

Does Intellectual Capital Improve on The Performance of SME's ?

Reni Shinta Dewi^{1*}, Taher Alhabsyi², Zainul Arifin³, Yusri Abdillah⁴

¹Department of Business Administration, Faculty of Social Science and Political Science, Diponegoro University

² Department of Business Administration, Faculty of Administrative Sciences, Brawijaya University

³ Department of Business Administration, Faculty of Administrative Sciences, Brawijaya University

⁴ Department of Business Administration, Faculty of Administrative Sciences, Brawijaya University

Abstract

The purpose of this study is to analyze the affect of intellectual capital on performance for SMEs through competitive advantage. This is important, because intellectual capital is a strategic resource for SMEs. The study was conducted on two biggest clusters of batik industry in Central Java namely Pekalongan and Laweyan Solo. The sample consists of 149 SMEs with respond rate 74,5%. The results show that all dimensions of intellectual capital directly affect the competitive advantage, human capital directly affects the performance. Meanwhile structural capital and relational capital indirectly affect the performance. Sobel test shows that the affect of structural capital and relational capital toward performance through competitive advantage, it means that competitive advantage of perfect mediates. This finding is in line with the Knowledge based view, which states that intellectual capital as an intangible capital that can create value and enhance competitive advantage that will lead to organizational performance. Limitations of this study that the concept of intellectual capital was a relatively new concept, especially for SMEs, so that subjectivity perceptions of respondents are still very strong so it needs to be studied more in the factors that build intellectual capital in order to obtain other capital that characteristic of SMEs. For further research, it is necessary to include another capital such spritual capital and social capital in order to develop a intellectual capital for SMEs.

Keywords : Human Capital, Structural Capital, Relational Capital, Competitive Advantage, and Performance

INTRODUCTION

Nowadays the business is in the changing in so-called new wave that is economic changes based on production (traditional) into a knowledge-based economy. Cash, building, and equipment cannot be considered as a differentiator in competitive advantage [1][2]. In the past, the company only measured and created the value based on physical resources or tangible assets, rather than building their knowledge which is a non-physical resource or intangible asset [3]. The approach used to measure an intangible asset is by using the concept of intellectual capital. This is caused by the intellectual capital is regarded as a source that has a competitive advantage for a company [4]. It is even mentioned that intellectual capital is a resource that has a competitive advantage for SMEs, because the tangible resources possessed by SMEs is smaller when compared to companies that have a large scale [4].

Intellectual capital as intangible capital is able to create a competitive advantage that will lead to the organization's performance because that resource is hard to duplicate even be considered as a strategic resource [5][6][7][8].

Intellectual capital as intangible capital is able to create a competitive advantage that will lead to the organization's performance because that resource is hard to duplicate even be considered as a strategic resource [5][6][7][8]. A knowledge-based view (KBV) explains that the intellectual capital is a valuable, inimitable and non-substitutable resources based on knowledge that drives the creation of a competitive advantage [9]. [10] stated that the intangible asset is better in creating value to achieve competitive advantage. The main function of intellectual capital is to create value-added products and services through proactive management that positively affect organizational performance [11].

[12] mentioned that intellectual capital is a precious resource, difficult to imitate and irreplaceable that is able to produce long lasting competitive advantage and improve performance. Intellectual capital is packaged useful knowledge. Intellectual capital consists of the main elements of the company that includes human capital, structural capital and relational capital which is considered to improve the business performance of the company and maintains the stability of competition [13][14][15].

Various studies have been conducted to reveal intellectual capital in large corporations. For SMEs intellectual capital is a relatively new concept and

Correspondence address:

Reni Shinta Dewi

E-Mail : renishinta @ yahoo.co.id

Alamat : Jl. Kanguru Tengah No. 15 Semarang 50161

there is a need to develop theoretically the concept of intellectual capital [16][17][4]. [18] stated that most SMEs have a vague idea of how to manage intellectual capital and what they get from the investment. While [19] stated that small and medium enterprises are relatively less effective to develop and maintain competitive advantage. Therefore, this study intends to identify research gaps in developing the concept of intellectual capital as a strategic resource that can enhance competitive advantage. For that purpose, this study is to analyze and test the influence of intellectual capital on competitive advantage and organizational performance.

MATERIAL AND METHOD

This research is quantitative with survey method. The study was conducted for two months (april-may 2018) by visiting respondents after getting time to meet, conducted to generate a high response rate. The data was analysed using Cronbach's alpha test to measure the level of reliability; exploratory factor analysis (EFA) and Confirmatory factor analysis (CFA) were carried out to measure the factors that establish intellectual capital and Partial least squares (PLS) to test the hypothesis.

Data Collection

This research was carried out in two biggest clusters of Batik industry in Central Java: Pekalongan and Laweyan-Solo there are 294 SMEs. Of the 294, there were 200 that could be contacted by phone and only 167 were willing to fill out the questionnaire. There are 149 usable questionnaires. Hence, the respond rate of this research was 74.5%. The survey was addressed to the owner or manager of each organization. Scholars have argued that an organization owner or manager is the key decision maker and thus sets the strategic of the organization [4][20]. We found that the sample structure matches the population by a goodness of fit test [21].

RESULT AND DISCUSSION

Among the respondents, 78% were male and 22% were female. The majority of respondent education was senior high school (59%). Meanwhile, most respondents (66%) have experience between 6 and 15 years. Labor on Batik industry usually consist of permanent workers and contract labor. Majority employers have a workforce of between < 10 - 30 employees (92%). **Table 1** describes the demographic profile of the respondents.

Table 1 . Demographic Profile Of The Respondents

Characteristics	Frequency (N = 149)	Percentage (%)
Gender		
Male	116	78
Female	33	22
Education		
Elementary School	-	0
Secondary School	13	9
High School	88	59
Diploma	10	7
Bsc	30	20
Msc	8	6
Experience		
1- 5 years	16	11
6 - 10 years	52	35
11 - 15 years	49	33
16 – above	31	21
Manpower		
Less than 10	51	34
11 – 20	66	44
21 – 30	21	14
31 – 40	4	3
41 – above	7	5

The evaluation of the measurement model is analyzed to identify whether the indicator of a latent variable is valid and reliable. The result show that α Cronbach's was between 0.75 and 0.82 for each construct, the value was reliable since it was on the expected threshold of 0.7 [22]. In the discriminant validity test, all constructs have an AVE > 0.50, so it can be said that all constructs are valid. The result of correlation test between independent variables shows no multicollinearity problem among independent variables. This is evident from the absence of VIF values in the range of 5 - 10 so it can be concluded that multicollinearity issues did not occur. **Table 2** shows the values of Cronbach's α , Corrected item-total correlation, and Correlation. Exploratory factor analysis is used when the number of factors formed is not predetermined [23]. According to [22] factor loading thresholds based on the sample size are 0.55; 0.6; 0.65; 0.7; 0.75 for sample size 100; 85; 70; 60 and 50. In this study, the acceptable loading rate based on sample size was 0.58 [22]. The result of the exploratory factor analysis shows that all values of the item are above the factor loading thresholds. **Table 3**

shows the calculation results of exploratory factor analysis.

Table 2. Cronbach's Alfa (α), Average Varian Extracted (Ave), Collinearity Statistic (VIF)

Variable	α	(AVE)	COLLINEARITY STATISTIC (VIF)				
			1	2	3	4	5
HC	0,82	0,67	0,00				
SC	0,78	0,63	1,00	0,00			
RC	0,75	0,63	1,19	1,19	0,00		
CA	0,72	0,65	1,33	1,22	1,24	0,00	
P	0,79	0,62	2,00	1,27	1,76	2,93	0,00

Table 3 Exploration Factor Analysis

VARIABLE	KMO	χ^2 ($p=0,01$)
Human Capital (7)	0,7482	341,668
Structural Capital (9)	0,7793	236,495
Relational Capital (4)	0,5980	273,562
Competitive Advantage (3)	0,6214	242,546
Performance (4)	0,7012	237,456

To validate the construct of the exploratory factor analysis, the confirmatory factor analysis needed to carry out [23]. Confirmatory factor analysis (CFA) was used if the established factor had been determined first theoretically, or empirical research or both [23]. In CFA, there was Goodness of Fit value that must be acquired, so the factors that established the construct could be accepted. **Table 4** shows the CFA findings.

Table 4 Confirmatory Factor Analysis

Indexs	Cut of Value	HC	SC	RC	CA	P
CMIN/DF	< 5	286.9 (249)	269.3 (234)	252.4 (220)	276.0 (239)	273.9 (237)
Prob	< 0,05	0,001	0,003	0,000	0,004	0,003
GFI	> 0,9	0,94	0,92	0,95	0,92	0,91
AGFI	> 0,9	0,90	0,89	0,92	0,91	0,92
CFI	> 0,9	0,90	0,89	0,91	0,91	0,93
RMSEA	< 0,08	0,06	0,05	0,05	0,05	0,06

Hypothesis testing were performed with Partial least squares (PLS), with an alpha 5% (1.96). **Table 5** shows The Results of Hypothesis Testing

(Measurement Inner Model). The result shows that the construct in the research is relatively strong. This value indicates that human capital, structural capital, relational capital and competitive advantage can simultaneously explain 66,7% influence to performance. The hypothesis showed that H1, H2, H3, H4, H6, H7, H10, H13 were accepted. Hypothesis testing can be explained as follows human capital directly has a significant positive effect on structural capital (CR= 4.63, $p < 0.05$), relational capital (CR = 4.54, $p < 0.05$), competitive advantage (CR = 3.11, $p < 0,05$) and performance (CR = 2.52, $p < 0,05$). Structural capital directly have a significant positively affect to relational capital (CR = 3.24, $p < 0,05$) and competitive advantage (CR = 2.68, $p < 0.05$). Relational capital directly has a significant positive effect to competitive advantage (CR = 6.06, $p < 0,05$). Competitive advantage variable (CR = 3.72, $p < 0,05$) directly has a significant positive effect on performance.

Table 5 The Results Of Hypothesis Testing (Measurement Inner Model)

Hypothesis	Estimate	SE	CR	Result
H1	0.481	0.104	4.63*	Support
H2	0.490	0.108	4.54*	Support
H3	0.485	0.156	3.11*	Support
H4	0.565	0.224	2.52*	Support
H6	0.437	0.135	3.24*	Support
H7	0.465	0.173	2.68*	Support
H8	-0.230	0.186	1.23	Not Support
H10	0.569	0.094	6.06*	Support
H11	-0.239	0.175	1.36	Not Support
H13	0.774	0.208	3.72*	Support
$R^2 = 0,667$				
F-Statistic = 49,8				

Based on the results, human capital and competitive advantage directly affect the performance, and competitive advantage is the partial mediation for relation between human capital and performance. It means that H5 was accepted. While the structural capital and relational capital indirectly affects the performance. Sobel test shows that the affect of structural capital toward performance through competitive advantage (t_{test} : 2.179, $t_{statistic}$:

1.96) and relational capital toward performance through competitive advantage (t_{test} : 3.170, $t_{\text{statistic}}$: 1.96), it means that competitive advantage is the perfect mediation variable of the relationship between structural capital and relational capital to performance. H5 and H12 were accepted. **Table 6** show direct and indirect relationship among variables.

Table 6 Direct And Indirect Relationship Among Variables

Indirect Affects (with Mediation)			t_{test}	Mediation	Result
HC--CA	CA--P	HC--P	2.382	Partial	Support
0.485**	0.774**	0.157**			
SC--CA	CA--P	SC--P	2.179	Perfect	Support
0.465**	0.774**	.165**			
RC--CA	CA--P	RC--P	3.170	Perfect	Support
0.569**	0.774**	0.139**			

Meanwhile H8 and H11 were rejected, where the structural capital did not significantly influence the performance ($CR = 1.23$) and relational capital ($CR = 1.36$) did not significantly influence the performance. To further facilitate in understanding the influence between variables, here is a **figure 1** show of measurement and structural model.

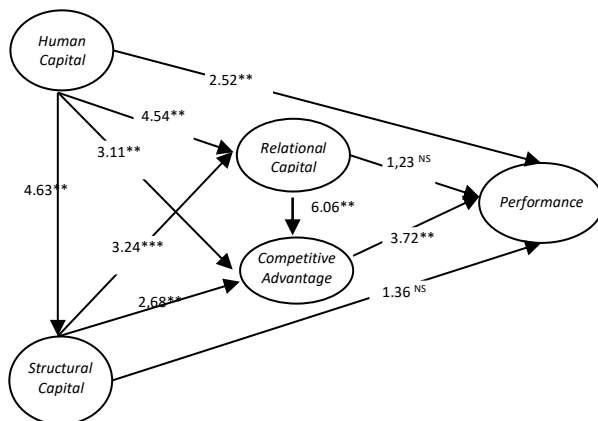


Figure 1 Measurement And Structural Model

CONCLUSION

The empirical results showed that the components of intellectual capital have positive significant relationship with the competitive advantage. This finding is in line with the knowledge based view, which states that intellectual capital as an intangible capital that can create value and enhance competitive advantage that will lead to organizational performance for SMEs Batik. Previous studies also supported the

findings such as [25][26][27][28]. Managing intellectual capital becomes one of the most important issues especially for SMEs Batik.

These resources have a profound effect on profit, function, and value, it needs more attention, because intellectual capital can foster competitive advantage and performance [28]. Human capital as an important component in the intellectual capital has a direct influence on other variables such as structural capital, relational capital, competitive advantage and performance [29]. For SMEs Batik, human capital becomes the spirit on how company is managed by creating systems, procedure, mechanism, structure and organization process even organizational culture which is part of structural capital [30][31]. If the organization is able to codify the company's knowledge and develop structural capital then the competitive advantage will be achieved. Such performance will result relatively higher employee performance [30].

Human capital as the fundamental of intellectual capital, has an important role in fostering relationships with interested parties, such as customers, suppliers, competitors, and governments. This means that human capital plays an important role in strategic planning in the creation of competitive advantage and performance enhancement [29][32].

For SMEs Batik, the role of intellectual capital in developing competitive advantage is enormous. Intellectual capital as an intangible asset is a valuable, inimitable and non substitutable resource. The emphasis is more on human capital, because human capital in SMEs Batik is very instrumental in organizational management. Human capital is the key to existing resources. When knowledge embedded in human capital can be coded it will produce an effective structural capital and improve long-term relationships with outsiders, which in turn will lead to competitive advantage and improve performance.

Suggestion that could be given to this research was on the factor of human capital, manager had to improve more creativity and innovation related to the continuity of product cycle. It was because batik was very easy to imitate, therefore, innovation in the design, colouring, and motives had become important factors. On structural capital, manager had to be able to code the knowledge of the owner/manager or employees (tacit knowledge) so that it could be distributed to the entire members of organization (explicit knowledge). Such coding could be through

procedure, routine and the culture of organization.

Limitations of this study that using a cross-sectional method that didn't saw the development of intellectual capital in a comprehensive, so it takes research with a longitudinal method. In addition, the concept of intellectual capital was a relatively new concept, especially for SMEs Batik, so that subjectivity perceptions of respondents are still very strong so it needs to be studied more in the factors that build intellectual capital in order to obtain other capital that characteristic of SMEs Batik. For further research, it is necessary to include another capital such spritual capital and social capital in order to develop a intellectual capital for SMEs.

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