THE EFFECTS OF R&D INTENSITY AND PRODUCT ORIENTATION ON INNOVATIVENESS AND COMPETITIVE ADVANTAGE OF THE WOODCRAFT INDUSTRY

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Abstract: The ever-evolving business environment demands companies to adopt a customerfocused culture, continuously develop and sustain growth. Marketing is seen as a fundamental aspect of corporate culture, with market orientation as its practical application. The purpose of this study is to identify product innovation influencing marketing performance in the woodcraft industry in Central Java, Indonesia by adding competitive advantage as a mediator variable. Factors leading to product innovation, such as environmental uncertainty and R&D intensity, as well as factors leading to competitive advantage, such as product orientation and customer orientation, are identified in this study. The population in this study were 214 timber companies in Central Java Province. By using simple random sampling, the number of samples used in this study were 110 samples. The analysis in this study uses the SEM analysis method with SmartPLS 3. The results of this study indicate that environmental uncertainty and R&D intensity affect product innovation. In addition, product innovation and competitive advantage also have an influence on marketing performance. Therefore, this study supports the contingency theory which states that environmental uncertainty and research and development intensity can affect product innovation. Companies can foster a culture of innovation that enables them to foresee and respond to customer needs more effectively by focusing on research and adapting to changes in the external environment.

Keywords: competitive advantage, environmental uncertainty, marketing performance, product orientation, R&D intensity

Abstrak: Lingkungan bisnis yang terus berkembang menuntut perusahaan untuk mengadopsi budaya yang berfokus pada pelanggan, terus berkembang dan mempertahankan pertumbuhan. Pemasaran dipandang sebagai aspek mendasar dari budaya perusahaan, dengan orientasi pasar sebagai aplikasi praktisnya. Tujuan dari penelitian ini adalah untuk mengidentifikasi inovasi produk memengaruhi kinerja pemasaran di industri kerajinan kayu di Jawa Tengah, Indonesia dengan menambahkan keunggulan bersaing sebagai variabel mediator. Faktorfaktor yang menyebabkan inovasi produk, seperti ketidakpastian lingkungan dan intensitas R&D, serta faktor-faktor yang menyebabkan keunggulan bersaing, seperti orientasi produk dan orientasi pelanggan, diidentifikasi dalam penelitian ini. Populasi dalam penelitian ini adalah sebanyak 214 perusahaan kayu di Provinsi Jawa Tengah. Dengan menggunakan simple random sampling, jumlah sampel yang digunakan dalam penelitian ini adalah sebanyak 110 sampel. Analisis dalam penelitian ini menggunakan metode analisis SEM dengan SmartPLS 3. Hasil penelitian ini menunjukan bahwa ketidakpastian lingkungan dan intensitas R&D berpengaruh terhadap inovasi produk. Selain itu, inovasi produk dan keunggulan bersaing juga memiliki pengaruh terhadap kinerja pemasaran. Oleh karena itu, penelitian ini mendukung teori kontingensi yang menyatakan bahwa ketidakpastian lingkungan dan intensitas penelitian dan pengembangan dapat mempengaruhi inovasi produk. Perusahaan dapat membina budaya inovasi yang memungkinkan untuk memperkirakan dan merespons kebutuhan pelanggan dengan lebih efektif dengan berfokus pada penelitian dan beradaptasi dengan perubahan di lingkungan eksternal.

Kata kunci: keunggulan kompetitif, ketidakpastian lingkungan, kinerja pemasaran, orientasi produk, intensitas litbang

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INTRODUCTION

The level of competition in business is intensifying due to uniformity in products and services and a maturing market. As a result, companies need help to distinguish themselves from their rivals. It is insufficient to rely solely on technical fixes to solve issues, as this does not adequately support the company's competitive edge and market expansion goals. To outpace their competitors and establish customer loyalty, companies implement value-added services throughout the customer's journey, starting before the transaction occurs and continuing after (Kumar et al. 2019). Research indicates that investing in customer retention via value-adding strategies is more cost-effective than striving to attract new customers (Nasır, 2019). In the long term, having loyal customers can yield competitive advantages (Nastasoiu & Vandenbosch, 2019). Sheth (2017) stated that the business industry favors a relationship marketing strategy over a transactional approach. This shift is because the transactional approach has numerous flaws, such as being simple to replicate by competitors.

Conversely, the relationship marketing approach helps develop a devoted customer base that competitors cannot mimic. Moreover, delivering exceptional customer value is crucial for companies to enhance their performance consistently. For a company to maximize its long-term performance, it is imperative to establish and sustain gainful cooperative relations with its clients (Grunwald, 2022). Providing exceptional customer value is a primary asset for the company to gain a competitive edge. Businesses consider loyal customers advantageous for obtaining long-term benefits.

Consequently, relationship marketing was introduced in the marketing field to be incorporated into the service delivery procedure. According to Esteben et al. (2002), a market-oriented company must provide excellent value to customers efficiently and effectively. Market orientation refers to an organizational environment where employees are responsible for obtaining information about current and future customer requirements.

Iyer et al. (2019), Yu et al. (2019) suggest that market orientation can increase company performance through customer satisfaction and employee organizational commitment. To establish quality customer service, it is crucial to involve employees as they are responsible for maintaining the company's brand image by fulfilling promises to customers, addressing complaints, and promoting products or services. The ever-evolving business environment demands companies to adopt customer-focused cultures, continue thriving in the market, and sustain growth. Marketing is viewed as the fundamental aspect of a corporation's culture, with market orientation as its practical application. Consequently, market orientation is regarded as a corporate culture that prioritizes the customer as the key determinant of a company's prosperity. An organization's culture is a complex process where various activities occur within the organization. Each of these activities is distinct and contributes to the overall organizational culture. The ability of management to anticipate and plan for a market-oriented approach to business operations will significantly impact the company's long-term success and sustainability (Grunwald, 2022).

According to Ferreira, Fernandes, and Ferreira (2019), Giménez, Madrid-Guijarro, and Duréndez (2019), Bustinza, Gomes, Vendrell-Herrero, and Baines (2019), Huang and Li (2017), Pono et al. (2019), Aksoy (2017), innovation has a positive influence on marketing performance. However, research by Cheng, Chang, and Li (2013) concludes that product excellence does not significantly impact marketing performance. Meanwhile, studies by Moy et al. (2020) and Cillo, De Luca, and Troilo (2010) indicate that innovation negatively impacts company performance through damage to brand reputation and a lack of evidence that innovation in one period positively influences performance in the next period (Liao and Cheng, 2014). The different results of these studies suggest a research gap in the inability of product innovation to enrich product excellence and marketing performance. In 2018, the Central Java provincial government stated that the woodcraft industry contributed around IDR 1 trillion (approximately \$70 million) to the region's economy. The industry employed approximately 90,000 people, primarily in rural areas. Furthermore, the province was said to have 214 companies from over 3,000 woodcraft businesses, ranging from small family-run workshops to large factories. These businesses produced various products, such as furniture, handicrafts, and building materials. Thus, this study was carried out on wood craftsmanship in Central Java Province, wherein it was found that the furniture products were highly adaptable to changing consumer preferences. As a result, alterations in price, model, Jurnal Manajemen & Agribisnis, Vol. 20 No.2, July 2023

and added features easily affect the sales volume and profitability. The research aims to explore the effect of product innovation on marketing performance in Central Java's woodcraft industry. It intends to recognize the factors that drive innovation, including environmental uncertainty and R&D intensity, and identify factors that contribute to competitive advantage, such as product and customer orientation. Overall, the study examines the mediating role of competitive advantage in the relationship between product innovation and marketing performance.

METHODS

This research empirically examines the effect of the determinants of product innovation (environmental uncertainty and R&D intensity) and the determinants of competitive advantage (product orientation and customer orientation) on the marketing performance of the woodcraft industry by utilizing competitive advantage as a mediating variable (Figure 1). In this research. 214 woodcraft industries located in Central Java Province were used as the population. Simple random sampling was employed as the sampling technique. According to Ferdinand's (2006) recommendation, the sample size should be five times the number of indicators. There were 22 indicators in this study, so the sample size used was 110. The size requirements were met by utilizing the sample of 110 woodcraft industries.

Market orientation pertains to focusing on consumers and competition and recognizing their importance in corporate strategy, particularly in innovation and performance. A strong focus on competition is essential in creating new products that will ultimately succeed in the market. Additionally, a company's research and development efforts directly impact the commercial success of its innovations (Lewandowska & Cherniaiev, 2022). According to Kalyar et al. (2020), environmental uncertainty contributes positively to product innovation, especially in comparison to stable environments. Meicistaria & Isnalita (2020) also discovered a significant and beneficial correlation between increased research and development intensity and product innovation. This implies that greater levels of research and development will result in more product innovation. Arranz et al. (2019) found a robust connection between product innovation and marketing performance, indicating that innovative

products significantly impact marketing success. These findings are supported by Afriyie et al. (2019), who posit a positive effect of product innovation and marketing performance, implying that businesses that consistently innovate their products are likely to fare better in the market.

Furthermore, previous research underscores the importance of product orientation in achieving a competitive advantage. According to Falahat et al. (2020) and Tariq et al. (2019), businesses prioritizing product development over other factors are more likely to achieve competitive advantage. This highlights the significance of consistent product innovation for businesses looking to sustain a competitive edge in the market.

Research indicates that prioritizing customer input is critical in the relationship between customer orientation and competitive advantage. In order to achieve a competitive advantage, companies need to carefully orient products toward customers by considering their desires, needs, interpretations, and knowledge. Past studies have shown that a higher degree of product innovation positively affects competitive advantage (Kuncoro & Suriani, 2018). This is consistent with Dhameria et al. (2021) that competitive advantage inevitably leads to better marketing performance. These findings indicate that the level of competitive advantage is directly related to the level of marketing performance.

Furthermore, researchers have found that greater product innovation is associated with higher levels of competitive advantage when examining the relationship between product innovation and competitive advantage. Liu & Atuahene-Gima (2018) demonstrated that companies prioritizing product innovation are often more successful in achieving competitive advantage. Ferreira et al. (2020) also highlight that companies producing innovative products are more likely to gain a competitive edge.

Innovation is essential for firms to sustain their competitive advantage in the marketplace (Distanont & Khongmalai, 2020). Rajapathirana & Hui (2018) argue that innovation catalyzes firms' superior performance, leading to a better organizational outcome. Additionally, Ahmed et al. (2020) stated that innovativeness is crucial for firms, not only for achieving growth but also for their survival, given the increasing level of competition and uncertain market environment. Innovation necessitates a constant focus on the market and technology orientation of the company (Kocak et al. 2017). Product innovation requires the coordination of marketing strategy and technology. That way, products can meet consumer needs (Jaja et al. 2017). In this case, innovation is inseparable from identifying customer needs and an idea (Sjödin et al., 2020). Innovation requires an orienting approach that will evaluate customer needs. This will affect the belief that the product meets customer needs (Masa'deh et al, 2018). Zhang & Walton (2017) in their theoretical model shows that innovation improves business performance. As for this research, it focuses on product orientation and aligning marketing strategy and production process technology with marketing performance (Rajapathirana & Hui, 2018). The innovation stage begins with evaluating customer needs which generates ideas so that they can produce satisfying product innovations (Masa'deh et al. 2018). Thus, the theoretical framework model in this study in Figure 1.

- H1 : Environmental uncertainty has a negative effect on product innovation
- H2 : R&D intensity has an influence on product innovation
- H3 : Product orientation has an influence on competitive advantage
- H4 : Customer orientation has an influence on competitive advantage
- H5 : Product innovation has an influence on competitive advantage
- H6 : Product innovation has an influence on marketing performance
- H7 : Competitive advantage has an influence on marketing performance
- H8 : Competitive advantage can mediate the relationship between product innovation and marketing performance

The analytical method of this research uses the Structural Equation Modeling (SEM) method and is analyzed using SmartPLS 3 software. Structural Equation Modeling (SEM) is used to analyze the reliability and validity of the constructs used and to verify the accuracy of the model. SEM is also used to analyze the effect of independent variables on the dependent variable and formulate the results of hypothesis testing.



Figure 1. Research model

RESULTS

To assess the suitability of indicators for further testing, the dimensions of each variable (Environmental Uncertainty, R & D intensity, Product Orientation, Customer Orientation, Product Innovation, Competitive Advantage, and Marketing Performance) were evaluated based on their loading factor. The standard loading factor value was set to be above 0.5. As shown in Table 1, the findings indicate that all items have a valid loading factor.

The assessment instrument, specifically the Measurement Model, was evaluated using the Convergent Validity assessment, which revealed that the loading factor on the construct is significantly statistical. Furthermore, the Discriminant Validity assessment met the criteria, and the Composite Reliability assessment for all items that explained the construct in this study showed high reliability. All measurements depicted in Table 1, met the assessment criteria. Therefore, it can be inferred that all the revised indicators are suitable to test the hypothesis. Lastly, the items that explained the construct in this study were deemed highly reliable.

Table 2 presents the evaluation of the Inner Model or Structural Model. The data displayed the R Square for every dependent variable, where marketing performance had an R-Square of 0.527. This suggests that 52.7% of the variation in marketing performance can be attributed to environmental uncertainty, R&D intensity, customer orientation, product orientation, product innovation, and competitive advantage.

Table 1. Factor analysis, reliability, and validity test

Variables	Items	Loading Factor	Average Variance extracted (AVE)	Composite Reliability
Environmental Uncertainty	EU1	0.708	0.809	0.849
	EU2	0.908		
	EU3	0.798		
R & D intensity	RD1	0.751	0.871	0.906
	RD1	0.891		
	RD1	0.767		
Product Orientation	PO1	0.964	0.858	0.901
	PO2	0.957		
	PO3	0.755		
	PO1	0.953		
	PO2	0.762		
	PO3	0.723		
Customer Orientation	CO1	0.961	0.849	0.834
	CO2	0.718		
	CO3	0.816		
Product Innovation	PI1	0.775	0.787	0.830
	PI2	0.782		
	PI3	0.803		
Competitive Advantage	CA1	0.710	0.778	0.820
	CA2	0.802		
	CA3	0.719		
Marketing Performance	MP1	0.691	0.729	0.773
	MP2	0.770		
	MP3	0.762		

Table 2. R-Square for each endogenous variable

Endogenous variables	R- square
Product innovation	0.328
Competitive advantage	0.161
Marketing Performance	0.527

The results of Structural Model Testing presented in Table 3 and Figure 2 revealed the outcome of testing the first hypothesis related to the impact of environmental uncertainty on product innovation. The findings demonstrated environmental uncertainty's strong and adverse influence on product innovation. Specifically, the original sample estimate was -0.149, the T-statistics equaled 2.364, and the p-value was 0.001. Thus, the results affirmed that environmental uncertainty had a negative effect on product innovation. This implies that product innovation decreased as the level of environmental uncertainty increased. Therefore, the first hypothesis was validated. The results regarding the acceptance of the first hypothesis on the negative effect of environmental uncertainty on product innovation were supported by previous studies. Previous research, such as Zhao et al. (2018), Dai & Liang (2022), supports the first hypothesis that suggests environmental uncertainty negatively affects product

innovation. They suggest that while environmental uncertainty strengthens trust, it weakens the impact of contracts on innovation. Kafetzopoulos et al. (2020) have also found evidence of environmental uncertainty influencing product innovation and manufacturing firm performance. Companies that deal with various levels of uncertainty and have development strategies aligned with various environmental conditions tend to produce innovations (Zhao et al. 2018).

The results of the hypothesis test in Table 3 show that the second hypothesis, R&D intensity has a significant and positive effect on product innovation. This is evidenced by the T-statistics value obtained which was 3.877 (> 1.96) and a P value of 0.000 (<0.05). Thus, the second hypothesis of this study is accepted. This is in line with the research by Bustinza et al. (2019); Lin et al. (2021) and Sánchez-Sellero & Bataineh (2022) which show that high R&D intensity creates better product innovation and has a positive effect on environmental uncertainty. Additionally, Tavassoli (2018) identified a statistically significant effect between R&D input and innovative output, while Xie et al. (2019) found that high R&D intensity is linked to enhanced firm product performance.



Figure 2. Structural equation modeling

Hypothesis	Original sample estimate	T-statistics	p-value
Environmental Uncertainty (EU) \rightarrow Product Innovation (PI)	-0.149	2.364	0.001
R & D intensity (R&D) \rightarrow Product Innovation (PI)	0.074	3.877	0.000
Product Orientation (PO) \rightarrow Competitive Advantage (CA)	0.040	1.988	0.004
Customer Orientation (CO) \rightarrow Competitive Advantage (CA)	0.146	3.730	0.000
Product Innovation (PI) \rightarrow Competitive Advantage (CA)	0.362	2.192	0.002
Competitive Advantage (CA) \rightarrow Marketing Performance (MP)	0.091	2.265	0.001
Product Innovation (PI) \rightarrow Marketing Performance (MP)	0.109	2.013	0.002

Table 3. Estimated output for structural model testing

The examination also presented findings regarding the third hypothesis, which posits that product orientation contributes positively to competitive advantage. The outcomes indicated that product orientation leads to competitive advantage, as evidenced by the original sample estimate of 0.040, T-statistics of 1.988, and p-value of 0.004. These figures confirm that product orientation heightens competitive advantage and supports the third hypothesis's acceptance. In essence, higher levels of product orientation lead to increased competitive advantage. Previous studies validate the findings, suggesting a significant effect in terms of competitive advantage and product orientation. Švárová & Vrchota (2014), and Papadas et al. (2019) back this up with their empirical data. Kusnadi et al. (2018) prove that product orientation significantly impacts coordination mechanisms that improve quality performance. Other studies by Sinaga et al. (2021) and Sudirjo and Sulistivani (2023) support this by demonstrating how customer value affects firm orientation, influencing competitive advantage and organizational performance.

Additionally, the study evaluated the fourth hypothesis. The hypothesis proposed that a customer-centric approach significantly impacts gaining a competitive advantage. The findings revealed that customer orientation positively affected competitive advantage, as supported by the original sample estimate of 0.146, T-statistics of 3.730, and p-value of 0.000. This demonstrated that a higher emphasis on customer orientation led to a higher competitive advantage. Hence, the fourth hypothesis was validated. Previous studies by Bhat & Darzi (2018), Salunke (2019), and Feng et al. (2019) provided evidence to support the findings, which demonstrated that customer orientation has a positive impact on gaining a competitive advantage. To achieve competitive advantage, factors such as customer orientation are needed (Udriyah et al. 2019). This is because customer orientation can minimize competitor orientation (Liu & Atuahene-Gima, 2018).

In the fifth hypothesis which states that product innovation has an effect on competitive advantage, the T-statistic value is 2.192 (> 1.96) and the P value is 0.002 (< 0.05). This value indicates that the fifth hypothesis of this study is accepted. That is, product innovation has a significant effect on competitive advantage. These results support previous findings, Kuncoro & Suriani (2018); Qiu et al. (2020) and Falahat et al. (2020) which states that product innovation and competitive advantage are positively related. Also, product innovation can be an effective strategy to achieve competitive advantage.

Furthermore, testing the sixth hypothesis obtained a T-statistic value of 2.265 (> 1.96) and a P value of 0.001 (< 0.05). These results explain that product innovation has a positive effect on marketing performance. This indicates that a product-focused approach results in increased marketing performance. Hence, the sixth hypothesis was validated. Afrivie et al. (2019), Wang et al. (2021), and Edeh et al. (2020) supported the notion that product innovation has a positive impact on marketing performance. Tariq et al. (2019) discovered that product innovation affects a company's performance. Wang et al. (2021) showed that process and product innovation greatly influence firm performance. Previous studies, including Na et al. (2019), Papadas et al. (2009), and Ferreira et al. (2020), also confirmed the findings, which stated that competitive advantage has a positive impact on marketing performance. These studies are evidence of dynamic innovation capabilities' impact on competitive advantage and firm performance.

Lastly, the seventh hypothesis testing was to investigate how competitive advantage impacts marketing performance (Table 4). The statistical analysis confirms that competitive advantage positively affects marketing performance. The data revealed that the original sample estimate was 0.109, the T-statistic was 2.013, and the p-value was 0.002, indicating a significant association between competitive advantage and marketing performance. These findings suggest that as a competitive advantage increases, marketing performance also increases. Thus, the seventh hypothesis was supported. Udrivah et al. (2019) confirmed that competitive advantage is crucial in connecting product innovation and marketing performance, acting as a mediating factor. Christa & Kristinae (2021) have also discovered that the capability of firms to manage resources can impact the effect of product innovation on business performance. Similarly, Papadas et al. (2009) have shown that competitive advantage can act as a mediating variable between marketing innovation and business performance.

We analyzed indirect effects to investigate how competitive advantage acts as a mediator between product innovation and marketing performance (Table 4). The findings revealed that competitive advantage does indeed mediate the relationship between product innovation and marketing performance, as evidenced by an indirect effect of 0.033 with a p-value of 0.000 <0.05. The results calculated the total value of the

Table 4. Direct and indirect effects

relationship between product innovation and marketing performance with the mediating factor of competitive advantage, which was 0.141 with a p-value of 0.000 <0.05. These results support the hypothesis that competitive advantage mediates product innovation and marketing performance. Lastly, to sum up, all hypothesis testing results, the description and confirmation are shown in Table 5.

Managerial Implications

Research findings demonstrate that environmental uncertainty positively impacts product innovation. This showed that woodcraft companies that anticipate environmental uncertainty and possess knowledge of customer needs and desires can develop and innovate products that meet those specific needs and desires. Creating superior value through product innovation is essential for woodcraft companies to understand environmental uncertainty. It is also evident that R&D intensity has a strong positive relationship with the degree of product innovation. By investing in R&D intensity, woodcraft companies can efficiently access customer needs and desires and create new and innovative products to cater to them. Developing superior value through product innovation driven by monitoring concepts, technological advances and customer needs is essential to improve marketing performance.

Variable Relations	Direct influence	Indirect influence	Total influence
Product Innovation (PI) \rightarrow Marketing Performance (MP)	0.109**	-	-
Product Innovation (PI) \rightarrow Competitive Advantage (CA) \rightarrow Marketing Performance (MP)	-	0.033***	0.141***

Note: *,**,*** significance level (p-value) = 0.1; 0.05; 0.01

Table 5. Hypothesis testing confirmation

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Н	ypothesis		Expected Sign	Results	p-value	Confirmation	Conclusion
H1	$\mathrm{EU} \rightarrow \mathrm{PI}$	- (<0.05)	Negative and significant	-	(<0.05)	Negative and significant	Accepted
H2	$\text{RD} \rightarrow \text{PI}$	+(<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted
Н3	$PO \rightarrow CA$	+(<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted
H4	$CO \rightarrow CA$	+(<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted
Н5	$\mathrm{PI} \rightarrow \mathrm{CA}$	+ (<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted
H6	$CA \rightarrow MP$	+ (<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted
H7	$\mathrm{PI} \rightarrow \mathrm{MP}$	+ (<0.05)	Positive and significant	+	(<0.05)	Positive and significant	Accepted

Note: EU= Environmental Uncertainty; R&D=R & D intensity; PO=Product Orientation; CO=Customer Orientation; PI= Product Innovation; CA= Competitive Advantage; MP= Marketing Performance With woodcraft companies encouraging product innovation, this can have a positive impact on competitive advantage and marketing performance. Furthermore, by developing new products, companies can meet changing customer needs and will have an impact on increasing customer satisfaction and loyalty. In addition, companies that invest in marketing will create customer awareness about the company's products and services. Furthermore, to be able to compete with competitors, companies can create strategies so that they have their own characteristics that are different from other competitors by studying products, company strategies and marketing efforts. Companies that focus on customer value by designing products with customer needs in mind can also improve customer experience and foster a sense of product loyalty.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The results of this study conclude that environmental intensity and R&D intensity are important factors that will influence product innovation. Furthermore, product and customer orientation are also an important part for companies in determining competitive advantage. The results of this study also show that product innovation has a significant effect on competitive advantage. In addition, product innovation and competitive advantage can create good marketing performance for companies. In this case, competitive advantage can also be used as a good mediator to bridge the influence of product innovation on the company's marketing performance, so that the company's marketing performance will be more effective. This study also has several limitations, so the authors hope that similar research will be conducted in the future in order to strengthen the research results. Some of the limitations in this study include the limited sample size. Where in this study, the number of samples used in this study were 110 woodcraft SMEs in Central Java. It is hoped that further research will use a larger number of samples and use other, more diverse samples of companies to obtain more optimal results.

Recommendations

The results of this study contribute theoretically by providing empirical evidence about the importance of product innovation in creating competitive advantage to improve the company's marketing performance. Additionally, this study's results have implications for exploring the resource-based view as a suitable tool for identifying physical and intangible resources in woodcraft SMEs. The practical implications of this study suggest that woodcraft SMEs in Central Java need to create a positioning strategy that clearly defines their target market segment and focuses on concrete product offerings. Furthermore, it is essential to provide potential buyers with important product information.

Future research is suggested to explore the effects of additional variables, such as learning orientation, on firm performance. Competitive advantage can be used as a mediating measure for this purpose. This future research agenda is broader than the woodcraft industry in Central Java Province, and future studies should consider different situations and environments to increase the generalizability of the findings.

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REFERENCES

- Afriyie S, Du J, Ibn Musah AA. 2019. Innovation and marketing performance of SME in an emerging economy: the moderating effect of transformational leadership. *Journal of Global Entrepreneurship Research* 9:1–25. https://doi. org/10.1186/s40497-019-0165-3
- Ahmed W, Najmi A, Ikram M. 2020. Steering firm performance through innovative capabilities: A contingency approach to innovation management. *Technology in Society* 63:1–9. https://doi.org/10.1016/j.techsoc.2020.101385
- Aksoy H. 2017. How do innovation culture, marketing innovation and product innovation affect the market performance of small and mediumsized enterprises (SMEs)?. *Technology in Society* 51:133–141. https://doi.org/10.1016/j.

techsoc.2017.08.005

- Arranz N, Arroyabe MF, Li J, de Arroyabe JF. 2019. An integrated model of organisational innovation and firm performance: Generation, persistence and complementarity. *Journal of Business Research* 105:270-282. https://doi.org/10.1016/j. jbusres.2019.08.018
- Bhat SA, Darzi MA. 2018. Service, people and customer orientation: A capability view to CRM and sustainable competitive advantage. *Vision* 22(2): 163–173. https://doi. org/10.1177/0972262918766132
- Bustinza OF, Gomes E, Vendrell-Herrero F, Baines T. 2019. Product–service innovation and performance: the role of collaborative partnerships and RD intensity. *Rd Management* 49(1): 33–45. https://doi.org/10.1111/ radm.12269
- Cheng CF, Chang ML, Li CS. 2013. Configural paths to successful product innovation. *Journal of Business Research* 66(12): 2561–2573. https:// doi.org/10.1016/j.jbusres.2012.10.006
- Christa U, Kristinae V. 2021. The effect of product innovation on business performance during COVID 19 pandemic. Uncertain Supply Chain Management 9(1): 151–158. https://doi. org/10.5267/j.uscm.2020.10.006
- Cillo P, De Luca LM, Troilo G. 2010. Market information approaches, product innovativeness, and firm performance: An empirical study in the fashion industry. *Research Policy* 39(9):1242–1252. https://doi.org/10.1016/j.respol.2010.06.004
- Dai B, Liang W. 2022. The impact of big data technical skills on novel business model innovation based on the role of resource integration and environmental uncertainty. *Sustainability* 14(5):1-16. https://doi.org/10.3390/su14052670
- Dhameria V, Ghozali I, Hidayat A, Aryanto V. 2021. Networking capability, entrepreneurial marketing, competitive advantage, and marketing performance. *Uncertain Supply Chain Management* 9(4):941–948. https://doi. org/10.5267/j.uscm.2021.7.007
- DistanontA, KhongmalaiO. 2020. Therole of innovation in creating a competitive advantage. *Kasetsart Journal of Social Sciences* 41(1):15–21.
- Edeh JN, Obodoechi DN, Ramos-Hidalgo E. 2020. Effects of innovation strategies on export performance: New empirical evidence from developing market firms. *Technological Forecasting and Social Change* 158: 1–11.

https://doi.org/10.1016/j.techfore.2020.120167

- Falahat M, Ramayah T, Soto-Acosta P, Lee YY. 2020. SMEs internationalization: The role of product innovation, market intelligence, pricing and marketing communication capabilities as drivers of SMEs' international performance. *Technological Forecasting and Social Change* 152: 1–7. https://doi. org/10.1016/j.techfore.2020.119908
- Feng T, Wang D, Lawton A, Luo BN. 2019. Customer orientation and firm performance: The joint moderating effects of ethical leadership and competitive intensity. *Journal of Business Research* 100:111–121. https://doi.org/10.1016/j. jbusres.2019.03.021
- Ferreira J, Coelho A, Moutinho L. 2020. Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation* 92: 1–18. https://doi.org/10.1016/j. technovation.2018.11.004
- Ferreira JJ, Fernandes CI, Ferreira FA. 2019. To be or not to be digital, that is the question: Firm innovation and performance. *Journal of Business research* 101:583-590. https://doi.org/10.1016/j. jbusres.2018.11.013
- Giménez J, Madrid-Guijarro A, Duréndez A. 2019. Competitive capabilities for the innovation and performance of Spanish construction companies. *Sustainability* 11(19): 1–24. https:// doi.org/10.3390/su11195475
- Grunwald G. 2022. Sustainability co-creation in digitalized global value chains. *Strategic Change* 31(1): 19–29. https://doi.org/10.1002/jsc.2477
- Huang JW, Li YH. 2017. Green innovation and performance: The view of organizational capability and social reciprocity. *Journal of Business Ethics* 145: 309–324. https://doi. org/10.1007/s10551-015-2903-y
- Iyer P, Davari A, Zolfagharian M, Paswan A. 2019. Market orientation, positioning strategy and brand performance. *Industrial Marketing Management* 81:16–29. https://doi. org/10.1016/j.indmarman.2018.11.004
- Jajja MS. S, Kannan VR, Brah SA, Hassan SZ. 2017. Linkages between firm innovation strategy, suppliers, product innovation, and business performance: Insights from resource dependence theory. *International Journal of Operations Production Management* 37(8):1054–1075.

https://doi.org/10.1108/IJOPM-09-2014-0424

- Kafetzopoulos D, Psomas E, Skalkos D. 2020.
 Innovation dimensions and business performance under environmental uncertainty. *European Journal of Innovation Management* 23(5): 856– 876. https://doi.org/10.1108/EJIM-07-2019-0197
- Kalyar MN, Shafique I, Ahmad B. 2020. Effect of innovativeness on supply chain integration and performance: Investigating the moderating role of environmental uncertainty. *International Journal of Emerging Markets* 15(2): 362–386.
- Kocak A, Carsrud A, Oflazoglu S. 2017. Market, entrepreneurial, and technology orientations: impact on innovation and firm performance. *Management Decision* 55(2): 248–270.
- Kumar A, Luthra S, Khandelwal DK, Mehta R, Chaudhary N, Bhatia S. 2017. Measuring and improving customer retention at authorised automobile workshops after free services. *Journal of Retailing and Consumer Services* 39: 93–102.
- Kuncoro W, Suriani WO. 2018. Achieving sustainable competitive advantage through product innovation and market driving. *Asia pacific management review* 23(3): 186–192.
- Kusnadi N, Etriya E, Muflikh YN, Jahroh S, Herawati H. 2018. The role of entrepreneurial orientation on the global vegetable supply chain and on farm performance in West Java, Indonesia. *Jurnal Manajemen & Agribisnis* 15(1):23–23. https:// doi.org/10.17358/jma.15.1.23
- Lewandowska A, Cherniaiev H. 2022. RD Cooperation and Investments concerning Sustainable Business Innovation: Empirical Evidence from Polish SMEs. *Sustainability* 14(16):1–16. https://doi.org/10.3390/su14169851
- Liao S, Cheng CC. 2014. Brand equity and the exacerbating factors of product innovation failure evaluations: A communication effect perspective. *Journal of business research* 67(1):2919–2925.
- Lin WL, Ho JA, Sambasivan M, Yip N, Mohamed AB. 2021. Influence of green innovation strategy on brand value: The role of marketing capability and RD intensity. *Technological Forecasting and Social Change* 171:1–13
- Liu W, Atuahene-Gima K. 2018. Enhancing product innovation performance in a dysfunctional competitive environment: The roles of

competitive strategies and market-based assets. *Industrial Marketing Management* 73: 7–20.

- Masa'deh RE, Al-Henzab J, Tarhini A, Obeidat BY. 2018. The associations among market orientation, technology orientation, entrepreneurial orientation and organizational performance. *Benchmarking: An International Journal* 25(8): 3117–3142. https://doi. org/10.1108/BIJ-02-2017-0024
- Meicistaria D, Isnalita I. 2020. The influence of research and development intensity, firm size, and family ownership on green product innovation. In R. Hurriyati, B. Tjahjono, I. Yamamoto, A. Rahayu, A. G. Abdullah, & A. A. Danuwijaya (eds.), *Advances in Business, Management and Entrepreneurship* (pp. 558-561). CRC Press. https://doi.org/10.1201/9780429295348-116
- Moy MM, Cahyadi ER, Anggraeni E. 2020. The impact of social media on knowledge creation, innovation, and performance in small and medium enterprises. *Indonesian Journal of Business and Entrepreneurship* 6(1):23–23. https://doi.org/10.17358/ijbe.6.1.23
- Na YK, Kang S, Jeong HY. 2019. The effect of market orientation on performance of sharing economy business: Focusing on marketing innovation and sustainable competitive advantage. *Sustainability* 11(3): 1–19
- Nasır, S. 2019. Marketing Strategies in Competitive Markets and Challenging Times. In Information Resources Management Associationn (ed.), *Brand Culture and Identity: Concepts, Methodologies, Tools, and Applications* (pp. 248-271). IGI Global.
- Nastasoiu A, Vandenbosch M. 2019. Competing with loyalty: How to design successful customer loyalty reward programs. *Business Horizons* 62(2): 207–214. https://doi.org/10.1016/j. bushor.2018.11.002
- Papadas KK, Avlonitis GJ, Carrigan M, Piha L. 2019. The interplay of strategic and internal green marketing orientation on competitive advantage. *Journal of Business Research* 104: 632–643.
- Pono M, Munir AR, Maming J, Kadir N. 2019, February. Mediation effect of acculturative aesthetic attractiveness on the relation of product innovation to increase SMEs marketing performance. In *IOP Conference Series: Earth and Environmental Science* (Vol. 235, No. 1, p.

012065. IOP Publishing.

- Qiu L, Jie X, Wang Y, Zhao M. 2020. Green product innovation, green dynamic capability, and competitive advantage: Evidence from Chinese manufacturing enterprises. *Corporate Social Responsibility and Environmental Management* 27(1): 146–165.
- Rajapathirana RJ, Hui Y. 2018. Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation Knowledge* 3(1): 44–55.
- Salunke S, Weerawardena J, McColl-Kennedy JR. 2019. The central role of knowledge integration capability in service innovationbased competitive strategy. *Industrial Marketing Management* 76: 144–156. https://doi. org/10.1016/j.indmarman.2018.07.004
- Sánchez-Sellero P, Bataineh MJ. 2022. How RD cooperation, RD expenditures, public funds and RD intensity affect green innovation?. *Technology Analysis Strategic Management* 34(9): 1095– 1108. https://doi.org/10.1080/09537325.2021.1 947490
- Sheth J. 2017. Revitalizing relationship marketing. *Journal of Services Marketing* 31(1): 6–10. https://doi.org/10.1108/JSM-11-2016-0397
- Sinaga J, Anggraeni E, Slamet AS. 2021. The effect of supply chain management practices and information and communication technology on competitive advantage and firm performance (Case study: Smes of processed food in Jakarta. *Indonesian Journal of Business and Entrepreneurship* 7(1): 91–91. https://doi. org/10.17358/ijbe.7.1.91
- Sjödin D, Parida V, Kohtamäki M, Wincent J. 2020. An agile co-creation process for digital servitization: A micro-service innovation approach. *Journal* of Business Research 112: 478–491. https://doi. org/10.1016/j.jbusres.2020.01.009
- Sudirjo F, Sulistiyani S. 2023. Purchasing Decision Behaviours of Health Insurance Products and The Determinants of Competitive Advantage. *Indonesian Journal of Business and Entrepreneurship* 9(1): 163–163. https://doi. org/10.17358/ijbe.9.1.163
- Švárová M, Vrchota J. 2014. Influence of competitive advantage on formulation business strategy. *Procedia Economics and Finance*

12: 687–694. https://doi.org/10.1016/S2212-5671(14)00394-3

- Tariq A, Badir Y, Chonglerttham S. 2019. Green innovation and performance: moderation analyses from Thailand. *European Journal of Innovation Management* 22(3): 446–467. https:// doi.org/10.1108/EJIM-07-2018-0148
- Tavassoli S. 2018. The role of product innovation on export behavior of firms: Is it innovation input or innovation output that matters?. *European Journal of Innovation Management* 21(2): 294–314. https://doi.org/10.1108/EJIM-12-2016-0124
- Udriyah U, Tham J, Azam S. 2019. The effects of market orientation and innovation on competitive advantage and business performance of textile SMEs. *Management Science Letters* 9(9): 1419– 1428. https://doi.org/10.5267/j.msl.2019.5.009
- Wang M, Li Y, Li J, Wang Z. 2021. Green process innovation, green product innovation and its economic performance improvement paths: A survey and structural model. *Journal of Environmental Management* 297: 1–12. https:// doi.org/10.1016/j.jenvman.2021.113282
- Xie X, Wang H, Jiao H. 2019. Non-RD innovation and firms' new product performance: the joint moderating effect of RD intensity and network embeddedness. *RD Management* 49(5): 748– 761. https://doi.org/10.1111/radm.12369
- Yu Q, Yen DA, Barnes BR, Huang YA. 2019. Enhancing firm performance through internal market orientation and employee organizational commitment. *The International Journal of Human Resource Management* 30(6): 964–987. https://doi.org/10.1080/09585192.2017.138005
 9
- Zhang JA, Walton S. 2017. Eco-innovation and business performance: the moderating effects of environmental orientation and resource commitment in green-oriented SME s. *RD Management* 47(5):1–14. https://doi. org/10.1111/radm.12241
- Zhao Y, Feng T, Shi H. 2018. External involvement and green product innovation: The moderating role of environmental uncertainty. *Business Strategy and the Environment* 27(8): 1167–1180. https:// doi.org/10.1002/bse.2060