influences so that an entity obtains superior performance. Akpotu and Lebari (2014) show a significant relationship between knowledge acquisition practices and employee performance. Therefore, KACs or knowledge absorptive capabilities will be more meaningful to owners of ICIs in Sri Lanka to enhance their financial performance. This simply says that ICIs with knowledge-seeking culture will improve the overall performance of those entities. Therefore, ICIs need to pay attention to the KACs of owners as a strategic activity for the organization to develop a quality and creative workforce. Therefore, KACs can be recognized as a necessary condition for success in today's dynamic environment. The study develops the following hypothesis to test this theoretical relationship.

**H3-Knowledge Acquisition capabilities of the owners of ICIs positively relate to the financial performance of Indigenous Craft Industries in Sri Lanka.**

Only a few studies explore how KACs work in the relationship between IHC and a firm's financial performance (Hsu & Wang, 2012; Wu et al., 2007) and confirmed a mediating role of KACs in between IC and the FFP. Han and Li (2015) explored that KAC is a mediator rather than a moderator which partly mediates the relationship between IHC and performance. The firm can use a set of strategic IHC practices to cultivate the level of capacity in knowledge acquisition, sharing, and application of owners, which, in turn, promotes owners' propensity to innovate and enhance their innovative performance. Liao et al. (2009) argued that KACs of the owners are positively related to innovative capabilities, which, ultimately affect the enhancement of the FFP. Therefore, the KACs of the owners act as a mediator between IHC and the FFP. Hence, IHC increases the financial performance

through the increase in KACs of the owners of ICIs, and accordingly, KACs act as an intermediate role between IHC and the FFP. Therefore, IHC affects increases the FFP through the increase of KACs of the owners of ICIs, and accordingly KACs of the owners of ICIs act as an intermediate role between the IHC and the FFP. Hence, this study hypothesizes that:

**Hm: Knowledge Acquisition Capabilities of owners in ICIs mediate the relationship between intellectual human capital and the financial performance of Indigenous Craft Industries in Sri Lanka.**

## RESEARCH METHODOLOGY

The current study applies the deductive approach (reasoning) based on the conceptual model developed above, which highly focuses on the research problem under the guidance of existing theories. Therefore, the current study intends to examine universally accepted theories in relation to social phenomena, i.e., the impact of IHC on FFP. So that the research design applied to the current study is highly related to the positivist research paradigm because positivist researchers recognize the social world as the world of natural phenomena. Further, the study attempts to test the existing theories and therefore, it will add different types of theoretical aspects which are not found in the previous research works.

The current study formulated working hypotheses to analyze the causal effect between independent variables and dependent variables, which is based on causal design. To study the cause and effect relationship, the study selects the quantitative approach as the main approach because it provides a formal, objective, and systematic process to describe and test the relationships and examine cause and effect interactions among variables to provide a strong statistical conclusion between variables as well as to make valid statistical conclusion between the variables (Bhattacherjee, 2012; Burns & Grove, 1997; Gravetter & Forzano, 2012; Marshal & Rossman, 1999; Yauch & Steudel, 2003). Most empirical studies use qualitative techniques to measure IHC while a negligible number of empirical studies measure IHC quantitatively. The current study attempts to fill these methodological gaps. The study uses the survey method to collect quantitative data to enhance the validity and reliability of the findings. To test the hypotheses developed, the study requires both IHC and FFP variables, which consist of subjective and perceptual data such as KACs, etc. Therefore, this study attempted to collect more accurate data to analyze the research problem to identify the impact of IHC on FFP in ICIs in Sri Lanka. Most of the constructs used for this study are multidimensional and reflect multiple items (For example, Managerial Skills, Entrepreneurial skills, KACs, FFP, etc.). The study develops a questionnaire to measure the multidimension variables to verify the real-world behavior of the variables. Most of the constructs were measured using closed-ended structured questions. Each item of the constructs was measured at an ordinal level with 7-point Likert scales such as 1 – Strongly disagree, 2 – Disagree, 3 - Somewhat disagree, 4 – Neither agree nor disagree, 5 – Somewhat agree, 6 – Agree, 7 – Strongly agree. Further, the FFP of the ICIs is estimated quantitatively by using Ordinal which is considered and applied in many empirical studies (Barnes, 1983; Edwards, 2004; Frank et al., 2003). Therefore, selected financial performance measures of sales-based performance measures, profitability measures, cash flow measures, future viability, and growth measures that are recognized to influence the financial performance of ICIs were also measured by using a 7-point Likert scale. The study selected face-to-face interviews due to the numerous advantages of the method such as a very high response rate, the ability to manage interviews in a meaningful manner, the ability to respond to questions more accurately since the interviewers explain questions in simple words, are the key benefits although it incurs high costs and time. Data were collected from the owners of ICIs. The owner is taken as the unit of analysis because the owner will be the entrepreneur in many ICIs who starts and manages the enterprise.

The manufacturing-oriented ICIs, who apply indigenous knowledge for their business activities were selected as the population. The study selects ICIs which are located in craft villages in Sri Lanka. A craft village is any village where a craft was traditionally produced by using their indigenous knowledge (De Silva, 2019, p.20). Seven (07) indigenous craft villages, which were established initially were selected as the sample for the current study because the main purpose of the establishment of these traditional handicraft villages program is to safeguard the traditional handcraftsmanship as well as demonstrate the splendor of the indigenous identity to the entire world. Table 01 shows that 355 craft entities are functioning in seven villages. Therefore, in the current study all 355 owners of ICIs situated in traditional handicrafts villages.

**Table 01: The Sample**

| Name of the Village | District | No. of entities |
|---|---|---|
| Pahalahapuvida Lacquer Village | Matale | 30 |
| Batuvita Masks Village | Kalutara | 41 |
| Bope Poddala Wood Craving Village | Galle | 121 |
| Kooragala Musical Instruments Village | Kandy | 46 |
| Neelawala Jewelry Village | Kandy | 51 |
| Unveruwa Sesath Village | Matale | 36 |
| Hitthetiya Musical Instruments Village | Matara | 30 |
| Total | | 355 |

Source: National Crafts Council, Annual Report 2017.

Study measures IHC employing two constructs; i.e., Managerial skills and Entrepreneurial skills. Items are adopted by Bontis (1998), Huselid et al. (1997), Reed et al., (2006), Tayles et al., (2007), Usoff et al., (2002), and Youndat et al., (2004) for managerial skills and entrepreneurial skills were adopted to this study. The Partial Least Squares-Structural Equation Modeling (PLS-SEM) was adopted because PLS-SEM has been utilized in the evaluation of the structural model to test the hypothetical relationships between IHC and FFP. First, the measurement model is assessed by examining reliability and validity tests. Second, multiple regression techniques are used to assess the structural paths (i.e., hypothetical relationships based on sign, magnitude, and significance levels). More specifically, the PLS-SEM is considered an alternative to the commonly adopted Value-Added Intellectual Capital (VAIC) model, which is recognized as the

most popular method adopted in past research works (Barnes, 1983; Edwards, 2004; Frank et al., 2003). Therefore, PLS-SEM provides a more scientific approach to evaluating the impact of IHC on FFP of ICIs in Sri Lanka.

## RESULTS AND DISCUSSION

This study focused on owners of ICIs in Sri Lanka and the majority of owners of those entities are male (97.84%). The majority of the owners of the selected sample (90.04%) are married. The owners' age varies from a minimum age of 18 to a maximum age of 71. The survey data reflect that the owners have an average formal educational background and vary between O/L and A/L. More specifically, 16.88 percent in the selected sample have academic qualifications beyond the G.C.E. Advance Level. The mean business experience of selected owners of ICIs is 23 years. 86.15 percent of the owners have more than 10 –years of experience in the business field. 46.7 percent of the ICIs run by the owner himself without having supportive workers. The majority of ICIs (99.2 percent) are sole proprietorships and 0.8% of the establishments are partnership entities. The hypothetical relationship between IHC and FFP of ICIs is evaluated using a two-step approach on a hierarchal basis. First, the measurement model (outer-model) was assessed by examining the reliability and validity of the constructs' measurement items (Hair et al., 2012; Robson, 2002). Second, the structural model was evaluated to test hypothetical relationships. Indicator reliability and internal consistency reliability (Cronbach's α and composite reliability) were utilized to evaluate the reliability of the measurement model. The validity of the reflective indicators was examined by using convergent validity and discriminant validity (Hair et al., 2014).

**Table 02: Analysis of the First-Order Constructs**

| Construct | Loading | t-stat | CR | ∞ | AVE |
|---|---|---|---|---|---|
| **Managerial Skills (MS)** | | | **0.982** | **0.981** | **0.728** |
| Gathering educational & professional qualifications | 0.840 | 41.396 | | | |
| Managerial experiences | 0.870 | 49.037 | | | |
| Planning & forecasting ability | 0.881 | 54.161 | | | |
| Strategic investment planning | 0.871 | 52.125 | | | |
| Participate in the managerial skill development program | 0.828 | 28.502 | | | |
| Impact of managerial cultural | 0.884 | 64.202 | | | |
| Impact of external training | 0.780 | 26.585 | | | |
| Managerial intelligence | 0.872 | 61.235 | | | |
| Impact of educational & professional qualifications on controlling skills | 0.855 | 49.044 | | | |
| Achieving goals through skills | 0.844 | 46.320 | | | |
| Information gathering efficiency | 0.875 | 40.391 | | | |
| Patience and ability to deal with uncertainties & problems | 0.840 | 41.250 | | | |
| The efficiency of managerial skills | 0.850 | 46.045 | | | |
| Unique HRM Practices | 0.902 | 32.362 | | | |
| Motivating & encouraging employees | 0.882 | 30.235 | | | |
| Leadership skills | 0.919 | 29.910 | | | |
| Developing strong customer base | 0.852 | 44.999 | | | |
| Proactive and reactive capabilities | 0.901 | 64.508 | | | |
| Having basic marketing capabilities | 0.874 | 51.550 | | | |
| Visionary financial management skills | 0.850 | 43.226 | | | |
| Academic and professional knowledge of financial matters | 0.892 | 45.514 | | | |
| **Entrepreneurial Skills (ES)** | | | **0.986** | **0.985** | **0.765** |
| Independent mindset and ready for experiments | 0.900 | 56.730 | | | |
| Try to create opportunities | 0.882 | 56.448 | | | |
| Ability to be creative | 0.875 | 55.584 | | | |
| Ability to develop new ideas | 0.882 | 42.939 | | | |
| Level of creativity and innovation | 0.857 | 42.770 | | | |
| Responds quickly to new ideas and changes | 0.848 | 43.386 | | | |
| Intellectual agility to manage changes | 0.873 | 40.592 | | | |
| Replacing innovative skills | 0.913 | 70.668 | | | |
| Emphasize on achieving goals and objectives | 0.886 | 53.394 | | | |
| Application of core competencies | 0.854 | 47.009 | | | |
| Resourcefulness | 0.857 | 52.290 | | | |
| Expert in the job & its functions | 0.873 | 49.942 | | | |
| Skills & talents for creative ideas | 0.886 | 62.969 | | | |
| Engage in R & D activities | 0.887 | 70.371 | | | |
| Willing to live and invest time and money | 0.878 | 62.792 | | | |
| Forethought and relentless effort continue to improve operations | 0.885 | 57.313 | | | |
| Intelligent entrepreneurial skills | 0.911 | 81.088 | | | |
| Risk-taker | 0.858 | 53.543 | | | |
| Prefer to face and accept challenging assignments | 0.858 | 43.479 | | | |

| | | | | | |
|---|---|---|---|---|---|
| My challenge-taking ability | 0.861 | 42.668 | | | |
| Emphasis on tasks and goal accomplishment | 0.842 | 45.639 | | | |
| **Sales Based Performance (SBP)** | | | **0.948** | **0.932** | **0.786** |
| Sales revenue | 0.879 | 47.911 | | | |
| Level of operating income | 0.900 | 57.724 | | | |
| Net returns to sales | 0.891 | 51.848 | | | |
| Income generating capacity | 0.898 | 62.350 | | | |
| Market share | 0.865 | 44.986 | | | |
| **Profitability (PR)** | | | **0.879** | **0.834** | **0.765** |
| Gross profit margin to total net sales | 0.764 | 25.390 | | | |
| Net profit margin to net sales | 0.739 | 19.361 | | | |
| Return on capital invested | 0.717 | 14.092 | | | |
| Profitability to capital contribution | 0.733 | 18.513 | | | |
| Net return to tangible assets | 0.754 | 22.561 | | | |
| Cost per unit to selling price per unit | 0.730 | 20.799 | | | |
| **Cash Flow Based Performance (CFBP)** | | | **0.957** | **0.933** | **0.882** |
| Capability to generate cash flows | 0.931 | 85.845 | | | |
| Strength of future cash flow potentials | 0.940 | 112.532 | | | |
| Increase in net operating income | 0.947 | 127.322 | | | |
| **Growth (GR)** | | | **0.921** | **0.871** | **0.795** |
| Earning growth rate | 0.892 | 65.251 | | | |
| Sales growth rate | 0.893 | 58.741 | | | |
| Growth of market share | 0.889 | 51.343 | | | |
| **Future Viability (FV)** | | | **0.940** | **0.926** | **0.761** |
| Future income-generating capability | 0.871 | 52.138 | | | |
| Long-term financial sustainability | 0.858 | 46.868 | | | |
| Level of leverage | 0.851 | 47.107 | | | |
| Business growth rate | 0.780 | 24.902 | | | |
| Ability to pay interest on borrowings | 0.808 | 27.030 | | | |
| Potential to grow | 0.789 | 23.498 | | | |
| Level of future sales | 0.838 | 40.545 | | | |

Source: Survey Data, 2021, n=355.

A total of seven first-order endogenous latent variables evaluated were given in Table 02. It shows standardized factor loadings with a minimum threshold criterion of 0.7, confirming the indicator reliability of first-order reflective constructs. Further, it indicates all the factor loadings were statistically significant at 95%. The internal consistency reliability was also examined by using Cronbach α and Composite Reliability (CR). All the indicators are higher than the threshold value of 0.7 for both measures and proved the reliability of all the indicators. The "*Average Variance Extracted (AVE)*" of each first-order latent variable to assess the convergent validity. According to Table 02, the AVE for each construct was higher than the required value of 0.5 and indicated that first-order indicators satisfied the convergent validity.

According to Fornell and Larcker (1981), the square root of AVE values in each latent variable can be used to establish discriminant validity. These values should be larger than other correlation values among the latent variables. According to Table 03, none of the inter-construct correlation values was above the AVE's square root and satisfied the discriminant validity criterion of first-order constructs.

**Table 03: Discriminant Validity of the First-Order Constructs**

| | ES | MS | PR | GR | FV | CFBP | SBP |
|---|---|---|---|---|---|---|---|
| ES | .**875** | | | | | | |
| MS | .843 | .**853** | | | | | |
| PR | .644 | .610 | **.875** | | | | |
| GR | .785 | .774 | .649 | **.891** | | | |
| FV | .867 | .838 | .749 | .843 | **.872** | | |
| CFBP | .737 | .722 | .648 | .804 | .806 | **.939** | |
| SBP | .697 | .682 | .660 | .745 | .774 | .885 | .**887** |

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.

Source: Survey Data, 2021, n=355.

The second-order constructs were developed using latent variable scores of the first-order constructs. As shown in Table 04, three endogenous latent variables [i.e., firm's financial performance (FFP), knowledge Acquisition capabilities (KACs), and Intellectual Human Capital (IHC)] have been utilized at the second-order level in the hierarchical model and evaluated them. All path coefficients (standardized factor loadings) were well above the threshold value of 0.7 (see Table 04). The bootstrapping procedure was conducted to estimate the significance of each path coefficient by examining the t-statistics. All the t-statistics were significant at a 0.05 significance level (see Table 04). Hence, the results show strong evidence for the second-order constructs' indicator reliability, and therefore, the experiment reached the internal consistency reliability.

**Table 04: Analysis of the Second-Order Constructs.**

| Construct | Loading | t-stat | CR | ∞ | AVE |
|---|---|---|---|---|---|
| **Knowledge Acquisition Capabilities** | | | **0.988** | **0.988** | **0.760** |
| Absorbing knowledge from business partners and alliances | 0.863 | 45.074 | | | |
| Since the major potential opportunities and threats | 0.874 | 51.958 | | | |
| Capability to capture relevant and up-to-date knowledge | 0.843 | 40.232 | | | |
| Capability to convert competitive intelligence | 0.885 | 56.780 | | | |
| Helps to create new opportunities for customers | 0.886 | 55.735 | | | |
| Well-panned processes help to create new products | 0.865 | 50.557 | | | |
| Usage of IT facilities | 0.874 | 52.157 | | | |
| Availability of a process for absorbing knowledge from business partners and alliances | 0.914 | 04.143 | | | |
| Ability to identify potential opportunities and threats | 0.899 | 67.803 | | | |
| Capability to capture relevant and up-to-date knowledge | 0.900 | 52.452 | | | |
| Capability to convert competitive intelligence into plans of action | 0.915 | 72.561 | | | |
| Ability to create new opportunities for customers to design and produce new and quality products. | 0.904 | 68.482 | | | |
| Availability of well-planned processes for acquiring knowledge | 0.869 | 53.998 | | | |
| IT has enabled me to acquire new knowledge | 0.858 | 40.088 | | | |
| Processes for integrating different sources and types of knowledge | 0.862 | 45.545 | | | |
| Perceive internal and external environmental changes | 0.838 | 40.884 | | | |
| Capabilities to generate new knowledge from existing knowledge | 0.877 | 51.846 | | | |
| Availability of knowledge storage practices | 0.881 | 53.044 | | | |
| Maintaining different sources and types of knowledge | 0.895 | 59.382 | | | |
| Acquire knowledge through storage tools | 0.850 | 37.961 | | | |
| Knowledge acquired through past mistakes and omissions | 0.879 | 53.310 | | | |
| Integrating different sources of knowledge | 0.851 | 41.540 | | | |
| The process to incorporate knowledge from business partners and alliances | 0.817 | 33.956 | | | |
| Replacing outdated knowledge quickly. | 0.812 | 29.183 | | | |
| Ability to transform the information into more effective new information | 0.882 | 56.173 | | | |
| Ability to implement data source aggregation strategies | 0.850 | 43.750 | | | |
| Availability of formal and systematic database system | 0.891 | 56.830 | | | |
| **Intellectual Human Capital** | | | **0.991** | **0.981** | **0.982** |
| Managerial skills | 0.991 | 614.775 | | | |
| Entrepreneurial skills | 0.991 | 692.123 | | | |
| **Firm Financial Performances** | | | **0.954** | **0.939** | **0.806** |
| Sales based performance | 0.909 | 69.290 | | | |
| Cash flow based per: | 0.928 | 100.00 | | | |
| Growth | 0.903 | 74.743 | | | |
| Profitability | 0.814 | 26.655 | | | |
| Future viability | 0.932 | 88.921 | | | |

Source: Survey Data, 2021, n=355.

Table 04 further displays that both Cronbach's α and composite reliability were higher than the required value of 0.7. It means that the second-order constructs developed internal consistency reliably with a higher level of Cronbach's α, and composite reliability. The AVE for each construct was higher than the required value of 0.5 and hence the results confirm the convergent validity of the second-order construct (see Table 04). Discriminate validity of the second-order constructs is presented in Table 05, which shows that none of the inter-construct correlation values was above the square root of the AVE and satisfied the criterion of the discriminant validity of the second-order constructs and fulfilled the Fornell and Larker's criterion of the discriminant validity of second-order constructs.

**Table 05: Discriminant Validity of the Second-Order Constructs**

| | Firm's Financial Performance | Intellectual Human Capital | Knowledge Acquisition Capabilities |
|---|---|---|---|
| Firm's Financial Performance | **0.898** | | |
| Intellectual Human Capital | 0.830 | **0.991** | |
| Knowledge Acquisition Capabilities | 0.880 | 0.814 | **0.854** |

Source: Survey Data, 2021, n=355

The efficiency of the structural model was assessed using the steps and guidance recommended by Hair et al. (2014). The initial step is assessing the collinearity issues. As presented in Table 06, VIF values for both paths show minimal collinearity, i.e., 4.077 and 4.766 for both independent constructs. These values are significantly less than the recommended threshold value of 5.00. This indicates an absence of multi-collinearity between the independent and dependent constructs in the structural model.

**Table 06: Collinearity Values among Constructs**

| Model | Collinearity Statistics VIF |
|---|---|
| Intellectual Human Capital (IHC) | 4.077 |
| Knowledge Acquisition Capabilities (KACs) | 4.766 |
| Dependent Variable: FFP | |

Source: Survey Data, 2021, n=355

T-statistics, obtained using the PLS Bootstrap process, are used to evaluate the significance of the path coefficient (β) with the t-statistics. The significance of the path coefficients (hypothetical relations) in the measurement model is estimated to decide the effect of the independent variable (IHC) on the dependent variable (FFP). Each path relationship presents the regression coefficient (β). The path coefficient (β) should be larger than 0.1 to demonstrate its significance and the estimated t-value should be 1.65 for the significance level of 90%, 1.96 for a significance level of 95%, and 2.58 for a significance level of 99% in a two-tailed t-test (Hair et al., 2014). Considering both the paths' coefficients and t-statistics, all three (3) hypothetical relationships were significant at the level of 10 percent (See Table 07).

**Table 07: Path Coefficients and Significance among Constructs**

| Hypotheses | Relationship | Beta (Path) | t-stat | P-value | Decision |
|---|---|---|---|---|---|
| H1 | Intellectual Human Capital -> Firm's FP | 0.129 | 2.206* | 0.028 | Accepted |
| H2 | Intellectual Human Capital -> Knowledge Acquisition Cap: | 0.112 | 77.308** | 0.000 | Accepted |
| H3 | Knowledge Acquisition Cap: -> Firm's FP | 0.186 | 8.569** | 0.000 | Accepted |

Note: * and ** denote significance levels p<0.05 and p<0.01

Source: Survey Data, 2021, n=355

The study has used the coefficient of the determination ($R^2$) to assess the correlation between the independent variable and dependent variable. According to Hair et al., (2014), the model having $R^2$ as 0.67, 0.33, and 0.19 shows substantial, moderate, and weak respectively. The relationship between IHC and FFP contains 0.778 substantial and the relationship between IHC and KACs contains 0.835 (substantial). Table 08 indicates that the KACs represent the highest variance ($R^2$ = 0.835 or 83.5 percent) followed by the FFP reported the lowest variance ($R^2$ = 0.778 or 77.8 percent). Following the criterion of Chin (1998) model is considered to be substantially fit because the explanatory power ($R^2$ value) of two variables is substantial.

**Table 08: Coefficient of $R^2$**

| Constructs | $R^2$ | Explanatory power |
|---|---|---|
| Firm's Financial Performance (FFP) | 0.778 | Substantial |
| Knowledge-Acquisition Capabilities (KACs) | 0.835 | Substantial |

Source: Survey Data, 2021, n=355.

Table 09 revealed that IHC and KACs relations present large, and the IHC shows a small effect size of predictive variables ($f^2$ is 0.02 and above).

**Table 09: Effect Size ($f^2$)**

| Independent Construct | $f^2$ | Effect Size |
|---|---|---|
| Intellectual Human Capital | 0.018 | Small |
| Knowledge Acquisition Capabilities | 0.401 | Large |

Source: Survey Data, 2021, n=355.

According to Table 10, the predictive relevance of the firm financial performance and knowledge-acquisition capabilities illustrate a considerable explanatory power. This result demonstrates the large explanatory power depicted by the variables.

**Table 10: Predictive Relevance ($Q^2$)**

| Endogenous Constructs | Q2 | Explanatory power |
|---|---|---|
| Firm's Financial Performance (FFP) | 0.612 | Large |
| Knowledge-Acquisition Capabilities (KBDCs) | 0.623 | Large |

Source: Survey Data, 2021, n=355.

The study investigated the mediating effect of the two dependent variables: Knowledge Acquisition Capabilities (KACs), and Firm's Financial Performance (FFP) after examining the direct path relationships. The study tested the hypothetical relationship of mediating effect of KACs on the relationship between IHC and the FFP. Table 11 displays that the hypothesis was fully

mediated since the direct effect and indirect effect of those dependent variables and independent variables were significant at all.

**Table 11: Mediating Effect of Knowledge Acquisition Capabilities**

| | Path | Standard Deviation (STDEV) | t Stat | P Values | Decision |
|---|---|---|---|---|---|
| IHC -> KACs -> FFP | 0.669 | 0.078 | 8.584 | 0.000 | Full Mediation |

Source: Survey Data, 2021, n = 355

The study proposed three hypothetical relationships between two dependent variables and one independent variable namely KACs, FFP, and IHC. Both IHC and KACs have a positive impact on the financial performance of ICIs in Sri Lanka and therefore, all the hypotheses were accepted. The results revealed that IHC has a significant (12.9) positive impact on the FFP of the ICIs implying that the IHC affects the maximize the FFP of ICIs in Sri Lanka. Theoretically, managerial skills and entrepreneurial skills of owners/managers are the most powerful factors for the increase of FFP. However, the planning skills, financial management skills, marketing management skills as well as controlling skills of owners of ICIs have a considerable impact to enhance the FFP than the human resource management skills of owners. 99.2 percent of the entities are sole proprietorships, and nearly 47 percent of those entities do not have employees. Therefore, it can be concluded that the human resource management skills of owners do not have a significant effect on FFP. The entrepreneurial skills, i.e., creativity, ambition, perseverance, courage, and risk-taking ability of owners of ICIs have a remarkable influence on increasing FFP because these entities' survival and going concern depends on the indigenous knowledge of owners and their family members. The study revealed that the managerial skills and the entrepreneurial skills of owners have a significant positive influence on FFP. Therefore, it can be concluded that the effect of entrepreneurial skills and managerial skills are equally contributing to optimizing financial performance. These findings are similar to the findings of Janosevic et al., 2013, Mention and Bontis, 2013, Onyekwely et al*.,* 2017, Ozkan et al., 2017, and Ousama and Fatima, 2015. Several studies, such as Samad, (2013), Rastogi, (2000), and Musa and Semasignha, (2014) have identified that IHC contributes to enhancing financial performance since it enables entrepreneurs to business capacity, increases the firm competitiveness, increases the productivity of the firm, improves the capability of the entrepreneurs' planning and venturing strategies.

Further, the results suggested that KACs of owners have a significant (18.6) positive influence on the FFP. The KACs of owners such as capabilities to extract knowledge from external sources, knowledge-sharing capabilities, knowledge storage capabilities, and capabilities to implement strategies for data sourcing can be used as important tools to identify business opportunities, treats as well to make timely and market-oriented decisions. Further, they can be acquired updated knowledge and thereby make fewer mistakes and improve their efficiency and reduce redundancy through those acquired external knowledge. Therefore, KACs of owners of ICIs can adopt to implement production strategies and sales strategies of their business entities and thereby improve the sales as well as FFP. The study found that KACs play a significant positive mediating role in the relationship between the IHC and FFP of ICIs. The empirical results have confirmed that the KACs of owners of the ICIs in Sri Lanka enhance the FFP. The results further revealed that the KACs have a significant positive mediating effect on the relationship between the IHC and FFP of ICIs. Further, it revealed that KACs are fully mediated with IHC and FFP. Therefore, it can be concluded that KACs have a powerful effect on FFP of ICIs in Sri Lanka.

## CONCLUSION

The study aimed to test the connections among IHC, KACs, and FFP where, IHC was the independent variable, FFP, was the dependent variable and the KACs were the mediating variable. The results indicated that the IHC has significant predictive power over the FFP. Further, it was revealed that the KACs can mediate this relationship to strengthen the effect of IHC over FFP. All the results are supported by the prevailing literature. This research has contributed to knowledge by presenting a model by considering of theoretical bases of RBV, HCT, and financial performance to understand how IHC affects KACs and FFP in the context of ICIs in Sri Lanka. So far, most of the IHC and FFP studies have mainly been conducted either within large-scale entities or listed companies in developed countries. This study made important contributions to the literature by providing empirical evidence related to IHC and FFP of ICIs in Sri Lanka. Thereby, the study extended the knowledge about the relative efficacy of theories (RBT, HCT, and ICT) developed in Western countries into a different economic and social context specifically in emerging economies that are assuming an increasingly prominent position in the countries like Sri Lanka. The study argued that ICIs in emerging economies fail to govern their IHC in economizing manner by applying either KACs suggested by the KBT. A notable analysis of the current study is the evaluation of mediating role of KACs on the relationship between IHC on FFP that are rarely studied together. Therefore, the study contributes a valuable comprehension of the practical applicability of IHC and KACs in the ICIs environment, particularly in the Sri Lankan context. Most of the research activities were conducted to explain how IHC influences the business performance of an entity and rarely touched on financial performance. Particularly the impact of IHC on FFP of ICIs in the Sri Lankan context is not analyzed in the literature. Thus, the study contributed to empirical literature in several ways. Most of the studies used qualitative techniques to measure IHC, KACs and FFP and a limited number of empirical studies quantified these variables.

The study provides several valuable insights into ICIs, policymakers, donors, and others whose prime objective is to develop ICIs not only in Sri Lanka but also in other developing countries. Since the study found that the IHC of owners of ICIs is the most powerful IC dimension which has a significant positive impact on increasing FFP, the study suggests to owners of ICIs, policymakers, donors, and others to incorporate the strategies to develop and strengthen the efficiency and productivity of IHC to improve their financial performance. Further, owners should possess excellent entrepreneurial skills, which drive them to create new and more competitive products for increased growth of the enterprise through undertaking risk-taking propensity initiatives to discover the mission of the entity.

The generalization of the research findings will be limited ICIs in Sri Lanka. However, the findings may not be generalized to the countries which have different cultural and socio-economic backgrounds because the IHC dimensions and KACs become to change with those differences. Future research is suggested to carry out the study in another region of the world with different cultural backgrounds to know how empirical evidence differs from Sri Lanka. Therefore, the researcher suggests that the framework of the study must be examined further by including samples from other countries to generalize or modify the concepts. Further, future research needs to consider qualitative or mixed methodologies to better explain quantitative findings. The sample of this study was limited to the owner-manager ICIs in Seven Indigenous Craft Villages, which were initially established in Sri Lanka. Findings may not be able to be generalized to all the ICIs including manager-managed ICIs in Sri Lanka.

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