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DOES INTELLECTUAL CAPITAL EXPLAIN THE FINANCIAL PERFORMANCE OF MALAYSIA MFIS?

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ABSTRACT

The performance of microfinance institutions (MFIs) is crucial for ensuring the efficient utilisation of funds deposited into the microfinance programme by donors, as well as for assisting regulators in monitoring the institutions. Assessing the performance of MFIs involves examining its development towards accomplishing its goals. Therefore, MFIs need to ascertain the challenges to maintain their sustainability and sustain their operations. Additionally, MFIs should focus on aspects such as intellectual capital (IC) to ensure future sustainability. The aim of this research is to examine how IC dimensions, specifically, customers, structure, human, and social capital, influence MFIs performance. A cross-sectional survey design was used to gather data from 145 managers (48% response rate) from MFIs in Malaysia. In order to determine the sample size of the study, a purposive sampling method was employed. The research model was analysed by using Partial least square-structural equation (PLS-SEM). Subsequently, the research model was validated using Smart PLS 3.2.5 and the proposed study hypothesis. The findings confirm that structural capital and customer capital positively influence the performance of MFIs, except for social and human capital. The research model explains 67.6% of the substantial amount of variance in MFIs performance. This research theoretically contributes to the extension of resource-based view (RBV) and social capital theory in

predicting the sustainability of MFIs. All the factors of IC were confirmed to improve the performance of MFIs. This study proposed several remarkable recommendations for microfinance institutions which suggested that MFIs' managers should resolve their organisational issues promptly. Furthermore, they should portray sensible consideration for their institutions by taking care of IC and encouraging the practice of recognising intangible assets, especially their employees' expertise and capabilities.

Keywords: *microfinance institutions performance, human capital, intellectual capital, customer capital, structural capital and social capital*

INTRODUCTION

The performance of microfinance institutions (MFIs) is crucial to ensure that the funds deposited in the microfinance programme by donors are utilised efficiently, in addition to assisting regulators in the monitoring of the institutions (Kheder, Mustafa & Saat, 2013). Ineffective MFIs exemplify constraints in the development of the microfinance industry. Hence, performance measurements are used to manage and sustain MFIs. Assessing the performance of MFIs involves examining their development towards accomplishing the institution's goals. In this regard, it is imperative for MFIs to identify the main challenges related to the sustainability of their operations (Kahaso, 2012). As the knowledge-based economy has led to a complete transformation in current business, it is essential to determine the wealth and sustainability of MFIs. The growth of the knowledge-based economy is derived from intellectual capital (IC), and it enhances competitiveness among organisations (Adnan, Kamaluddin & Kasim, 2014). According to Kamukama, Ahiauzu and Ntayi (2010), establishing intangible assets (the IC) against the usage of total assets would lead to better results.

In this modern environment, it is believed that IC is the driver of firm values instead of physical and financial capital (Kamukama, 2013). Thus, disregarding IC would lead MFIs to experience dilemmas including the lack of knowledge, poor customer service, lacklustre service quality, and ineffective employees. The implementation of IC is new not only in Malaysia but also in the global business environment. According to Ulum (2007), business circles generally have still not found the right answers

concerning the enhanced value that is earned by the companies. It has been conclusively shown that sustainable competitive advantage depends on not only physical assets and financial capital but also the unique intellectual assets (Suebert *et al.,* 2001). The key challenge faced by MFIs today is the tendency of employees to resign, stand down, and retire or leave the company for other means. If MFIs are unsustainable in the long run, their most valuable employees will likely leave the company. In this regard, experienced and skilled employees might leave with valuable knowledge and skills without having the opportunity to pass it down to their colleagues (Akpinar & Akdemir, 1999). It is therefore advisable for MFIs to prioritise on their IC to ensure that they progress and remain sustainable in the long term.

LITERATURE REVIEW

MFIs Performance

In this 21st century, microfinance has been recognised worldwide as a developmental tool that assists the unbanked segment of the society to reduce poverty. According to Ahmed, Brown and Williams (2013), MFIs are 'social enterprises' with a common goal to provide finance services to the underprivileged to enhance their quality of life. One of the most popular examples is the Grameen Bank in Bangladesh. MFIs growth and sustainability are dependent on funding from external parties and their efficiency (Ahmed, 2002). Ahmed (2002) posited that MFIs could be operated efficiently when the employees acquire the relevant skills through regular training. Thus, as mentioned by Kahaso (2012), determining the main challenges for MFIs to continue operating is extremely crucial. Current businesses have observed complete transformations due to the knowledge-based economy. Hence, determining the wealth and sustainability of MFIs are crucial.

Intellectual Capital

According to Khalique, Shaari, Isa, and Samad, (2013), intellectual capital (IC) is the centre of the knowledge-based economy. Despite being derived from the word 'intellect' which refers to genuine intellect, J.K.

Galbraith, who introduced IC in 1969, surmised as the word refers to some form of intellectual action. A popular definition of IC is 'a knowledge that is valuable to an organisation.' This shows that IC is created through knowledge management or the volume of what known. IC comprises of several aspects including customer capital, human capital, and structural capital (Bontis, Keow & Richardson, 2000). Past studies found that in comparison to firms with low IC, those with high IC possess plenty of resources that provided them with a competitive advantage in the human, structural, and relational capital. This is because high IC firms have stronger positions which allow them to be more competitive in the business than those with only one IC resource (Kamaluddin & Rahman, 2013).

Human Capital

Human capital refers to skill, knowledge, education, experience, attitude, and the staffs' capability to accomplish their job and achieve the organisation's objectives (Roos, Roos, Edvinsson & Dragonetti, 1997; Nimtrakoon, 2014). In this regard, compared to other properties or capitals, human resources are often deemed as a company's most priced assets, but at the same time are often side-lined by a company (Hashim, Osman & Alhabshi, 2015). In other instances, human resource, particularly employees, could be a liability to an organisation (Khan, Farooq & Hussain, 2010). In general, human capital reflects the expertise, skill, experience and knowledge shared within an organisation which add value (Baron, 2011). Consequently, there is a need for MFIs to retain expert and experienced workers, as well as reward them for their hard work. These gestures will make the employees feel more appreciated which in turn, increase their loyalty towards the company. It is argued that MFIs should ensure employees' job satisfaction to ensure loyalty. In this regard, for MFIs, human capital comprises of higher-level management (including CEOs and managers), executives and other staff members. MFIs' success is largely dependent on human capitals as their performance could lead to greater financial sustainability and more effective outreach programmes (Hossain, 2012). Thus, it is hypothesised that:

H1: Human capital (HC) is positively related to MFIs performance

Customer Capital

Customer capital or relational capital represents alliance and capability. It includes a company's competitors, its customers, employers, and suppliers (Roos *et al.*, 1997; Bontis, Keow & Richardson, 2000; Ling, 2012). Akpinar and Akdemir (1999) mentioned that customer capital is related to the network of partners a company has, the level of customers and partners' satisfaction, and how loyal are they to the company. As reported by recent works, the performance of Malaysian MFIs are significantly and positively linked to their clients' well-being, and better customer networks would lead to higher performing micro and small enterprises. Having such a positive relationship maximises clients' acquisition of assets and household income generation (Al-Shami, Majid, Rashid & Hamid, 2013). Hence, it is hypothesised that:

H2: Customer capital (CC) is positively related to MFIs performance

Structural Capital

Structural capital can be described as the knowledge entrenched in a firm yet, not owned by employees; such as system, structure, strategy, patents, trademarks, culture, and norms which build the innovative capability of the organisation, hence ensuring success (Ling, 2012; Nimtrakoon, 2014). In other words, an organisation is comprised of different individuals and internal structures. Structural capital will be improved when an organisation's technology is enhanced, or when it develops a process and when it initiates other internal initiatives. Thus, structural capital refers to an organisation's capacity to cater to its customers' demands. Past studies have posited that a microfinance institution's performance could be improved when there are highly efficient and skilled employees who deliver high quality and efficient services as well as a good organisational structure (Kamaluddin & Kasim, 2013). On the other hand, even if an organisation has a knowledgeable and skilled employee, the entire intellectual capital has not reached its full capacity when it offers less than stellar structural capital (Khalique, Bontis, Abdul, Abu, & Isa, 2015). Based on these arguments, it is hypothesised that:

H3: Structural capital (SC) is positively related to MFIs performance

Social Capital

Social capital comprises of the relationships and norms that determine how much and how good an institution interacts with people. Grootaert and Bastelaer (2001) posited that social capital could accelerate the economy and social expansions. Meanwhile, according to Hassan (2014) social capital is critical in rectifying constraints in the financial, human, and natural capital. It is argued that social capital not only strengthens a society, it also plays an important role in unifying them. Scholars have deemed microfinance as a saviour for the poor; Temple and Johnson (1998) stated that ethnic diversity, social mobility, and the prevalence of telephone services in several sub-Saharan African countries act as proxies for the density of social networks. They shared several related items into an index of 'social capability' to explain significant amounts of variation in the national economic growth rates. Poverty was frequently determined by the social rather than financial factor (Rahman & Dean, 2013) because socioeconomic factors concerning customers, such as low numerical skills, different languages, locations of borrowers, customers' unfamiliarity with documentations, accounting practices, and ethnicity, contribute to unproductive operations. Similarly, social capital can enhance economic outcomes indirectly if it appeals to the political interest of the government. Based on these discussions, the following hypothesis is developed:

H4: Social capital (SO) is positively related to MFIs' performance

METHODOLOGY AND MODEL

This research was conducted on 19 MFIs in Malaysia. Structured questionnaires were administrated as the research instrument to collect data from the respondents. The first part of the questionnaires was related to the components of IC (human capital, customer capital, structural capital and social capital). The second part focused on the performance of microfinance institutions, and the third part probed the respondents' profile. All the items in the first and second part used a seven-point Likert scale (where 1 means 'strongly disagree' and 7 means 'strongly agree'). Table 1 presents the measures used in the study and their respective sources. The intellectual capital construct was measured via 29 items which were represented by

four dimensions namely HC, customer capital, structural capital, and social capital, whereas the exogenous variable of MFIs' performance was measured through 11 items. Structured questionnaires were distributed to 300 respondents of MFIs from each of the 15 states in Malaysia. The respondents were senior executives, managers, and higher-level management who work with financial institutions that provide microcredit in Malaysia. The judgemental sampling method was employed to recruit the sample for this study since the responses were limited to financial institutions registered under Bank Negara Malaysia (BNM). The data collection was conducted between October and December 2016. According to Awang, Asyraf and Asri (2015), respondents suitable for representing their company were selected based on the researcher's decision.

Table 1: Operationalisation of Constructs

Constructs	Definitions	Items	Source
Human Capital	The level of education, skills, knowledge,experience, attitude, and ability of employees that allow them to complete their job specification and contribute to the organisation's goal.	6	Ngah (2009); Amrizah and Rashidah (2013); Khalique *et al.* (2015)
Customer Capital	The cooperation among the external and internal factors of an organisation which consists of staffs, customers, suppliers and competitors.	7	Ngah (2009); Amrizah and Rashidah (2013); Khalique *et al.* (2015)
Structural Capital	Knowledge entrenched in a firm not owned by employees such as, system, structure, strategy, patents, trademarks, culture and norms, which build the innovative capability of the organisation towards success.	9	Ngah (2009); Kamaluddin & Rahman (2013); Khalique *et al.* (2015)

Social Capital	An organisation,network, and norm that leads the society towards a quality and efficient social relationship.	7	Khalique *et al.* (2015)
MFIs Performance	Refers to the ability of MFIs to cover their operating costs and payments for their employees, while consistently making profits without relying on donors, grants, and subsidies from the government, despite possessing the ability to reach more people.	11	Hamoudah (2015)

In this study, the target respondents comprised of senior executives, managers, and higher-level management of MFIs who were involved in the internal management and development of the institutions. The sample size of the respondents for this study was calculated using G-power software, whereby; the minimum sample size required was determined. Since the model had a maximum of four predictors (for the outcome variable of MFIs' performance), the effect size was set to medium (0.15), and the required power was 0.80. In the field of social science, the minimum acceptable has been set to 80% (Gefen, Rigdon, & Straub, 2011). As the sample size required was 85; hence data collected was slightly larger than the required number. A total of 145 managers participated in this study. This accounted for 48% in response rate, which is considered satisfactory (Sekaran & Bougie, 2010). Meanwhile, the model in Figure 1 was measured by using SmartPLS 3.2.5, namely bootstrapping and path modelling (Chin, 2010; Tenenhaus & Esposito, 2005; Wetzels, Odekerken-Schröder & Oppen, 2009).

There are two stages in a PLS analysis; measurement model, and structural model. The measurement model requires the measures' reliability and validity to be assessed where the validity is measured through convergent validity and discriminant validity. Reliability is measured by examining the Composite Reliability (CR). Consequently, structural model testing was conducted after the development of the measurement model to analyse the hypothesised relationships between critical success factors and organisational performance.
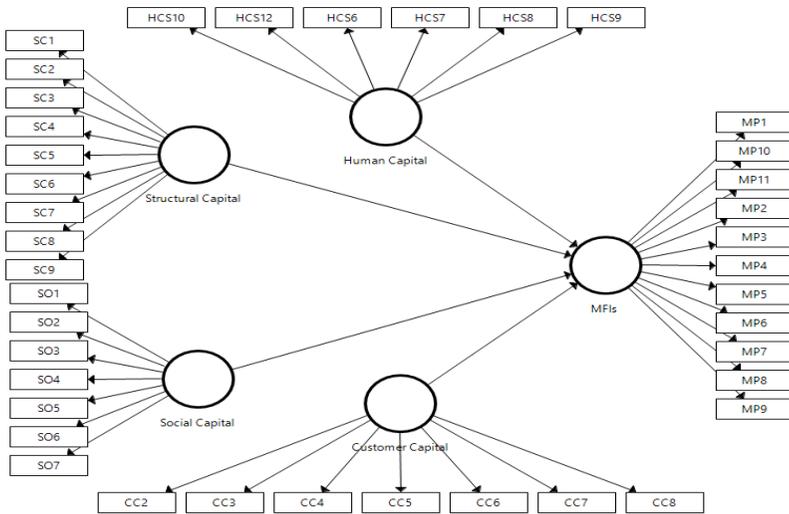
Figure 1: Research Model

THE FINDINGS

Respondent's Profile

Out of 300 surveys instruments distributed, 145 surveys (48.3%) were returned and usable. Table 2 shows that majority (91 or 62.8%) of the respondents held senior management positions, 48 (33.1%) respondents held middle management positions, and 6 (4.1%) respondents held top management positions. Out of the 145 respondents, 86 (59.3%) were male, and the remaining respondents (40.7%) were female. Most of the respondents had Bachelor's Degree (58.6%), 18 respondents (12.4%) obtained Master's Degree/MBA, 32 respondents (22.1%) had Diplomas, and only 10 (6.9%) respondents had *Sijil Pelajaran Malaysia* (SPM). Although this study is comprised of respondents from almost all the 15 states in Malaysia, most respondents were from Kuala Lumpur (38; 26.2%), followed by Selangor (37; 25.5%), Negeri Sembilan (15; 10.3%), Sarawak (13; 9%), Johor (12; 8.3%), and Kedah (five; 3.4%). Perlis, Terengganu, and Perak had four respondents each (2.8%), while Melaka, Pahang, and Kelantan each had three respondents (2.1%). Sabah meanwhile recorded

two respondents (1.4%), and Pulau Pinang and Putrajaya contributed one respondent (0.7%) each. In regards to the MFIs managers that responded, 14 were from Bank Muamalat Malaysia Berhad (9.7%), 13 from Bank Rakyat (9%), 12 from BSN (8.3%), 15 from Maybank Berhad (10.3%), six from Public Bank Berhad (4.1%), 14 from AgroBank (9.7%), five from CIMB Bank Berhad (3.4%), two from United Overseas Bank (1.4%), three from AmBank (2.1%), 13 from TEKUN Nasional (9%), 11 from AIM (7.6%), 15 from Yayasan Hijrah Selangor (10.3%), 11 from SME Bank (7.6%), eight from MARA (5.5%), and two from CGC (1.4%). A summary of the respondents' profile is provided in Table 2.

Table 2: Demographic Profile

Demographic variables	Category	Respondents (N=145)	
		Frequency	**Percentage (%)**
Position	Top	6	4.1
	Senior	91	62.8
	Middle	48	33.1
Gender	Male	86	59.3
	Female	59	40.7
Academic Qualification	Master's Degree	18	12.4
	Bachelor	85	58.6
	Diploma	32	22.1
	SPM	10	6.9

Location	Johor	12	8.3
	Kedah	5	3.4
	Kelantan	3	2.1
	Kuala Lumpur	38	26.2
	Terengganu	4	2.8
	Perlis	4	2.8
	Perak	4	2.8
	Pulau Pinang	1	0.7
	Putrajaya	1	0.7
	Sabah	2	1.4
	Melaka	3	2.1
	Pahang	3	2.1
	Selangor	37	25.5
	Negeri Sembilan	15	10.3
	Sarawak	13	9.0
List of MFIs	Bank Muamalat Malaysia Berhad	14	9.7
	Bank Rakyat	13	9.0
	Bank Simpanan Nasional	12	8.3
	Maybank Berhad	15	10.3
	Alliance Bank	1	0.7
	Public Bank Berhad	6	4.2
	Agro Bank	14	9.7
	CIMB Bank	5	3.4
	United Overseas Bank	2	1.4
	AmBank	3	2.1
	TEKUN Nasional	13	9.0
	Amanah Ikhtiar Malaysia	11	7.6
	Yayasan Hijrah Selangor	15	10.3
	SME Bank	11	7.6
	Majlis Amanah Rakyat	8	5.5
	Credit Guarantee Corporation	2	1.4

ASSESSMENT OF THE MEASUREMENT MODEL

Confirmatory factor analysis (CFA) was done to determine the measures' reliability, convergent validity, and discriminant validity. To assess the convergent validity, Hair, Black, Babin, and Anderson (2010) suggested the use of factor loadings while Average Variance Extracted (AVE), and Composite Reliability (CR) could be used to assess convergent validity. As shown in Table 3, most item loadings are higher than 0.5 (significant at $p <$ 0.01), all Average Variance Extracted (AVE) exceeded 0.5 (Bagozzi, 1988), and the Composite Reliability (CR) for all the variables are more than 0.7 (Gefen, Straub, & Boudreau, 2000). In the meantime, in this study, we have used the Heterotrait Monotrait (HTMT) discriminant criterion to validate discriminant validity as suggested by Henseler, Ringle, and Sarstedt (2015). Henseler *et al.* (2015) posited the correlation value between constructs that is less than one shows that discriminant validity is achieved. However, we have chosen to follow a more conservative threshold of 0.85, indicating a clearer difference between the constructs (Clark & Watson, 1995; Kline, 2011). Table 4 presents the correlation estimates for the HTMT evaluations. The correlation value between the constructs was less than 0.85, hence, confirming that the discriminant validity was met via the HTMT assessment.

Table 3: Result Measurement Model

Constructs	Loadings	CR [a]	AVE [b]
Human Capital			
HC6	0.723	0.895	0.587
HC7	0.743		
HC8	0.779		
HC9	0.838		
HC10	0.762		
HC12	0.748		
Customer Capital			
CC2	0.800	0.930	0.654
CC3	0.759		
CC4	0.842		
CC5	0.837		
CC6	0.845		
CC7	0.779		
CC8	0.797		

Structural Capital			
SC1	0.795	0.949	0.672
SC2	0.768		
SC3	0.850		
SC4	0.877		
SC5	0.817		
SC6	0.796		
SC7	0.787		
SC8	0.854		
SC9	0.829		
Social Capital			
SO1	0.780	0.930	0.654
SO2	0.813		
SO3	0.815		
SO4	0.841		
SO5	0.824		
SO6	0.783		
SO7	0.801		
MFIs Performance			
MF1	0.787	0.956	0.663
MF2	0.838		
MF3	0.794		
MF4	0.795		
MF5	0.852		
MF6	0.814		
MF7	0.830		
MF8	0.800		
MF9	0.814		
MF10	0.774		
MF11	0.851		

Notes: [a] Composite Reliability (CR) = (square of the summation of the factor loadings)/ [(square of the summation of the factor loadings) + (square of the summation of the error variances)]

[b] Average Variance Extracted (AVE) = (summation of the square of the factor loadings)/ [(summation of the square of the factor loadings) + (summation of the error variances)]

Table 4: Discriminant Validity (HTMT)

Constructs	HC	CC	SC	SO	MFIs
HC					
CC	0.758				
SC	0.684	0.801			
SO	0.738	0.801	0.828		
MFIs	0.680	0.787	0.812	0.758	

Note: HC=Human Capital, CC=Customer Capital, SC=Structural Capital, SO=Social Capital, MFIs=Microfinance Performance

ASSESSMENT OF THE STRUCTURAL MODEL

In estimating the structural model, this study follows the practice of past researchers (Nor Irvoni & Rosmimah, 2016), who applied the bootstrapping procedures with 5000 iterations. This is to allow a more accurate error estimates. The results of the hypothesis testing are shown in Figure 2.
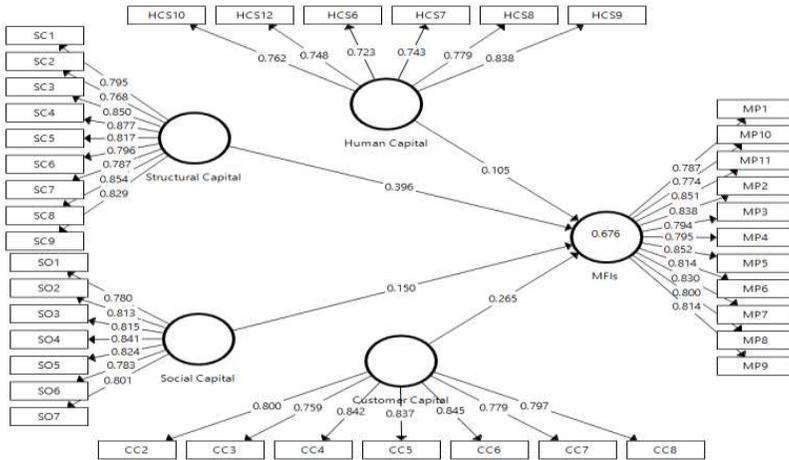
Figure 2: Result of Path Analysis

Table 5 outlines the path coefficients, observed t-statistics, and significance levels for all the hypothesised paths. According to past works such as Hair, Sarstedt, Hopkins, and Kuppelwieser (2014) and Henseler, Ringle, and Sinkovics (2009), the acceptable *t*-values to ascertain the

significance level in the one-tailed test are 1.28 (10% significance level at $p<.10$), 1.645 (5% significance level at $p<.05$), and 2.33 (1% significance level at $p<.01$). Based on the result, we found two variables that showed significant positive relationships with MFIs' performance. In this light, two hypotheses, namely, H2 (customer capital) and H3 (structural capital) are supported while H1 (human capital) and H4 (social capital) are not supported. In this regard, the structural model validation shows satisfactory results. The R2 value was significant at 67.6% for the endogenous variable, thus establishing a solid explanatory power.

Table 5: Path Coefficient and Hypothesis Testing

Hypothesis	Relationship	Std Beta	T-value	LL	UL	Supported
H1	HC → MFIs	0.105	1.560	- 0.007	0.204	NO
H2	CC → MFIs	0.265	2.581	0.097	0.440	YES
H3	SC → MFIs	0.396	4.447	0.253	0.548	YES
H4	SO → MFIs	0.150	1.457	- 0.010	0.304	NO

Note: HC=Human Capital, CC=Customer Capital, SC=Structural Capital, SO=Social Capital, MFIs=Microfinance Performance

SUMMARY AND CONCLUSION

Intellectual capital (IC) holds an equally important place with capital investments in creating value and sustainable advantages, particularly for companies in developing countries. Thus, there is a need for developing countries to balance resources when investing in physical investments and IC (Chen, Cheng, & Hwang, 2005), as human capital reflects an individual's economic value. Meanwhile, it is argued that having human intellectuality and competency are not enough to ensure the effectiveness of human resource management and organisational performance. Past studies have shown that human capital alone could not contribute to the core competence of an organisations' performance. Thus, there is a need for human capitals to obtain the required organisational capital, such as structural capital (Bontis *et al.*, 2000). A research by Muhammad and Ismail (2009) have shown that human capital is not significantly related to the performance of a company. Strong processes and organisational values embedded in the structural capital are required to assist in the human capital development. These, in turn, ensures efficiency or quality service that will result in the higher performance of microfinance institutions (Kamaluddin & Kasim, 2013). With regards to an organisation's financial and market performance,

institutions with higher IC components are more capable of competing in the market (Kamaluddin & Rahman, 2013) regardless of the industrial sector they are in (Bontis *et al.*, 2000). As such, companies should balance their human, customer, and structural capitals. It can be concluded that IC has a highly significant relationship with the performance of microfinance institutions.

This study also posits that awareness of the status of IC performance among practitioners within the banking sector, and more rigorous effort among practitioners are needed to enhance MFIs performance and consequently, the entire sector. Furthermore, the results highlight the importance of human element in value creation in the MFI industry; hence, the management of the MFIs need to pay considerable attention to their human capital (Wang & Chang, 2005). Managers can increase profitability and improve performance of their firms by using the value-added IC (VAIC) method for evaluating and managing IC in firms (Hejazi, Ghanbari, & Alipour, 2016). They should portray sensible consideration for their institutions by taking care of their IC and encouraging the practice of recognising intangible assets, especially their employees' expertise and capabilities. Based on the present study's findings, it is suggested that future researchers focus on collection of data for exogenous variables (using survey) from managers of the MFIs, while endogenous variable is collected from the financial statement (secondary data) of the MFIs. This will prevent the issue of common method variance. Besides, it is also recommended for future researchers to organise interview sessions with the managers to obtain definite and more concrete result.

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