PRO-ENVIRONMENTAL MSMES PERFORMANCE: THE ROLE OF GREEN IT ADOPTION, GREEN INNOVATIVE BEHAVIOR, AND FINANCIAL ACCOUNTING RESOURCES

Hadri Kusuma, Muafi Muafi, Muamar Nur Kholid

ABSTRACT

Objective: Creative industry MSMEs in Indonesia are currently seen as one of the fields that can help the country's economic recovery after the Covid-19 pandemic. Therefore, it is important to study it more independently so that the business increasing independently. This study is conducted with the aim of identifying factors that can affect sustainable MSMEs performance improvement, namely green IT adoption, green innovative behavior, and green competitive advantage. In addition, researchers also consider the role of financial and accounting resources owned by MSMEs in moderating the effect of green innovative behavior and green competitive advantage in improving sustainable MSME performance.

Methods: This study is conducted on owners/managers of MSMEs in the creative batik industry in Special Region of Yogyakarta, Central Java, and West Java Provinces who are selected using a purposive sampling technique. Researchers distribute the questionnaires to respondents which is measured by a 6-point Likert scale. Data is processed using structural equation modeling (SEM) with the Partial Least Square Technique. The target sample is 350 MSMEs. After being identified and recapitulated the full answered questionnaire are 301 MSMEs.

Results: The findings of this study are: (1) green IT adoption has positive effect on green innovative behavior, (2) green IT adoption has positive effect on green competitive advantage (3) green innovative behavior has no positive effect on green competitive advantage, (4) financial and accounting resources have no moderate the effect of green innovative behavior on green competitive advantage, (5) Financial and accounting resources have no moderate the effect of green competitive advantage has positive effect on the performance of sustainable MSMEs.

Originality: Exploring other drivers of green competitive advantage and sustainable MSME performance, especially from green IT adoption. In addition, this research is also specifically conducted in the context of MSMEs in developing countries which are still experiencing several obstacles and problems in several aspects, such as finance and the lack of maximum implementation of environmentally oriented business practices.

Implication: MSMEs implement strategies that are integrated with sustainable pro-environment behavioural practices. MSMEs can motivate employees to have a habit of green behaviour. The adoption of green IT can increase awareness about the importance of sustainability and environmental responsibility in the organisation so that it can provide environmental benefits.
and can produce more efficiently and cleanly in a sustainable manner. In the long run, it can produce a sustainable green competitive advantage. Barriers to entry into the creative industry will be overcome when companies can have a high reputation and have sustainable business and environmental performance. Although financial and accounting resources do not moderate the effect of green IT adoption and green innovative behavior on green competitive advantage, companies must pay attention and have superior financial and accounting resources to reduce dependence on stakeholders. This is because in the long run it can strengthen the position and competitive advantage.

**Keywords:** Green Competitive Advantage (GCA), Green IT Adoption (GIT), Green Innovative Behavior (GIB), Financial and Accounting Resources (FIRA), MSMEs Performance (MP).

**Received:** 15/05/2023  
**Accepted:** 08/08/2023  
**DOI:** [https://doi.org/10.55908/sdgs.v11i4.673](https://doi.org/10.55908/sdgs.v11i4.673)

**DESEMPENHO DE MSMES PRÓ-AMBIENTAL: O PAPEL DA ADOÇÃO DE TI ECOLÓGICA, COMPORTAMENTO INOVADOR ECOLÓGICO E RECURSOS DE CONTABILIDADE FINANCEIRA**

**RESUMO**

**Objetivo:** As MPMEs da indústria criativa na Indonésia são atualmente vistas como um dos campos que podem ajudar na recuperação econômica do país após a pandemia da Covid-19. Portanto, é importante estudá-los de forma mais independente para que a empresa cresça de forma independente. Este estudo é realizado com o objetivo de identificar fatores que podem afetar a melhoria do desempenho sustentável das MPMEs, a saber, adoção de TI ecológica, comportamento inovador ecológico e vantagem competitiva ecológica. Além disso, os investigadores também consideram o papel dos recursos financeiros e contabilísticos detidos pelas MPME na moderação do efeito do comportamento inovador verde e da vantagem competitiva verde na melhoria do desempenho sustentável das MPME.

**Métodos:** Este estudo é realizado em proprietários / gerentes de MPMEs na indústria de batik criativo na Região Especial de Yogyakarta, Java Central e províncias de Java Ocidental que são selecionados usando uma técnica de amostragem propostal. Os pesquisadores distribuem os questionários aos entrevistados, que são medidos por uma escala Likert de 6 pontos. Os dados são processados usando a modelagem de equações estruturais (SEM) com a técnica de mínimo quadrado parcial. A amostra-alvo é 350 MSMEs. Após a identificação e recapitulação, o questionário completo respondido é de 301 MPMEs.

**Resultados:** As conclusões deste estudo são: (1) adoção de TI ecológica tem efeito positivo no comportamento inovador verde, (2) adoção de TI verde tem efeito positivo na vantagem competitiva verde, (3) comportamento inovador ecológico não tem efeito positivo na vantagem competitiva verde, (4) recursos financeiros e contábeis não têm efeito moderado no comportamento inovador verde na vantagem competitiva verde, (5) recursos financeiros e contábeis não têm efeito moderado o efeito da vantagem competitiva verde tem efeito positivo no desempenho das MPME sustentáveis.

**Originalidade:** explorar outros impulsionadores de vantagem competitiva e ecológica e desempenho sustentável do MSME, especialmente a partir da adoção de TI ecológica. Além disso, esta investigação é também realizada especificamente no contexto das MPME nos países em desenvolvimento que ainda enfrentam vários obstáculos e problemas em vários aspectos, tais como o financiamento e a falta de aplicação máxima de práticas comerciais orientadas para o ambiente.
Implicação: As MPMEs implementam estratégias que estão integradas com práticas comportamentais pró-ambientais sustentáveis. As MPMEs podem motivar os funcionários a ter um hábito de comportamento ecológico. A adoção de TI ecológica pode aumentar a conscientização sobre a importância da sustentabilidade e da responsabilidade ambiental na organização para que ela possa oferecer benefícios ambientais e produzir de maneira mais eficiente e limpa de maneira sustentável. A longo prazo, ela pode produzir uma vantagem competitiva ecológica sustentável. Embora os recursos financeiros e contábeis não moderem o efeito da adoção de TI ecológica e do comportamento inovador ecológico na vantagem competitiva ecológica, as empresas devem prestar atenção e ter recursos financeiros e contábeis superiores para reduzir a dependência das partes interessadas. Isso porque, a longo prazo, pode fortalecer a posição e a vantagem competitiva.

Palavras-chave: Vantagem Competitiva Ecológica (GCA), Adoção de TI Ecológica (GIT), Comportamento Inovador Ecológico (GIB), Recursos Financeiros e Contábeis (FIRA), Desempenho das MPME (MP).

1 INTRODUCTION

After the Covid-19 pandemic, Micro, Small, and Medium Enterprises (MSMEs) in Indonesia became one of the sectors for economic recovery. So far, MSMEs have contributed significantly to increasing economic growth, especially in developing countries. MSMEs have their own characteristics that make them more flexible in running a business, with agility and capabilities that larger scale companies do not have (Jafari-Sadehi et al., 2022; Troise et al., 2022). On the other hand, a number of researchers say that MSMEs tend to be more prone to failure than large-scale companies (Bloch & Bhattacharya, 2016; Radzi et al., 2017). This happens for several reasons, for example, although MSMEs tend to be more agile, they have limited resources and capital, an immature strategy, and a lack of ability to adapt and understand conditions in the external environment (Cantú et al., 2021; Mayr et al., 2021).

An effort to maintain its position in the industry is MSMEs need to ensure and look for ways to improve their performance and competitive advantage. In the last decade, various parties in the external environment who can influence business continuity have become more aware and tend to actively voice their opinions or values, including environmental issues. This awareness is shared by various parties, not only environmental activists or activists, but also consumers, public, government, and other parties who have an eye on MSMEs such as suppliers or competitors (Calculli et al., 2021; Gadenne et al., 2009; Li et al., 2020). Consumers can proactively convey their preferences and demands to companies or MSMEs to make products and adopt business processes that are more environmentally friendly (Heydari et al., 2021). In addition, Reis et al. (2021) and Severo
et al. (2019) state that currently the community can also be a driving force for implementing more environmentally friendly business models.

Some of these demands eventually become things that must be responded to by MSMEs. For this reason, the adoption of environmentally oriented business practices has begun to be implemented as a way for MSMEs to improve performance and gain a competitive advantage over their competitors. At present, this environmental awareness has also directed MSMEs to have a green competitive advantage in order to remain relevant to various drives from external parties (Zameer et al., 2022; Tu & Wu, 2021). Green competitive advantage enables a business to gain certain advantages by adopting sustainable practices and initiatives, as well as integrating environmental orientation into its overall business practices (Noronha et al., 2023; Zameer et al., 2020; 2022).

Several aspects that are predicted to be able to bring MSMEs to achieve them can be in the form of green digital adoption and green innovative behavior. Currently, the adoption of technology and information (IT) in business is one of the crucial things to consider. The use of IT can help MSMEs to reach a wider audience and identify issues or problems that occur more quickly (Loeser et al., 2017; Fan et al., 2022). A number of studies have proven that green IT adoption can encourage organizations to improve economic and environmental performance, collaborate with business partners, and establish good relationships with customers (Gholami et al., 2016; Radu, 2016). In the context of MSMEs, Hernandez (2020) states that the adoption of green IT helps MSMEs to seize wider opportunities than when they use traditional IT adoption without environmental considerations.

In addition, green innovative behavior has also been shown in a number of studies to be an important aspect that leads to increased performance (Ionescu, 2021; Wang et al., 2021). Even so, studies on green innovation in MSMEs has not looked at the behavioral side, but more inclined towards green innovation products and processes (Chen & Liu, 2020; Alkaraki et al., 2022; Rasool et al., 2023; Maziriri & Maramura, 2022). On the other hand, green innovative behavior is also mostly researched in the context of employees and teams, such as employees in finance, hospitality (Ionescu, 2021; Wang et al., 2021), and teams in companies in China (Zhang et al., 2022). However, studies on green innovative behavior in MSMEs by looking at the behavior of owners or managers is still limited.
For every organization, financial and accounting resources are foundations that must be owned and will determine the sustainability of the business (Adomako et al., 2018). The resources owned and managed by companies will enable them to achieve competitive advantage, and differentiate these companies from their competitors (Khanra et al., 2022). The same thing applies to MSMEs, which mostly still have limitations in capital and financial management (Arzubiaga et al., 2023; Radzi et al., 2017).

Studies on aspects that encourage green competitive advantage and sustainable MSME performance has so far been conducted quite a lot, but it still has some limitations. Maziriri (2020; Hang et al., 2022) mention the need for research to explore other driving factors of green competitive advantage and sustainable MSME performance, especially from a technology standpoint. In addition, this study is also specifically conducted in developing countries MSMEs which are still experiencing a number of constraints and problems in several aspects, such as finance and the lack of optimal implementation of environmentally oriented business practices (Arzubiaga et al., 2023; Radzi et al., 2017). Unlike a number of previous studies on green innovation which mostly focused on product and process innovation (Alkaraki et al., 2022; Rasool et al., 2023), this study attempts to highlight the innovative behavior of green-based MSME owners or managers. Thus, this study is conducted to fill the gap from previous studies regarding green competitive advantage and sustainable MSME performance by considering the role of green IT adoption, green innovative behavior, as well as financial and accounting resources in creative MSME, especially batik MSMEs in developing countries.

2 LITERATURE REVIEW

2.1 GREEN IT ADOPTION AND GREEN INNOVATIVE BEHAVIOR

Definitely, green IT adoption refers to the integration of sustainable environmentally friendly practices in the field of information technology (Fan et al., 2022). This integration involves implementing strategies, technologies, and policies that reduce the environmental impact of IT systems and promote sustainability in the organization. Green IT adoption emphasizes the achievement of two things, namely economic value and environmental value. Today, this concept is becoming increasingly important due to the increasing awareness of climate change and the need to reduce greenhouse gas emissions (Radu, 2016; Loeser et al., 2017).
Organizations can form an ecosystem that supports and stimulates green innovative behavior, emphasizes the potential for sustainable and environmentally friendly innovation by utilizing green IT adoption (Hernandez, 2020; Gholami et al., 2016). Adoption of green IT increases awareness about the importance of sustainability and environmental responsibility in organizations. As a result, all parties in the organization will understand the need for green practices and think creatively about how to integrate sustainability into the organization. Organizations can cultivate innovative behavior that focus on finding environmentally friendly solutions by promoting a green mindset (Fan et al., 2022). When implemented on an ongoing basis, green IT adoption became a process that involves continuous improvement, adaptation to new technologies, and best business practices (Popov & Popova, 2021). This focus on improvement encourages organizations to remain proactive and open to new ideas. Ultimately, this will foster a culture of learning, experimentation and innovation, enabling organizations to continuously develop their green practices and identify new opportunities for sustainable innovation behavior.

**H1. Green IT adoption has positive effect on green innovative behavior**

### 2.2 GREEN IT ADOPTION AND GREEN COMPETITIVE ADVANTAGE

Competitive advantage is often considered as one of the determinants of organizational or company success (Nayak et al., 2021; Haseeb et al., 2019). Through competitive advantage, namely the existence of resources or capabilities that are difficult to imitate and valuable, the company will be able to outperform its competitors. The concept of competitive advantages has also experienced a slight shift towards green competitive advantage with the increasing awareness of the environment from the side of the company's internal and external stakeholders (Noronha et al., 2023). Green competitive advantage refers to the strategic advantages that businesses gain when they adopt sustainable practices in their operational processes, products, and services (Zameer et al., 2020; 2022). Several previous studies have referred to IT adoption as a combination of acquiring or owning IT resources and improving the IT capabilities of an organization (Fan et al., 2022; Hernandez, 2020). Resources and capabilities themselves are a core part that determines the competitive advantage of a company. The more these resources and capabilities are considered rare and difficult to imitate, the higher the competitive advantage of the organization (Tu & Wu, 2021; Zhang et al., 2022). The same thing
applies to IT adoption, especially those that are also green based. The adoption of green IT allows organizations to achieve green competitiveness from various aspects, for example energy efficiency, operational cost savings, and a better reputation for the organization (Fan et al., 2022). Green IT adoption is a signal given by organizations to show their commitment to environmental preservation, as well as being something that differentiates them from competitors (Gholami et al., 2016; Radu, 2016). Organizations will be able to achieve green competitive advantages and advance their business by implementing green IT as one of the tools in achieving goals.

H2. Green IT adoption has positive effect on green competitive advantage

2.3 GREEN INNOVATIVE BEHAVIOR AND GREEN COMPETITIVE ADVANTAGE

So far, innovative behavior has been predicted to lead the achievement of excellence and success of a company (Nachucho et al., 2023; Wang et al., 2021). From an environmental perspective, this behavior is demonstrated by the implementation of new and useful ideas about products, services, processes, and practices in companies that are more environmentally friendly (Chen & Chang, 2013). So far, green innovative behavior has been more widely studied at the employee level (Noronha et al., 2023; Ionescu, 2021; Zhang et al., 2022). However, this concept can also be applied in the context of MSMEs, by emphasizing the behavior of the owner or manager. Real implementation of green innovation in behavior will encourage companies to develop environmentally friendly initiatives, by conducting mindful business practices and not having a negative impact on the environment (Hang et al., 2022). Several concepts related to green innovation have been proven to lead to achieving competitive advantage. For example, green product innovation and green process innovation (Khan et al., 2019; Xie et al., 2019). Green innovative behavior is reflected in organizational activities as a whole in developing products or services that are environmentally friendly, while implementing business processes that support sustainability (Wang et al., 2021; Peng et al., 2021). Green innovative behavior enables organizations to differentiate themselves from their competitors by offering environmentally friendly products, services, or processes. Organizations can establish a unique sales position and gain a competitive advantage in the market by becoming an initiator in green innovation behavior (Nachucho et al., 2023; Wang et al., 2021; Zhang et al., 2022). In addition, green innovative behavior also opens
opportunities for companies to enter new markets. Companies can attract attention from customers and collaborate with others who share similar values with more awareness on environmental conservation. Thereby, expanding business opportunities and driving their green competitive advantage.

**H3. Green innovative behavior has positive effect on green competitive advantage**

### 2.4 GREEN COMPETITIVE ADVANTAGE AND SUSTAINABLE MSME PERFORMANCE

The competitive advantage possessed by companies, or MSMEs, can be an asset for them to face industries with lower barriers (Lazenby, 2018). In a number of studies, company performance becomes superior when they have a competitive advantage (Thanh et al., 2021; Maletič et al., 2018). Company performance is a marker that measures a company's productivity and adequacy in achieving goals (Maziriri, 2020). Performance can be seen as bad when there are problems in financial performance such as decreased income, low ROI, or losses. Good or bad performance can also be identified by looking at market share or the company's position in the industry, the level of consumer satisfaction, or employee welfare (Larios-Francia & Ferasso, 2023; Boubaker et al., 2023).

Companies that have competitive advantages will be able to achieve higher levels of growth and performance (Nachucho et al., 2023; Khan et al., 2019; Qiu et al., 2020). MSMEs with a green competitive advantage can reach markets that are more segmented and have fundamental differences compared to their competitors with a special approach to environmental considerations (Hang et al., 2022). Environmentally-based competitive advantage is one way for companies to establish good relations with stakeholders and determine the position or reputation they have so that they can improve the performance of MSMEs (Nadanyiova, 2021). Maziriri (2020) states that if a company wants to excel, it must have a level of ownership and control of resources that are unique and difficult to imitate which can lead the organization to continuously improve company performance. Competitive advantage is characterized by the existence of important, different, and irreplaceable assets owned by an organization so that it can strengthen organizations to improve their performance (Ferreira et al., 2020; Khan et al., 2019). MSMEs will be able to outperform their competitors when they take advantage of their competitive advantage as their main capital. In addition, MSMEs with superior competitive advantages will be...
able to obtain higher benefits compared to other parties in the industry and obtain higher profits which ultimately boost their performance.

*H4. Green competitive advantage has positive effect on the MSMEs performance.*

2.5 THE MODERATING ROLE OF FINANCIAL AND ACCOUNTING RESOURCES

Hirsch & Schiefer (2016; Radzi et al., 2017) state that the resources owned by a company, including finance and accounting, will determine the difference in the performance of the company even though there are similar industrial backgrounds with other companies. Seeing this, the resources owned by companies are within the range of their control, when properly controlled by companies, can direct them to gain competitive advantage (Resmi et al., 2021; Haseeb et al., 2019; Nayak et al., 2021). Financial and accounting resources also determine whether a company will be able to run a smooth business process. Companies that have sufficient, or even excess, resources will have the ability to provide training and development for their employees, facilitate innovation and creativity, run the company without having certain concerns in increasing green competitive advantage. Choi et al. (2021) state that financial and accounting resources can help organizations to reduce their dependence on external parties, so they will get a stronger position in the industry. Conversely, when organizations experience a shortage of resources, this can actually make them more vulnerable to changes and threats from the environment, both internal and external (Liu & Yu, 2018; Lonbani et al., 2015). The existence of sufficient financial and accounting resources can be allocated to organizational activities to respond with conditions which will also strengthen position and competitive advantage in the long term (Radzi et al., 2017).

The role of financial and accounting resources becomes important when a company implements green innovative behavior to achieve a green competitive advantage. Companies will be more flexible in running their business and have the capacity to implement change and innovation with adequate internal resources (Ipek & Tanyeri, 2021; Choi et al., 2021). When a company's financial and accounting resources are sufficient or excess, the company would be more flexible in responding to environmental challenges and implementing Green IT adoption (Fan et al., 2022; Hernandez, 2020; Gholami et al., 2016; Radu, 2016) and innovative behavior (Wang et al., 2021; Peng et al., 2021, so that they can achieve a green competitive advantage that differentiates them from their competitors. Conversely, companies without adequate
internal resources tend to be limited in exploring their capabilities and opportunities to innovate, making it more difficult to achieve competitive advantage.

**H5: Financial and accounting resources moderate the effect of Green IT adoption on green competitive advantage**

**H6: Financial and accounting resources moderate the effect of green innovative behavior on green competitive advantage**

### 3 RESEARCH METHOD

This study uses a positivist approach and quantitative research methods to collect and analyze data. The focus is objective measurement and statistical analysis to explore the relationship between variables. The study is conducted on Batik MSMEs in Special Region of Yogyakarta, Central Java, and West Java. Batik MSMEs are chosen because the creative fashion industry contributes up to 17% of Indonesia's GDP or is the largest in the creative economy sub-sector (Timorria, 2020). Meanwhile, the selection of the three provinces is because the three regions are known to have large creative industries and contribute to national economic growth. As it is known that the batik industry in Indonesia is also not spared from cases of environmental pollution (Wirayatmoko, 2020; Ahdiat, 2019). The sample in this study is the owner/manager of Batik MSMEs in Bantul to represent Special Region of Yogyakarta, Klaten to represent Central Java, and Cirebon to represent West Java. The target sample in this study is 300 respondents, who meet the criteria for survey research (Hair et al., 2019). The selection of the sample used a purposive sampling technique with the following criteria: (1) MSMEs that have been operating for ≥3 years; and (2) have monthly sales of ≥Rp 3 million. This sampling technique allows the selection of respondents who have relevant knowledge and experience in the batik industry. The target sample is 350 MSMEs. After being identified and recapitulated the full answered questionnaire are 301 MSMEs.

This study utilizes the type of primary data obtained from distributing questionnaires to respondents. The questionnaire will be designed to capture information related to sustainable performance practices in Batik MSMEs. In its measurement, the researchers use a Likert scale with 7 points (1: very strongly disagree to 7: very strongly agree) to see respondents' perceptions and attitudes towards the variables Green IT adoption (GIT), green innovative behavior (GIB) and accounting and financial resources (FIRA). For sustainable MSME performance variables (MP) and green competitive advantage.
advantage (GIB) using a Likert scale with 7 points (score 1: very very low to a score of 7: very very high) when compared to other similar MSMEs. Questionnaires will be distributed to MSME owners, managers or key decision makers in the organization. This study uses Structural Equation Modeling (SEM) with the Partial Least Square Technique to analyze the collected data. SEM allows examining complex relationships between several variables, thereby helping to gain a comprehensive understanding of the factors influencing sustainable practices in Batik MSMEs. SEM also offers simultaneous testing for all variables, and can be used to test complex research models (Gudono, 2014). The data collected will be processed further, so that it can show results that indicate the strength and direction of the relationship between variables.

4 RESULTS

4.1 RESPONDENT DESCRIPTIONS

The number of respondents who participated in this study are 301 respondents. The majority of respondents are 94.35% female and 5.64% male. The average respondent has been running a business in the creative industry for 10 years. The MSMEs have been running a business in the creative industry for at least 3 years and a maximum of 43 years. The highest level of educations is Diploma 3.

4.2 MEASUREMENT MODEL

The results of validity and reliability tests can be seen in Table 1. The test results show that the outer loading value for all indicators is above 0.5. For example, the outer loading values for the FAR1 and GIB1 indicators are 0.712 and 0.848. In addition, the test results also show that the AVE value for each construct is above 0.5. For example, construct GCA and GIT with AVE values of 0.556 and 0.650. The Composite Reliability (CR) value for each construct is above 0.7. The results of the data analysis show that the indicators and constructs have fulfilled the convergent validity and reliability tests.

Table 1. Measurement Model: Convergent Validity and Reliability

<table>
<thead>
<tr>
<th></th>
<th>Outer Loading</th>
<th>Composite Reliability (CR)</th>
<th>Average Variance Extracted (AVE)</th>
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<tbody>
<tr>
<td>Financial and Accounting Resource (FAR)</td>
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</tr>
<tr>
<td>FAR1</td>
<td>0.712</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAR2</td>
<td>0.712</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAR3</td>
<td>0.774</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Innovation Behaviour (GIB)</td>
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Table 2. Measurement Model: Cross Loading

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<tr>
<th></th>
<th>FAR</th>
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<th>GCA</th>
<th>GIT</th>
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<td>FAR1</td>
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<td>FAR3</td>
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<td>0.141</td>
<td>0.361</td>
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<tr>
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</tr>
<tr>
<td>GIB2</td>
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<td>0.721</td>
<td>0.357</td>
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<tr>
<td>GIB3</td>
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</table>

Source: Prepared by the authors (2023)

Table 2 shows that the correlation between the construct indicator variables and the related constructs is significantly higher than the correlation with other constructs. For example, the correlation of FAR1 with FAR (0.712) is greater than the correlation of FAR1 with GIB (0.439). Meanwhile, the results of the R-Square (R²) test show that the model in this study is able to explain business performance by 34.00%, Green Competitive Advantage (GCA) by 49.10%, and GIB by 46.80%. Table 3 presents information on the results of the R² test.
Furthermore, Table 4 presents information on the results of hypothesis testing. The results of data analysis show that Green IT adoption has positive effect on green innovative behavior (β=0.686; ρ=0.000) so that H1 is accepted. Based on data analysis also shows that H2 is accepted, which means that Green IT adoption has positive effect on green competitive advantage (β=0.488; ρ=0.000). The result of the hypothesis test shows that GIB has no positive effect on green's competitive advantage (β=0.066; ρ=0.281) so that H3 is rejected. The test results show that GCA has significant positive effect on sustainable business performance (β=0.585; ρ=0.000) so that H4 is accepted. Moderation test results show that H5 and H6 are rejected. FAR does not strengthen the relationship between GIT and GCA (β=0.009; ρ=0.896). FAR also is not strengthen the relationship between GIB and GCA (β=0.036; ρ=0.593).

5 DISCUSSION AND IMPLICATION

The results explain that Green IT adoption has positive effect on green innovative behavior (H1 is accepted). Some experts explain that green IT adoption means that companies implement strategies that are integrated with sustainable pro-environmental behavior practices. There are two important aspects that are emphasized: orientation to efficiency and the environment (Radu, 2016; Loeser et al., 2017). When MSMEs have implemented Green IT adoption, it could motivate employees to have green behavior habits. Employees can produce innovative and environmentally friendly products/services (Hernandez, 2020; Gholami et al., 2016). Adoption of green IT can increase awareness about the importance of sustainability and environmental
responsibility in organizations. As a result, all parties in the organization will understand the need for green practices and think innovatively about how to integrate sustainability into the organization. Organizations can cultivate innovative behaviors that focus on finding environmentally friendly solutions by promoting a green mindset (Fan et al., 2022). When it becomes a culture, habits or values are believed to be able to provide benefits for the environment and produce more efficiently and cleanly in a sustainable manner (Popov & Popova, 2021), so that in the long run it can produce a sustainable green competitive advantage (Zameer et al., 2020; 2022). This also confirms that Green IT adoption has positive effect on green competitive advantage (H2 is accepted).

MSMEs must have unique and rare resources and capabilities that are difficult to imitate by other similar competitors. MSMEs that remain committed and focused on natural colored will have positive image so that they can boost business performance in addition to social and environmental performance (Gholami et al., 2016; Radu, 2016). Results prove that green competitive advantage has positive effect on sustainable MSMEs performance (H4 is accepted). Barriers to entry into the creative industry will be overcome when companies have high reputation and have sustainable business and environmental performance (Thanh et al., 2021; Maletič et al., 2018; Maziriri, 2020). Company performance is actually not only measured by financial performance but also non-financial ones such as reputation, customer loyalty, employee morale and other measures (Larios-Francia & Ferasso, 2023; Boubaker et al., 2023). MSMEs must be able to maintain good relations with stakeholders and not only with their customers (Hang et al., 2022; Nadanyiova, 2021).

The results also prove that green innovative behavior has no significant positive effect on green competitive advantage (H3 is rejected). This contradicts several theories that employees who have innovative behavior, especially green innovation behavior, can make organizations successful and long-lasting (Nachucho et al., 2023; Wang et al., 2021; Khan et al., 2019; Xie et al., 2019). In fact, innovative products and services can be made by making them more environmentally friendly, starting from the search for raw materials, the production process, to producing the final product and services. Chen & Chang (2013; Ionescu, 2021; Zhang et al., 2022; Khan et al., 2019; Xie et al., 2019) even recommends that green innovative behavior should be emphasized more on green product innovation and green process innovation. Both can be directed to support business sustainability (Wang et al., 2021; Peng et al., 2021). Therefore, creative MSMEs must be
serious about creating and implementing green product innovation and green process innovation that are environmentally friendly besides having to think about the social impacts that are caused. This is important considering that it is useless when MSMEs have increased business and environmental performance but the social interests of the community are not considered. This will have negative impact on the sustainability of businesses in the community.

The results prove that financial and accounting resources do not moderate the effect of green IT adoption and green innovative behavior on green competitive advantage (H5 and H6 are rejected). This contradicts the theory and results of several experts that resources have a significant effect in improving corporate performance and green competitive advantage. The resources owned by the company must be unique, rare, immittability, and non-substitute (Choi et al., 2021; Haseeb et al., 2019; Nayak et al., 2021; Liu & Yu, 2018; Lonbani et al., 2015). Hirsch & Schiefer (2016; Radzi et al., 2017) recommend that companies that have superior resources compared to competitors including financial and accounting resources will be able to determine whether the company's performance is good or bad. These resources must be managed and controlled properly so that companies have a green competitive advantage (Hseeb et al., 2019; Nayak et al., 2021). Specifically, Choi et al. (2021) find that when a company has superior financial and accounting resources, it could be used to reduce dependence on stakeholders. The impact is that companies can have high bargaining power because they have a stronger position in the eyes of stakeholders, and are more able to explore opportunities that come from outside the company (Liu & Yu, 2018; Lonbani et al., 2015). In the long term, it can strengthen its position and competitive advantage in the long term (Radzi et al., 2017).

6 CONCLUSION

The research concluded that: (1) green IT adoption has positive effect on green innovative behavior and green competitive advantage (2) green innovative behavior has no positive effect on green competitive advantage, (3) financial and accounting resources have no moderate the effect of green innovative behavior on green competitive advantage, (4) Financial and accounting resources have no moderate the effect of green competitive advantage has positive effect on the performance of sustainable MSMEs.
LIMITATIONS AND FUTURE RESEARCH AGENDA

This study has some limitations. The researchers also recommend a research agenda that can be followed up in the future, including:

1. Indonesia has many islands and each island has various ethnic groups. The social and cultural characteristics of the community influence lifestyles and varied learning patterns. This study is only conducted in three provinces in the Special Region of Yogyakarta, Central Java, and West Java which also have different social and cultural characteristics. This indicates that the results are feared not to be able to generalize the creative MSME population in Indonesia.

2. Respondents are selected by purposive sampling technique. There are some restrictions on the characteristics used to select them. In the future, it is better to consider non-random sampling techniques by taking them proportionally in each province in the country of Indonesia so that the results can more generalize to the population.

3. It is necessary to consider other variables outside the model under study. For example: green transformational leadership, green creativity, green commitment and other green behavior in an organizational context. Likewise, it is also necessary to consider aspects of green strategies and policies that should have been introduced early on and implemented in stages so that employees and company leaders are not surprised and can go through with it happily and satisfactorily. This is important so that aspects of the company's business sustainability can be maintained in the long term.

AKNOWLEDGEMENT

Thank you for the funds received from the Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Indonesia (Ministry of Education, Culture, Research and Technology), Indonesia under the Basic Research Grant Scheme 2023/2024 with contract number 0423.1/LL5-INT/AL.04/2023, 027/DirPPM/70/DPPM/PFR-KEMDIKbudRiset/VI/2023.
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