



Green Intellectual Capital and Financial Performance Moderated Islamic Business Ethics

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Abstract. A new field of research called Green Intellectual Capital (GIC) was founded on intellectual capital. In addition, the company's level of environmental concern demonstrates the need of including intangible assets in financial reporting. Beyond making money, environmental concerns are now a top priority for businesses. One other component of the competitive edge that the business needs to take into account is environmental concerns. It is anticipated that this research will be able to provide an empirical explanation for how Islamic business ethics, when present, mitigate the positive impact of GIC (green intellectual capital) on MSMEs' financial performance. Due to a lack of time for in-person meetings and a restricted number of respondents, the research is a sort of quantitative descriptive study in which primary data is gathered by sending questionnaires via Google Form to MSME entrepreneurs that fit the study's criteria. As for the number of respondents, as many as 125 were collected. Data analysis using statistical test tools SPSS with the MRA method. The results of this study show that the existence of Islamic business ethics as moderation strengthens the causality between GIC and the company's financial performance.

Keywords: Green Intellectual capital, financial, Islamic business and ethics

1 Introduction

A recent study on intellectual capital is called Green Intellectual Capital (GIC). Enhancing performance goes hand in hand with the company's level of environmental care, demonstrating the need of including intangible assets in financial reporting. In addition to making money, the corporation is now primarily focused on environmental concerns [1] (Chang & Chen, 2012). Companies need to take into account environmental concerns as part of their competitive advantage [2] (Yusoff et al., 2019). CSR, or corporate social responsibility, is a more popular term for this type of environmental care. Research on GIC has been developing since the convergence of environmental concerns and intellectual capital. A beneficial association between CSR and the three components of GIC—green relational capital, green structural capital, and green human capital—can be cultivated by businesses with the support of increased environmental consciousness [3] (Jirakraisiri et al., 2021). Businesses must develop not just for their own needs but also for the environment. [4] (Chen, 2008; [2] Yusoff et al., 2019). The definition of GIC is the total worth of intangible assets, knowledge, capacities, and

concern for the environment or innovation at the level of individuals and firms. It starts with major companies and moves down to small and medium enterprises (MSMEs). Green relational capital, green structural capital, and green human capital are the three components that comprise GIC [4](Chen, 2008). Employee consideration, intellect, knowledge, experience, and information are all combined to create long-term useful GIC [5](H. Ullah et al., 2022). In addition to following strict international environmental rules and raising consumer knowledge of environmental issues, GIC can gain a competitive advantage [4] (Chen, 2008). "Green human capital" refers to the abilities that workers possess in terms of creativity, attitudes, experience, and employee competence toward environmental sustainability, according to Jirakraisiri et al. [5](2021; H. Ullah et al., 2022) and other researchers. The company's ability to sustain its operations will be aided by these skills. An organization's non-human resources, including intangible assets like organizational charts and manual procedures, are collectively referred to as "green structural capital."

In order to improve company performance while promoting environmental conservation, GIC provides opportunities for companies to focus on developing sustainable products in conjunction with green manufacturing practices [6](Yusliza et al., 2020). Sustainability of the business is a critical factor in assessing a company's performance. This means that the effect of GIC on business sustainability can be assessed using a variety of performance measures, such as economic, environmental, and social performance [7](Yong et al., 2022). The outcomes of several studies conducted on this subject [7][8][9][10](Boso et al., 2022; Mensah & Tang, 2021; S. Ullah et al., 2022; Yong et al., 2022).

With the development of sharia-based MSMEs, many business activities are directly related to the environment, including laundry businesses, wood and furniture businesses, compost businesses, and many more. The concept of GIC has not been widely discussed in MSMEs, especially sharia-based ones. Based on previous research, it is stated that MSMEs that implement green intellectual capital businesses have a positive effect on competitive advantage [11](Huang and Li, 2017). Research on GIC in MSMEs also shows that GIC has a significant effect on competitive advantage, but Islamic business ethics are capable of moderating the relationship between GIC and competitive advantage [12](Cahyono & Hakim, 2020). However, it is different from research that shows that GIC has no effect on MSME business sustainability [13](Fitri et al., 2022). This study fills the existing research gap by looking for the influence of GIC (human, structural, and relational) on the performance of MSMEs moderated by Islamic business ethics as moderation. The reason for using the moderation variable is because the MSMEs to be studied use Islamic sharia-based concepts. This is the novelty of this study, because no one has ever examined it.

2 Methodology research

2.1 Population and Research Sample

The population of this study is MSME entrepreneurs in the South Sulawesi region, but the sample respondents to this study are MSME entrepreneurs who join sharia-based entrepreneur communities. The sample selection criteria are as follows:

1. MSMEs have been operating for more than three years
2. MSME owners are entrepreneurs who are members of the Syirkah MSME community whose financial activities and management are sharia-based.
3. MSME criteria adjusted to [14] (Government Regulation of the Republic of Indonesia Number 07 of 2021, 2021)

2.2 Data Type and Sources

This type of research is a type of quantitative descriptive research with primary data by distributing questionnaires to MSME entrepreneurs who have met the criteria in this study directly to respondents to maintain a good questionnaire return rate. The questionnaire was distributed through a Google Form on the grounds that respondents did not have time to meet directly with researchers. The number of links shared with respondents was 150, but those who filled out questionnaires through the link were 125. The amount has been eligible to continue with data processing.

2.3 Definition of Variable Measurement

The following are the variables used and their measurements in this study:

Green Intellectual Capital (GIC)

The GIC variable consists of three dimensions. The questionnaire used a five-point Likert scale from strongly agree to strongly disagree and was adopted from the study [12] (Cahyono & Hakim, 2020).

1. Green Human Capital (GHC)
Regarding this variable, the question is whether the company's environmental protection policies outperform those of its primary rivals in terms of worker productivity and contribution, worker competency, product and service quality, teamwork, and top management support.
2. Green Structural Capital (GSC)
The question on this variable will be whether an organization's environmental protection practices outperform those of its rivals in the areas of management systems, innovation, profits made, expenditures incurred in R&D, facility investment, general operational procedures, and knowledge management systems.
3. Green Relational Capital (GRC)
This variable will ask whether the product or service design complies with consumer and environmentalist wishes, whether customer satisfaction with environmental protection is higher than that of competitors, whether working with sustainable suppliers to protect the environment is a good idea, and

whether working with strategic partners to protect the environment is a sustainable way to cooperate.

Financial Performance

This variable also uses a five-point Likert scale from strongly agree to strongly disagree, and the questionnaire was adapted from Zaragoza's (2020) research adjusted for MSMEs. The questions are in the form of market and business growth conditions, average revenue growth, business recognition, company image in the community, level of customer satisfaction, employee satisfaction, and business income every month.

Islamic Business Ethics

This variable modifies the degree to which the presence of Islamic business principles enhances or diminishes the correlation between the independent and dependent variables. Six indicators are used to measure the factors of Islamic business ethics: *sidiq* and *amanah*, *falah*, *itqan*, *amal salih*, *haqq* and *adl*, and *ihsan*.

2.4 Hypothesis Testing

Before distributing the questionnaire to the main respondents, it will first test the validity and reliability of the questionnaire to be used (*a pilot test*) with as many as 30 respondents. After that, hypothesis testing will be carried out for 125 Sharia-based MSME business owners using the SPSS test tool. The form of the regression equation is as follows:

$$\text{FinPe}_{it} = \alpha + \beta_1 \text{GHumCap}_{it} + \beta_2 \text{GStruCap}_{it} + \beta_3 \text{GReltCap}_{it} + \beta_4 \text{GHumCap} * \text{EBI} + \beta_5 \text{GStruCap} * \text{EBI} + \beta_6 \text{GReltCap} * \text{EBI} + e_{it}$$

3 Results

3.1 Green intellectual capital and financial performance

Table 1. Regression Result

		Unstandardized Coefficients		Standardized Coefficients			
		B	Std. Error	Beta	t	Sig.	
1	(Constant)	.665	.211		3.145	.002	
	GREEN HUMAN CAPITAL	.525	.078	.546	6.764	.000	
	GREEN STRUCTURAL CAPITAL	.100	.097	.107	1.031	.305	
	GREEN RELATIONAL CAPITAL	.232	.077	.265	3.032	.003	

a. Dependent Variable: FINANCIAL PERFORMANCE

Based on the table above, it can be seen that the significance value of Green Human Capital (GHC) is 0.000 (<0.05). This means that GHC has a significant effect on Financial Performance. The significance value of Green Structural Capital (GSC) is 0.305

(<0.05). This means that GSC does not have a significant effect on Financial Performance. Meanwhile, the significance of Green Relational Capital (GRC) to Financial Performance (FP) is 0.003 (<0.05). That is, GRC has a significant effect on FP.

Table 2. Result R Square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.853 ^a	.727	.721	.31260

a. Predictors: (Constant), GREEN RELATIONAL CAPITAL, GREEN HUMAN CAPITAL, GREEN STRUCTURAL CAPITAL

Based on table 2, it can be seen that the R2 value of 0.727 means that the value of the relationship between Green Human Capital, Green Structural Capital and Green Relational Capital with Financial Performance is 72.7%.

3.2 Green Intellectual Capital and Financial Performance moderated by Islamic Business Ethics

Table 3. Result Regression

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
		B		Beta		
1	(Constant)	2.927	.625		4.684	.000
	GREEN HUMAN CAPITAL	1.913	.550	1.987	3.477	.001
	GREEN STRUCTURAL CAPITAL	-2.727	.871	-2.932	-3.129	.002
	GREEN RELATIONAL CAPITAL	.707	.550	.808	1.286	.201
	ETHICS BUSINESS ISLAMIC	-.286	.165	-.315	-1.728	.087
	GHC DENGAN EBI	-.362	.139	-2.794	-2.613	.010
	GSC DENGAN EBI	.675	.210	5.413	3.218	.002
	GRC DENGAN EBI	-.148	.129	-1.238	-1.150	.252

a. Dependent Variable: FINANCIAL PERFORMANCE

1. Based on the table above, it can be seen that the significance value of the interaction variable between GHC and FP moderated by EBI is 0.10 (>0.05), which means it cannot moderate.

2. Based on the table above, it can be seen that the significance value of the interaction variable between GSC and FP moderated by EBI is 0.02 (<0.05), which means it can moderate.
3. Based on the table above, it can be seen that the significance value of the interaction variable between GRC and FP moderated by EBI is 0.252 (>0.05), which means it cannot moderate.

Based on the results of the table above shows that Green Human Capital (GHC) has a significant effect on financial performance but Islamic business ethics cannot moderate the relationship between the two. And Green Structural Capital (GSC) does not have a significant relationship to financial performance but Islamic Business Ethics can moderate the relationship between the two. Similarly, Green Relational Capital (GRC) has a significant effect on financial performance, but Islamic Business Ethics cannot moderate the relationship between the two.

Table 4. Model Summay (Moderating)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.904 ^a	.818	.807	.25972

a. Predictors: (Constant), GRC DENGAN EBI, GREEN HUMAN CAPITAL, GREEN STRUCTURAL CAPITAL, ETHICS BUSINESS ISLAMIC, GREEN RELATIONAL CAPITAL, GHC DENGAN EBI, GSC DENGAN EBI

From the table above, it can be seen that the RSquare value is 0.818 which means that the variables Green Human Capital, Green Structural Capital, Green Relational Capital to Financial Performance are 81.8%. Thus, it can be concluded that the existence of EBI variables as moderation can strengthen the influence of Green Human Capital, Green Structural Capital, Green Relational Capital variables on Financial Performance. This is evidenced by the increase in percentage from 72.7% (table 3) to 81.8% (table 4).

This study looks at how Green Intellectual Capital—which includes Green Human Capital, Green Structural Capital, and Green Relational Capital—influences Financial Performance on MSME entrepreneurs who join the Muslim entrepreneur community in Makassar. The study is tempered by Islamic Business Ethics. The study's findings demonstrated that while the outcomes of hypotheses 1, 2, and 3 were disproved, the association between green intellectual capital and financial performance was increased by the presence of Islamic business ethics. The findings of this study indicate that MSMEs in Makassar must raise consumer awareness of green intellectual capital and the importance of Islamic business ethics in enhancing the competitiveness of Muslim entrepreneurs in Makassar through higher-quality goods and services. The need of protecting the environment and implementing Islamic work ethics are other important concepts for MSME owners to comprehend. The findings of this study are consistent with those of Anik and Sulisty [15](2021), Cahyono and Hakim [12](2019), and [16]Chaudhry and Chaudhry (2022).

4 Discussion

The results showed that the application of Islamic business ethics values in running MSME businesses has a strong impact on environmental sustainability concerns and the ability to improve MSME business financial performance. In addition, the results of this study show that MSMEs in the city of Makassar need to increase literacy about green intellectual capital, and the role of Islamic business ethics can increase the competitive advantage of Muslim entrepreneurs in Makassar in the form of improving the quality of products and services for consumers. In addition, MSME entrepreneurs need to understand the importance of preserving the environment and applying the value of work-business ethics in Islam. Based on the conclusion of the study, it is considered necessary to conduct socialization about *green intellectual capital* both in the form of counseling and even in the form of training for MSME entrepreneurs in South Sulawesi, especially in the city of Makassar, and conduct studies in the field of gender for sharia-based MSME businessmen.

Acknowledgments

Thanks to Ujung Pandang State Polytechnic for funding this research using the Ujung Pandang State Polytechnic DIPA Budget for BLU Fund Source for 2023.

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