Importance-Performance Matrix Analysis (IPMA) of Intellectual Capital and Islamic Work Ethics in Malaysian SMEs

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Abstract. This study used Al-Ghazali's Economic Theory and Ibn Khaldun's Theory of Development as the theoretical underpinning to examine the business performance. Six factors (human capital, organizational capital, relational capital, spiritual capital and Islamic work ethics) were identified to model their impact on SME business performance in Malaysia. Survey questions from prior studies were adopted and customized to collect data. A total of 445 entrepreneurs responded to the survey. Partial least Square (PLS) SmartPLS 3.2.6 was used for data analysis. The results of the study revealed that human capital, organizational capital, technological capital and Islamic work ethics significantly influenced business performance. Further to that the authors conducted an Importance-Performance matrix analysis to determine priority variables to focus on for the implications to entrepreneurs.

Introduction

Intellectual capital, the catchword in the economic world, is crucial for sustainability (Chen, Cheng & Hwang, 2005; Bismuth & Tojo, 2008) and considered as the most important resources for competitive organizations in the knowledge-based economy (Khalique, Hassan, Jamal & Ageel, 2011). Accordingly, instilling Islamic work ethics to Muslim SME entrepreneurs is crucial as to assist them gain competitive advantages in an open economic onslaught. A holistic system in Islamic economic business guidelines contains every part of life (Juma'h, Campus & Abu-Mounes, 2011). Intrinsically, in finding Islamic institutions (for business loan application) for instance, SME entrepreneurs should base it on the encouragement of faith to submit to Allah SWT, not merely following the recent trend to go for something Islamic (Adnan, 2012). Coupled with Islamic work ethics, intellectual capital investment allows firms to gain competitive advantage over their competitors, as it is difficult to imitate.

Intellectual capital is a strategic successful feature for all types of organizations (Lonnqvist & Mettanen, 2002), including small and medium enterprises (SMEs). However, compared to large firms, SME labour productivity is quite insignificant. SME's survival rate was about 58%, in which approximately 42% of the business establishments in year 2000 stopped operations by year 2005 (SME Masterplan, 2012-2020). These issues must be fixed to avoid SME entrepreneurs from being bankrupt (Omar & Azmi, 2015).

Therefore, a research study needs to be conducted in an attempt to know to the associations between intellectual capital, Islamic work ethics and business performance among SME entrepreneurs in Malaysia. In order to postulate intellectual capital and Islamic work ethics within the comprehensive area of entrepreneurship studies, the first section begins by presenting the literature review and hypothesis formulation. In the second section the paper endeavors to elucidate the methodology and results. This study will also explore the use of the Importance-Performance matrix analysis to identify priority factors that can be enhanced to increase usage. Finally, discussion, implications and limitations are discussed.

Conceptual Foundation and Hypothesis

The conceptual underpinning and hypothesis development for the study are derived from Al-Ghazali's economic theory and Ibn Khaldun's theory of development.

Al-Ghazali's economic theory. Imam al-Ghazali is one of the most well-known Islamic thinkers, contributing to massive knowledge of economics. Al-Ghazali's economic theory is anchored on five essential *Shariah*-mandated fundamentals of individual and social life: religion, life, family, property and intellect (Ghazanfar & Islahi, 1997). Extending this into a

business paradigm requires entrepreneurs to perform the duties well in order to gain Allah's pleasure. The entrepreneurs must uphold to Islamic work ethics and make themselves accountable for their conduct.

Ibn Khaldun's theory of development. Ibn Khaldun's theory of development argues that the growth or decline of an economy does not depend on any one factor, but on the amalgamation of all factors (social, moral, economic, political and historical) (Chapra, 1999). Chapra (2015) has discussed various factors that help ensure development, which include high quality of education, enterprise and innovation, social solidarity, opportunities for earning an honest and decent living, development of knowledge and technological base, moral uplift and above all, good governance. It appears that all of these factors are construed into intellectual capital and Islamic work ethics.

In fact, both al-Ghazali's economic theory and Ibn Khaldun's theory of development have acknowledged that for a company's competitiveness, there is a need for *Shariah*-mandated concept of economic development incorporating all human activities; including the strategic management of intellectual capital.

Hypothesis Development

Despite its multidimensionality, this study has defined intellectual capital as including; (i) Human Capital, (ii) Organizational Capital, (iii) Relational Capital , (iv) Spiritual Capital and (v) Technological Capital.

Numerous scholars recognise the decisive role of human capital in increasing firm's business performance (Zin & Adnan, 2016; Mention & Bontis, 2013; Jardon & Susana Martos, 2012). Sharabati, Naji Jawad & Bontis (2010) discovered that human capital is positively and significantly related to business performance of the pharmaceutical sector of Jordan. Similarly, Ahmadi, Ahmadi, & Shakeri's (2011) statistical result corroborated a positive relationship between human capital and organizational performance. Furthermore, many researchers support the direct influence of organizational capital on firm performance and enterprise value (Wang & Yuan, 2017; Aminu, Mahmood & Muharram, 2015; Sydler, Haefliger & Pruksa, 2014; Abdullah & Sofian, 2012; Ahmad & Mushraf, 2011). Tronconi & Marzetti's (2011) findings also disclose a positive significant relationship between organizational capital and firm performance. Likewise, the empirical results of Hashim, Osman & Alhabshi (2017) show that organizational capital is positively connected with the performance of the banking and non-banking sectors in Malaysia. Besides that, Firms need to create and maintain relational capital in order to be successful (Joshi, Cahill, Sidhu & Kansal, 2013). In essence, relational capital allows entrepreneurs to enhance their knowledge of opportunities, obtain access to critical resources and deal with business difficulties (Hills, Lumpkin & Singh, 1997; Floyd & Wooldridge, 1999), therefore business profitability is achieved. Spiritual capital is also an important drive to SME business performance, in a way that it raises affirmative greater influence on corporate performance (Khalique, Shaari, Abdul & Isa, 2011; Khalique, Isa & Shaari, 2013). Ariawan, Made Sudarma, Djumahir, & Ghozali (2016) also found that spiritual capital and SME business performance have a strong relationship. Moreover, the application of technological capacities is positively correlated with business performance and can give organizations competitive advantage (Kamukama, Ahiauzu & Ntayi, 2011; Kilkenny, Nalbarte & Besser, 1999). A study conducted on fabless firms in Taiwan, found that IT and innovation have positive impact on the organizational performance (Lu, Wang, Tung & Lin, 2010). Based on the literature review, the following propositions are made:

H1. Human capital has a positive relationship with SME business performance.
H2. Organizational capital has a positive relationship with SME business performance.
H3. Relational capital has a positive relationship with SME business performance.
H4. Spiritual capital has a positive relationship with SME business performance.
H5. Technological capital has a positive relationship with SME business performance.

From the Islamic work ethics perspective, the involvement in entrepreneurship is an obligation (Yousef, 2001). Muslim's desire for profit seeking in entrepreneurship and high business performance is well recognised by Islam (Mohsen, 2007). Entrepreneurs can be good Muslims and at the same time rich people. Islamic work ethics denotes business activities undertaken by entrepreneurs, for the purpose of generating profits, in a determined atmosphere; later will result in higher performance and great success (Ali & Owaihan, 2008). Islamic work ethics influences organizational performance in a positive way (Kumar & Che Rose, 2010). Therefore, to get clearer picture of the relationship between Islamic work ethics and business performance, the following hypothesis has been developed:

H6. Islamic work ethics have a positive relationship with SME business performance.

Thus the following hypotheses are posited in Figure 1.

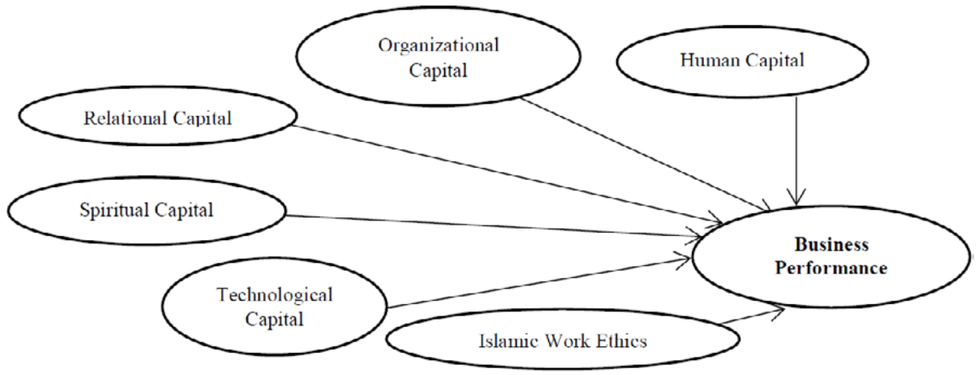

Figure 1: Conceptualization of the relationships between intellectual capital, Islamic work ethics and business performance

Methodology

For human capital, organizational capital and relational capital, questionnaires earlier developed and tested by Bontis (1998) were adapted. Spiritual capital and technological capital were measured using Khalique & Md Isa (2014). Items for Islamic work ethics were from Ali (1988). Business performance was measured using the works of Mahmood (2010). As suggested by Taylor & Todd (1995), all constructs were measured using the same scale which is a 7-point Likert-type scale with anchors on *1=strongly disagree* and *7-strongly agree*.

The questionnaire was validated through expert interviews and a panel of practitioners. The reliability of the instrument was further tested to find out whether it consistently measured the study variables on the scales used (Nunnally, 1978). Cronbach alpha coefficients results of intellectual capital components and Islamic work ethics together with business performance exhibited that all measures have excellent reliability coefficients ranging from 0.864 to 0.876 which were above 0.75 respectively signify that the scales used were reliable. After going through preliminary evaluations, the data of 445 SMEs in Kelantan are ready for further analysis.

To analyze the research model, the Partial Least Squares–Structural Equation Modeling (PLS-SEM) analysis using SmartPLS 3.2.6 (Ringle, Wende & Becker, 2015). PLS-SEM model contains two inter-related models; a measurement model and structural model, which are assessed separately in a two-phase process (Hair, Ringle & Sarstedt, 2011). To test the significance of the path coefficients and the loadings a bootstrapping method (1000 resamples) was employed (Gholami, Sulaiman, Ramayah & Molla, 2013). In the last step, the analysis of importance-performance matrix of path modelling was performed. By assessing IPMA, the impact of exogenous latent variables (human capital, organizational capital, relational capital, spiritual capital, technological capital and Islamic work ethics) with a relatively high importance and relatively low performance on an endogenous latent variable (i.e. business performance) would be identified (Hock, Ringle, & Sarstedt, 2010). Consequently, IPMA results deliver managerial acumens to address and improve the recognized areas with high importance and low performance (Hock, Ringle, & Sarstedt, 2010; Schloderer, Sarstedt, & Ringle, 2014).

Results

Measurement Model. Convergent validity is the extent to which several items assessing the same concept are in agreement (Ramayah & Rahbar, 2013). The convergence validity of the measurement is usually determined by observing the loadings, average variance extracted and composite reliability (Gholami et al., 2013). For this study, the AVE value was higher than 0.50 or indicating an adequate degree of convergent validity, meaning to say that the construct explains more than half (50 percent) of its indicators' variance (Hair, Ringle & Sarstedt, 2011). Furthermore, all constructs exhibited composite reliability between 0.859 and 0.949 which is well above the threshold value of 0.7 (Hair, Ringle & Sarstedt, 2011). Then, researcher utilises Heterotrait-Monotrait Ratio (HTMT) technique developed by proposed by Henseler, Ringle & Sarstedt (2015) to determine the discriminant validity of measurement. The result of HTMT inference also shows that the confidence interval does not demonstrate a value of 1 on any of the constructs (Henseler, Ringle & Sarstedt, 2015), which also confirms discriminant validity.

Structural Model. Structural model shows the causal relationships among constructs in the model (path coefficients and the R2 value). Together, the R2 and the path coefficients (beta and significance) indicate how well the data support and hypothesized model (Ramayah, Lee & Boey, 2011; Sang, Lee & Lee, 2010). Table 1 and Figure 2 show the results of the structural model from the PLS output. Human capital ($\beta = 0.18$, $p < 0.01$), organizational capital ($\beta = 0.183$, $p > 0.01$), technological capital ($\beta = 0.326$, $p < 0.01$) and Islamic work ethics ($\beta = 0.21$, $p < 0.01$) were positively related to

business performance. The R2 for business performance was 0.522 indicating that human capital, organizational capital, technological capital and Islamic work ethics explained 52.2% of the variance in business performance. The results supported H1, H2, H5 and H6. Whereas relational capital (β = -0.005, p < 0.05) and spiritual capital (β = 0, p < 0.05) were not a significant predictors of business performance. Thus, H3 and H4 are not supported.

Table 1: Path Coefficients and Confidence Interval Exogenous

Exogenous constructs	Endogenous construct	Path (β)	Std. Error	t-values	Confidence Interval		Decision
					Lower Level (LL)	Upper Level (UL)	
Human Capital ->	Business Performance	0.18	0.053	3.392**	0.087	0.303	Supported
Organizational Capital ->	Business Performance	0.183	0.065	2.828**	0.065	0.316	Supported
Relational Capital ->	Business Performance	-0.005	0.053	0.102	-0.106	0.097	Not Supported
Spiritual Capital ->	Business Performance	0	0.055	0.001	-0.115	0.104	Not Supported
Technological Capital ->	Business Performance	0.326	0.05	6.532**	0.229	0.423	Supported
Islamic Work Ethics ->	Business Performance	0.21	0.048	4.344**	0.106	0.304	Supported

Note:** p<0.01, * p< 0.05.

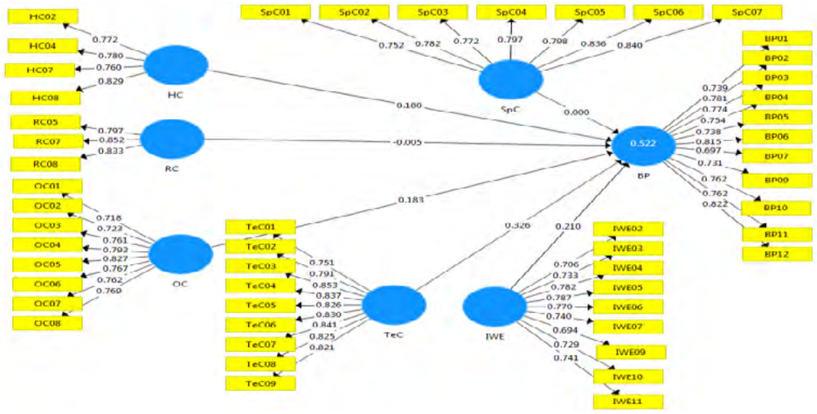

Figure 2: Structural model from the PLS output

Importance-Performance Matrix Analysis (IPMA). Figure 3 and Table 2 show the IPMA of SME business performance. Relational capital (-0.006) and spiritual capital (0) seem to be not important at all. The construct of organizational capital has high performance (74.572) but it is not an important variable (0.194) in the prediction of business performance. Hence, entrepreneurs should not focus much on this capital. The three constructs which are more important than organizational capital are human capital (0.204), Islamic work ethics (0.287) and technological capital (0.253). Nevertheless, Islamic work ethics reveals the most important (0.287) and possess the highest performance (74.573) among the three constructs. SME entrepreneurs should therefore integrate Islamic work ethics into human resource system of their organization. Overall, the three most important variables are Islamic work ethics, human capital and technological capital.

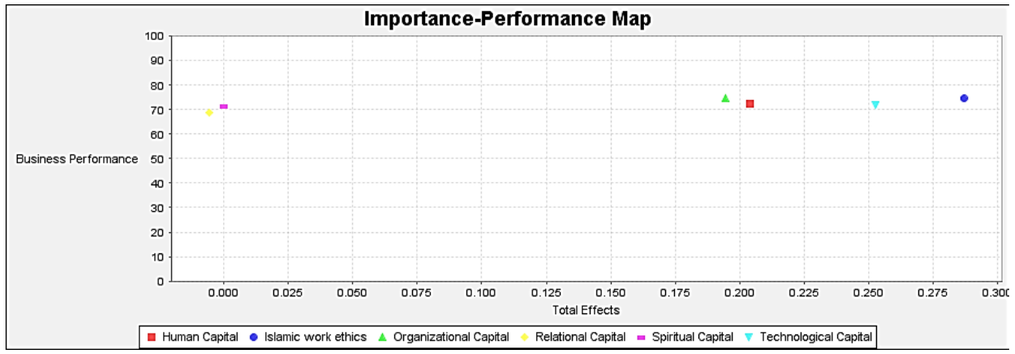

Figure 3: The Importance-Performance Map

Table 2: Importance and Performance Matrix (IPMA) Result

Construct	Importance (Total Effect)	Performance (Index Values)
Human Capital	0.204	72.28
Islamic work ethics	0.287	74.573
Organizational Capital	0.194	74.572
Relational Capital	-0.006	68.832
Spiritual Capital	0	71.193
Technological Capital	0.253	71.76

Discussion

This study found that human capital, organizational capital, technological capital and Islamic work ethics influenced business performance significantly. The finding is supported by Andreeva (2017), Khalique & Pablos (2015) and Ali & Owaihan (2008). However, the IPMA analysis highlighted three most important variables; namely Islamic work ethics, human capital and technological capital. Relational capital and spiritual capital are not significantly influencing business performance. Similar to the results of Andreeva (2017) and Khalique & bin Md Isa (2014), the finding of this study implies that relational capital and spiritual capital are not important predictors of the company's successful performance. Relational capital incorporates the character and qualities of the relationship or network between individuals, which is frequently categorised through trust and commitment (Muniady et. al., 2015). A likely explanation for this is that SME entrepreneurs failed to gain trust and commitment from shareholders, customers, suppliers and community.

The findings of this study provide a mechanism to understand SME business performance and offer the entrepreneurs a mirror to their Islamic shaped intent. Relatedly, Al-Ghazali's economic theory and Ibn Khaldun's theory of development have come to acknowledge the need for *Shariah*-mandated concept of economic development incorporating all human activities. Additionally, the ethical constituent which merges all aspects of human life into an assimilated whole and, thereby, ensures comprehensive well-being of entrepreneurs.

Implications and Limitations

For the theoretical implications, not many researchers have previously explored intellectual capital and Islamic work ethics of Malaysian SMEs. So, this study had to collect Islamic theories along with the literature on intellectual capital and Islamic work ethics. In other words, this study emphasized on the components of intellectual capital and details of Islamic work ethics and expounded their contents, which resulted in further improvements. Therefore, it would inspire prevailing consideration of taking a broad view intellectual capital and Islamic work ethics into industries of SMEs. Looking at the practical implications, SME entrepreneurs can utilize the intellectual capital and Islamic work ethics to increase business competitiveness and react to market demand. Moreover, policy makers will be able to comprehend the issues of intellectual capital and Islamic work ethics better and offer support for SMEs in their effort to stimulate those internal resources. The results of this study should be considered in light of the two limitations. First, the sample size of 445 covered respondents from one region in Malaysia (Kelantan) while the other 12 regions were not included due to geographical distance. Second, since the study was conducted in snapshot, additional research efforts are needed to evaluate the validity of the investigated models and our findings across time.

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