

***RISK ASSESSMENT OF RATTAN MANUFACTURER AS BUSINESS
IMPROVEMENT (CASE STUDY: CV. TROPICA RATTAN)***

***PENILAIAN RISIKO PADA PRODUSEN ROTAN SEBAGAI UPAYA
PENINGKATAN USAHA (STUDI KASUS: CV. TROPICA ROTAN)***

Reyhan Pratama¹, Raden Aswin Rahadi²

Master of Business Administration, Sekolah Bisnis dan Manajemen, Institut Teknologi
Bandung^{1,2}

reyhan_pratama@sbm-itb.ac.id¹, aswin.rahadi@sbm-itb.ac.id²

ABSTRACT

Indonesia's rattan industry, a major contributor to the Indonesian economy, faces significant challenges, such as fluctuating raw material supply, rising production costs, and competition from synthetic furniture products. CV Tropica Rattan, a mid-sized company in Cirebon, faces the challenges of declining export performance and limited innovation. This study applies a customized risk management framework to address operational and financial risks that may affect CV Tropica Rattan. Internal and external analysis was conducted using Business Model Canvas and PESTLE to identify possible risk factors. The Analytical Hierarchy Process was then used to prioritize the risks to implement mitigation strategies efficiently. Semi-structured interviews and focus group discussions provided qualitative insights, while secondary data was used to support contextual analysis. The results show that structured risk management can improve the company's resilience and competitiveness while providing a model that can be used for similar MSMEs in the rattan industry. This research contributes to understanding how tailored risk strategies can promote sustainable growth and operational efficiency in traditional manufacturing.

Keywords: Risk Management, Rattan Industry, MSME, Business Model Canvas, PESTLE, Analytical Hierarchy Process.

ABSTRAK

Industri rotan Indonesia, yang merupakan kontributor utama bagi perekonomian Indonesia, menghadapi tantangan yang cukup besar, seperti pasokan bahan baku yang berfluktuasi, kenaikan biaya produksi, dan persaingan dari produk furnitur sintetis. CV Tropica Rattan, sebuah perusahaan menengah di Cirebon, menghadapi tantangan berupa penurunan kinerja ekspor dan inovasi yang terbatas. Studi ini menerapkan kerangka kerja manajemen risiko yang disesuaikan untuk mengatasi risiko operasional dan keuangan yang dapat mempengaruhi CV Tropica Rattan. Analisis internal dan eksternal dilakukan dengan menggunakan Business Model Canvas dan PESTLE untuk mengidentifikasi faktor-faktor risiko yang mungkin terjadi. Proses Hirarki Analitik kemudian digunakan untuk memprioritaskan risiko-risiko untuk menerapkan strategi mitigasi secara efisien. Wawancara semi-terstruktur dan diskusi kelompok terarah memberikan wawasan kualitatif, sementara data sekunder digunakan untuk mendukung analisis kontekstual. Hasil penelitian menunjukkan bahwa manajemen risiko yang terstruktur dapat meningkatkan ketahanan dan daya saing perusahaan serta memberikan model yang dapat digunakan untuk UMKM serupa di industri rotan. Penelitian ini berkontribusi dalam memahami bagaimana strategi risiko yang disesuaikan dapat mendorong pertumbuhan yang berkelanjutan dan efisiensi operasional di sektor manufaktur tradisional.

Kata Kunci: Kepemimpinan, Kompetensi Profesional, Budaya, Kinerja, Komitmen.

INTRODUCTION

The rattan manufacturing industry is one of the mainstay core positions within the Indonesian national economy. Because it can absorb many workers, it has also been in a position within leading sectors characterized by high labor intensity over time. According to BPS Cirebon Regency (Table 1), the rattan industry in Cirebon

Regency employed 63,768 workers in 2021 alone, compared to 62,826 in 2020. The industry's production value was estimated at USD 148.875 in 2021. The fairly consistent increase shows that the rattan handicraft commodity in Cirebon Regency is growing from time to time and has become the main commodity in Cirebon Regency.

Table 1. Data on Rattan Crafts Commodities in Cirebon Regency

Description	2018	2019	2020	2021
Total Workers	60.887	62.575	62.826	63.768
Investment Value (in Thousand)	270.546	332.042	333.302	338.301
Number of Companies	1.408	1.478	1.480	1.502
Production Value (USD)	142.365	145.711	146.675	148.875

Globally, Indonesia is the largest producer of raw rattan, supplying about 80% of global consumption. However, despite its dominant position in raw material production, Indonesia's performance in the rattan furniture market has weakened. Indonesia ranks third in global rattan exports, holding a 6.11% market share, behind China at 45.15% and Vietnam at 12.49%

(Hindarsah et al., 2020). This decline in global competitiveness is due to several challenges, including a lack of innovation and marketing regarding rattan furniture products worldwide, production, and intense competition from synthetic rattan products. This is indicated by a decline in exports of furniture using rattan in 2022-2023 (Table2).

Table 2. Furniture Export in Indonesia

Commodity	Weight (thousand Tons)				
	2019	2020	2021	2022	2023
Wooden Furniture	389.9	420.8	506.5	506.5	368.7
Other Furniture	62.2	101.7	105.4	105.4	97.3
Rattan or Bamboo Furniture	20.8	21.7	27.3	27.3	16.5
Metal Furniture	17.9	23.5	30.2	30.2	16.3
Plastic Furniture	19.1	20.2	21.6	9..6	4.8

Such huge declines in export performance concern the Indonesian Government, which has targeted revenue realization of USD 5 billion from furniture and handicrafts exports by 2024. Naturally, this would be a difficult target due to the decline in exports and the rattan trade balance deficit. Issues with high production costs, constraints on design innovation, and inconsistent quality of raw materials are why the rattan processing industry does less than expected in the country.

Although the Government banned the export of raw rattan to encourage downstream industries and add value to domestically made products, this policy has turned out to be a source of problems

for the upstream part of the businesses (Myers, 2015). High pressure applied to raw rattan prices has discouraged the cultivation and supply of decent quality materials needed by local manufacturers. However, this segment still faces major challenges regarding quality raw material supply, production control, and design innovation in the face of competition from countries like China. China has dominated this segment due to its low production costs and higher efficiency of synthetic rattan. This is where the global demand shifts from natural rattan to synthetic rattan, which is relatively cheaper and more durable.

Additional factors that impede the competitiveness of Rattan furniture

manufacturing in Indonesia include fluctuating raw material availability, elevated interest rates for business financing, and a lackluster domestic brand image of Indonesian rattan products. The challenges indicate that medium-sized enterprises like Tropica Rattan would remain operational and competitive only by implementing structured risk management practices. In particular, the lack of effective risk management frameworks in the context of the rattan industry has an adverse impact on SMEs' ability to respond proactively to internal and external risks.

Tropica Rattan, established in 2002 in Cirebon, with more than two decades of experience in this field, has survived through fluctuating demand without the knowledge and ability to deal with existing risks. The company continues to grow independently and adapt to market and environmental conditions, including material and labor costs. Due to the limitations of the Company, which is a small family-owned business, its resources are limited. To address changes in market demand and competition from other synthetic rattan manufacturers, product diversification was developed. By adding synthetic with aluminum rattan furniture and wood-based furniture based on what the market wants.

However, this segment still faces big challenges in terms of the quality supply of raw materials, cost control in production, and innovation both in

natural and synthetic rattan in design in the face of competition with countries like China, which had dominated the segment because of the low cost of production and higher efficiency levels of synthetic rattan. Other factors that work against Tropica Rattan's competitiveness are fluctuating raw material availability, high interest rates for business financing, and a generally weak brand image of Indonesian rattan products domestically. The Company challenges indicate that medium-sized enterprises like Tropica Rattan would remain operational and competitive only through structured risk management practices. More precisely, SMEs' effective risk management frameworks are not present in a rattan industry context, therefore affecting their powers of proactive response to internal and external risks.

This research tried to fill this gap by applying an integrated risk management framework that will enable Tropica Rattan to identify, prioritize, and mitigate the risks accordingly. Furthermore, the study seeks to enhance the Company's resilience and competitiveness in the domestic and international markets. The findings of this study will contribute to a better understanding of risk management practices for SMEs in Indonesia's rattan industry and provide appropriate risk mitigation strategies tailored for Tropica Rattan.

METHOD

Research Design

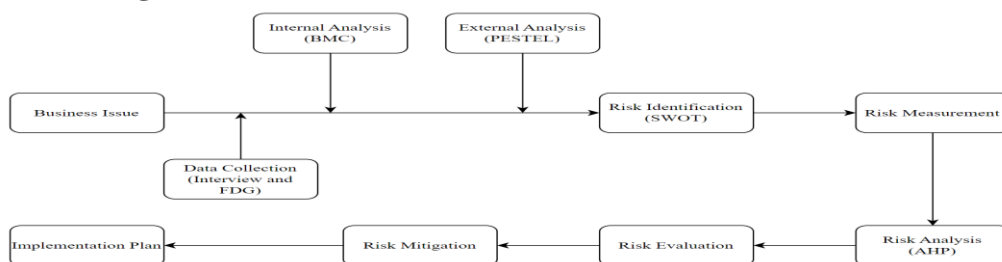


Figure 1. Research Design.

This research employs a qualitative approach to gain a deeper understanding of the risks faced by Tropica Rattan. The qualitative approach is especially beneficial for examining the context and subjective elements of the company's environment and internal processes, which is vital given the medium-sized scale of the business and its emphasis on comprehensive risk management. On the other hand, quantitative methods, which are effective for analyzing numerical data, are not suited for capturing the subjective nature of stakeholders' perceptions and experiences.

The qualitative approach allows for more detailed insights into complex, non-numerical elements such as operational inefficiencies and strategic vulnerabilities. These insights are essential for developing a nuanced understanding of the factors affecting risk management at Tropica Rattan. With qualitative methods, stakeholders' experiences, perceptions, and other details can be collected and illustrated, which is impossible using only quantitative methods.

The primary reason quantitative methods were not chosen is their limited capacity to explore subjective risk perceptions and the intricate context in which Tropica Rattan operates. Quantitative data alone often fails to illustrate the experiential aspects of risk that can influence decision-making and risk management strategy development.

Data will be collected through semi-structured interviews and focus group discussions (FGDs), providing necessary details regarding operational and financial risks and facilitating exploring stakeholder's experiences and viewpoints. These techniques are particularly suited for medium-sized

enterprises like Tropica Rattan, which benefit from contextual understanding to develop tailored risk management strategies.

To conduct an internal analysis, the research will utilize the Business Model Canvas (BMC) to evaluate the key activities, resources, and processes currently in place within the company. This will enable the identification of any internal vulnerabilities that may contribute to operational and financial risks. To conduct an external analysis, the PESTEL framework will be employed to assess the impact of several factors on Tropica Rattan operations, including political, economic, social, technological, environmental, and legal factors.

Using the BMC and the PESTEL framework enables a systematic analysis of internal and external risks, aligning with the qualitative findings. These analyses align with qualitative findings to create a robust risk profile. By integrating qualitative insights with systematic frameworks like BMC and PESTEL, this research seeks to provide a holistic understanding of the risks Tropica Rattan faces and propose practical, tailored risk management.

RESULT AND DISCUSSION

Risk Mitigation

Once the risks have been evaluated and mapped into a risk matrix according to their severity and priority, the next step is to develop a risk mitigation action plan that can be carried out by Tropica Rattan.

In selecting risk management actions, this study considers the costs and potential benefits to be obtained. Mitigation will be divided into four categories: acceptance, reduction, transfer, or avoidance of the risk. These

categories are based on both the risk matrix and the risk priority.

Table 3. Risk Mitigation Strategy.

Risk Code	Risk Factor	Risk Rank	Mitigate	Description
O1	Overestimation of Scaling Flexibility	High	Reduction	Improve production scale planning using data analytics to avoid overestimation.
HR2	Increasing Labor Costs or Disputes	Medium-High	Reduction	Implement automation to enhance efficiency and reduce manual labor reliance.
O3	Poor Product Quality	Medium-High	Reduction	Implement stricter quality control throughout the supply chain.
O4	Lack of Direct Control over Subcontractors	Medium-High	Reduction	Establish tighter contracts and conduct regular inspections to ensure subcontractor compliance.
F3	Rising Operational Costs	Medium	Reduction	Optimize operations through process improvements.
B6	Failure to Leverage Digital Platforms Effectively	Medium	Reduction	Invest in digital marketing and e-commerce platforms to enhance visibility.
E2	Environmental Degradation or Seasonal Shortages	Medium	Avoidance	Source alternative, eco-friendly raw materials to reduce the risk of shortages.
O5	Subcontractor Failures	Medium	Reduction	Utilize penalty clauses in contracts to transfer the risk of subcontractor failures.
F4	Increasing Raw Material Prices	Medium	Reduction	Diversify suppliers to reduce dependence on a single raw material source.
F5	International Conflicts or Political Instability	Medium	Transfer	Use political risk insurance to mitigate the impact of global instability.
B2	Weak Brand Recognition	Medium	Reduction	Implement more aggressive marketing strategy to strengthen the brand in global markets.
E3	Adverse Weather Conditions	Medium	Avoidance	Improve the warehouse facilities to minimize the impact of extreme weather.

E4	Delays or Substandard Work by Subcontractors	Medium	Transfer	Include penalty clauses in contracts for delayed deliveries by subcontractors.
E1	Failure to Comply with Export Regulations	Medium	Avoidance	Conduct regular compliance audits to ensure adherence to export standards.
O6	Reliance on Manual Processes	Medium	Reduction	Adopt automation technology to improve efficiency.
O7	Inability to Manage Production Capacity	Medium	Reduction	Enhance production capacity through workforce training and infrastructure investment.
F2	Over-Dependence on Export Markets	Medium	Reduction	Diversify markets by entering domestic and regional markets.
B3	Failure to Quickly Adapt to Modern Design Trends	Medium	Reduction	Conduct regular market research to identify the latest trends.
HR1	Workforce Shortages or Lack of Skilled Labor Regeneration	Medium	Reduction	Train workers to increase skilled labor resources.
B4	Inability to Meet Sustainability Certifications	Medium	Reduction	Obtain sustainability certifications to increase market trust.
F1	Price Wars with Competitors	Medium - Low	Acceptance	Manage competitive pricing without compromising product quality.
B1	Competitors Introducing Innovative or Cost-Effective Eco-Friendly Alternatives	Medium - Low	Acceptance	Focus on product differentiation and sustainable innovation.
O2	Managing a Wide Product Range	Medium - Low	Reduction	Focus on the most profitable product lines to reduce operational complexity.
B5	Mismanagement of Compliance with Trade Agreements	Medium - Low	Avoidance	Provide regulatory training for the export team and closely monitor trade documentation.

The risk analysis conducted shows that risk mitigation based on the most

significant risks and risks that have the greatest impact on Tropicana Rattan can

directly support Tropica Rattan's vision in achieving its long-term goals related to product quality, sustainability and market expansion. The importance of effective risk mitigation is a way for this company to remain competitive and grow in the global furniture market.

Risks related to lack of direct control over subcontractors and poor product quality can be addressed by implementing tighter supervision of subcontractors and implementing a more effective quality control system. Ensuring that the products produced meet the company's quality standards, which are also in line with the requirements of the buyers. This can strengthen Tropica Rattan as a quality rattan furniture manufacturer, which is in line with the company's mission to produce quality rattan furniture products by combining traditional craftsmanship with modern design.

Environmental degradation or seasonal shortages and non-compliance with sustainability certifications can be addressed by implementing a sustainable raw material sourcing policy and obtaining sustainability certification. This will enable Tropica Rattan to meet market expectations and global policies currently focused on sustainability.

To address risks such as weak brand awareness and overdependence on export markets, Tropica Rattan needs to invest in more aggressive marketing strategies and strengthen the company's brand in the international market. In addition, market diversification by entering domestic and regional markets (e.g., Southeast Asia through RCEP) will help reduce dependence on one market and open up new growth opportunities. This will support the company's goal of increasing market share and sales.

Scenario-Based Discussion **Best-case Scenario**

The risk analysis results conducted using the Analytical Hierarchy Process (AHP) indicate that the most favourable scenario for Tropica Rattan would be one in which operational risk, the most significant risk category, can be effectively mitigated. In this scenario, the risk factors deemed most significant in the operational and financial categories, including the lack of direct control over subcontractors, international conflicts, rising labour costs, and export regulations, are effectively addressed.

By effectively mitigating operational risks, Tropica Rattan will be better positioned to manage its reliance on subcontractors, ensuring consistent product quality and timely delivery. Furthermore, the company is able to anticipate potential international conflicts that could disrupt the smoothness of exports and international market demand. Furthermore, a proactive policy regarding the rising labour costs and stringent export regulations in destination countries will facilitate seamless operations and prevent substantial disruptions in production.

If this risk mitigation is successful, Tropica Rattan's production can run smoothly and efficiently, even amidst fluctuations in market demand. From a financial perspective, more effective cost management, with a stable supply of raw materials and more assured market demand, will enable lower production costs, increased profits and healthier cash flows. This will strengthen Tropica Rattan's position in the international market and increase market share by introducing high-quality products that meet consumer expectations.

Worst-case Scenario

Conversely, in the event of inadequate attention to all categories and

risk factors, the consequences for the company could be severely adverse. In such circumstances, production will be impeded as a consequence of the inferior quality of the product, which is attributable to the absence of direct oversight of subcontractors. Such circumstances will inevitably result in late deliveries, customer dissatisfaction, and irreparable damage to the brand's reputation. Furthermore, the company's financial situation will be exacerbated by an inability to effectively navigate international conflicts that have the potential to disrupt export markets and international demand. Additionally, the rising costs of labor and raw materials will contribute to increased operating expenses, further straining the company's financial resources.

In the event that these risk factors are not adequately anticipated, Tropica Rattan will encounter difficulties in meeting market demand, both domestically and internationally. Increased operating costs will result in reduced profitability and limit the company's capacity to invest in innovation and product development. Furthermore, production delays and an inability to meet quality standards will

significantly lose competitiveness in the global market. If this situation persists, it could ultimately lead to the company's financial failure and even bankruptcy.

Broader Sectoral Insights

In light of the research conducted to identify and mitigate potential risks at CV, Tropica Rattan. This strategy may serve as a model for MSMEs operating within the same sector. By employing the AHP approach to systematically manage risks, the company was able to identify and mitigate risks that were deemed to be of particular priority, including those related to subcontractor control and operational costs. The implementation of automation and a focus on sustainability demonstrates that MSMEs can compete with large corporations in the global market.

This research is expected to serve as an interesting case study for MSMEs in this sector. By integrating traditional crafts with ISO 31000 structured risk mitigation techniques and through prioritization using the Analytical Hierarchy Process, it illustrates a practical approach that can be adopted by other MSMEs to overcome challenges and remain competitive.

Implementation Plan & Justification

Table 4. Risk Mitigation Implementation Plan

What	When	Where	Who	Why	How
Implement stricter quality control for subcontractors	Q1 - Q2 2025	Production facilities, subcontractors	Operations Manager, Subcontractor	To ensure high-quality production and timely deliveries	Develop clear performance metrics for subcontractors, conduct regular audits and quality checks, and improve communication.
Diversify suppliers for raw materials	Q3 2024	Sourcing locations	Supply Chain Manager, Production Manager	To reduce dependency on a single supplier and ensure material availability	Identify alternative suppliers, negotiate contracts, and establish reliable logistics channels.

Strengthen marketing and brand recognition efforts	Q1 - Q3 2025	International markets, Online platforms	Marketing Director	To increase global brand awareness and attract more customers	Increase digital marketing budget, enhance social media presence, and participate in international furniture expos.
Automate production processes	Q3 - Q4 2024	Production facilities	Operations Manager, IT	To improve operational efficiency and reduce reliance on manual labor	Invest in automation tools, provide staff training on new systems, and gradually phase out manual processes.
Obtain sustainability certifications	Q2 - Q4 2024	Certification bodies	Production Team	To align with global sustainability trends and improve market positioning	Research and apply for certifications such as FSC, ISO 14001, and other relevant standards.

The implementation of the above strategies is crucial for achieving the business improvement objectives of Tropica Rattan. The proposed actions are designed to:

Improve operational efficiency by reducing reliance on subcontractors and manual processes. By implementing stricter quality control measures and investing in automation, Tropica Rattan will be able to streamline production, reduce costs, and increase product consistency.

Enhance financial stability by diversifying suppliers and mitigating the risks of fluctuating raw material costs. This will provide Tropica Rattan with more flexibility in sourcing materials, potentially reducing production costs and increasing profitability. Strengthen brand recognition in international markets, which will help the company expand its market share. Tropica Rattan will position itself as a leading eco-friendly brand in the global furniture market by improving marketing strategies and gaining sustainability certifications.

Enhancing the company's ability to adapt to changing market trends and

overcome external challenges such as geopolitical instability can increase market competitiveness. This can be achieved through better risk management, including diversifying export markets and developing contingency plans for political and economic disruptions.

By integrating risk mitigation strategies with global sustainability standards, the company can not only address potential risks but also position itself as an attractive investment opportunity for consumers and investors who prioritize sustainability considerations.

In regard to environmental responsibility, Tropica Rattan sources raw materials in a manner that is mindful of environmental impact. This is evidenced by the company's attainment of SVLK certification for wood and FSC certification for sustainable rattan. The company can guarantee that the raw materials utilized are sourced from sustainably managed forests, ensuring that exploitation is not excessive and that forest conservation is supported.

In terms of social responsibility, Tropica Rattan prioritizes the well-being

of its workforce, which is a crucial asset for the company. By providing fair employment contracts and worker protection rights, the company ensures that its workforce is treated with respect and dignity. The company offers skills training to its workforce with the dual objective of improving work efficiency and supporting the regeneration of skilled workers.

Furthermore, Tropica Rattan is dedicated to adhering to all existing regulations, spanning from national to global levels. These encompass regulations pertaining to exports, sustainability, and industry standards. By upholding these regulations, the company instills confidence in its partners and buyers, thereby reinforcing its reputation. By integrating ESG principles into its risk mitigation strategy, Tropica Rattan is not only capable of mitigating existing risks but also of enhancing its market competitiveness through the introduction of certified environmentally friendly products. This, in turn, attracts investors and potential buyers who prioritize sustainability, while also opening avenues for future funding.

CONCLUSION

This study successfully identified the main risks that affect CV Tropica Rattan's operations and financial performance. The main risks include supply chain disruptions, raw material price fluctuations, dependence on skilled labor, and limited financial resources. Internal analysis using the Business Model Canvas showed that key resources, such as skilled craftsmen and raw materials, are essential but vulnerable to market fluctuations and government policies. External analysis using PESTLE highlighted that geopolitical factors, environmental

changes, and economic volatility exacerbate these risks.

The Analytical Hierarchy Process (AHP) method prioritized these risks. Supply chain disruptions caused by logistical problems and raw material shortages were identified as the most significant risk. Fluctuations in raw material prices, especially natural rattan, were the second priority because they directly impact production costs and profitability. This study also emphasized addressing operational and financial inefficiencies to maintain business sustainability.

The results showed that Tropica Rattan could improve its resilience by implementing structured risk management practices. Diversifying suppliers, investing in modern production technology, and implementing efficient operational processes are recommended strategies to mitigate these risks effectively.

DAFTAR PUSTAKA

- [1] Adem, A., Çolak, A., & Dağdeviren, M. (2018). An integrated model using SWOT analysis and Hesitant fuzzy linguistic term set for evaluation occupational safety risks in life cycle of wind turbine. *Safety Science*, 106, 184–190. <https://doi.org/10.1016/j.ssci.2018.02.033>
- [2] Ahmad, S. A., & Teo, P.-C. (2024). The Implementation of Enterprise Risk Management (ERM) Frameworks in Small and Medium Enterprises (SMES): A Literature Review. *International Journal of Academic Research in Business and Social Sciences*, 14(9). <https://doi.org/10.6007/ijarbss/v14-i9/22353>

- [3] Alrawad, M., Lutfi, A., Almaiah, M. A., Alsyouf, A., Al-Khasawneh, A. L., Arafa, H. M., Ahmed, N. A., AboAlkhair, A. M., & Tork, M. (2023). Managers' Perception and Attitude toward Financial Risks Associated with SMEs: Analytic Hierarchy Process Approach. *Journal of Risk and Financial Management*, 16(2). <https://doi.org/10.3390/jrfm16020086>
- [4] Benzaghta, M. A., Elwalda, A., Mousa, M., Erkan, I., & Rahman, M. (2021). SWOT analysis applications: An integrative literature review. *Journal of Global Business Insights*, 6(1), 55–73. <https://doi.org/10.5038/2640-6489.6.1.1148>
- [5] Choo, B. S.-Y., & Goh, J. C.-L. (2015). Pragmatic adaptation of the ISO 31000:2009 enterprise risk management framework in a high-tech organization using Six Sigma. *International Journal of Accounting & Information Management*, 23(4), 364–382. <https://doi.org/10.1108/IJAIM-12-2014-0079>
- [6] Debrulle, J., Steffens, P., De Bock, K. W., De Winne, S., & Maes, J. (2023). Configurations of business founder resources, strategy, and environment determining new venture performance. *Journal of Small Business Management*, 61(2), 1023–1061. <https://doi.org/10.1080/00472778.2020.1831807>
- [7] Falkner, E. M., & Hiebl, M. R. W. (2015). Risk management in SMEs: a systematic review of available evidence. *The Journal of Risk Finance*, 16(2), 122–144. <https://doi.org/10.1108/JRF-06-2014-0079>
- [8] Helms, M. M., & Nixon, J. (2010). Exploring SWOT analysis – where are we now? *Journal of Strategy and Management*, 3(3), 215–251. <https://doi.org/10.1108/17554251011064837>
- [9] Hindarsah, I., Purwanto, B. H., Priadana, S., & Fahrudin, A. (2020). The Owner Factor: An Innovation Element of Business Model Canvas by SMEs Rattan Industry in Cirebon Indonesia. *International Journal of Advanced Science and Technology*, 29(6), 3963–3972.
- [10] Ishizaka, A., Pearman, C., & Nemery, P. (2012). AHPSort: an AHP-based method for sorting problems. *International Journal of Production Research*, 50, 4767–4784. Retrieved from <https://api.semanticscholar.org/CorpusID:54499344>
- [11] Islam, M. M., Akter, L., Pervez, A. K. M. K., Nabi, M. N., Uddin, M. M., & Arifin, Z. (2020). Application of combined swot and ahp for strategy development: Evidence from pottery industry of bangladesh. *Asian Journal of Agriculture and Rural Development*, 10(1), 81–94. <https://doi.org/10.18488/journal.1005/2020.10.1/1005.1.81.94>
- [12] Krüger, N. A., & Meyer, N. (2021a). The Development of a Small and Medium-Sized Business Risk Management Intervention Tool. *Journal of Risk and Financial Management*, 14(7). <https://doi.org/10.3390/jrfm14070310>
- [13] Krüger, N. A., & Meyer, N. (2021b). The Development of a Small and Medium-Sized Business Risk Management Intervention Tool. *Journal of Risk and Financial Management*, 14(7).

- <https://doi.org/10.3390/jrfm14070310>
- [14] Leitch, M. (2010, June). ISO 31000:2009 - The new international standard on risk management: Perspective. *Risk Analysis*.
<https://doi.org/10.1111/j.1539-6924.2010.01397.x>
- [15] Markopoulos, E., Neumer, V., & Vanharanta, H. (2023). An enhanced version of the Business Model Canvas for risk management and business continuity. In *Creativity, Innovation and Entrepreneurship* (Vol. 74). AHFE International.
<https://doi.org/10.54941/ahfe1003311>
- [16] Mthiyane, Z. Z. F., van der Poll, H. M., & Tshehla, M. F. (2022). A Framework for Risk Management in Small Medium Enterprises in Developing Countries. *Risks*, 10(9).
<https://doi.org/10.3390/risks10090173>
- [17] [17]. Myers, R. (2015). What the Indonesian rattan export ban means for domestic and international markets, forests, and the livelihoods of rattan collectors. *Forest Policy and Economics*, 50, 210–219.
<https://doi.org/10.1016/j.forpol.2014.07.009>
- [18] Oláh, J., Virglerova, Z., Popp, J., Kliestikova, J., & Kovács, S. (2019). The assessment of non-financial risk sources of SMES in the V4 countries and Serbia. *Sustainability (Switzerland)*, 11(17).
<https://doi.org/10.3390/su11174806>
- [19] Prakash, A., Agarwal, A., & Kumar, A. (2018). *Risk Assessment in Automobile Supply Chain. Materials Today: Proceedings* (Vol. 5). Retrieved from www.sciencedirect.com/www.materialstoday.com/proceedings2214-7853
- [20] Purdy, G. (2010, June). ISO 31000:2009 - Setting a new standard for risk management: Perspective. *Risk Analysis*.
<https://doi.org/10.1111/j.1539-6924.2010.01442.x>
- [21] Puyt, R. W., Lie, F. B., & Wilderom, C. P. M. (2023). The origins of SWOT analysis. *Long Range Planning*, 56(3).
<https://doi.org/10.1016/j.lrp.2023.102304>
- [22] Qastharin, A. R., & Qastharin, A. R. (2015). *Business Model Canvas for Social Enterprise*. Retrieved from <https://www.researchgate.net/publication/323393037>
- [23] Ratih, A. S., Rahmi, Y., & Debrina, P. A. (2017). Analisa Manajemen Risiko Pada Industri Kecil Rotan Di Kota Malang.
- [24] Saad, M. M., Ismail, R. F., Zam, Z. M., & Hasnan, S. (2024). Investigating the impact of effective risk management on the performance of Malaysian publicly listed companies. *Edelweiss Applied Science and Technology*, 8(1), 13–23.
<https://doi.org/10.55214/25768484.v8i1.412>
- [25] Scannell, T., Curkovic, S., & Wagner, B. (2013). Integration of ISO 31000:2009 and Supply Chain Risk Management. *American Journal of Industrial and Business Management*, 03(04), 367–377.
<https://doi.org/10.4236/ajibm.2013.3.34043>
- [26] Stasytytė, V., & Aleksienė, L. (2015a). Operational risk

- assessment and management in small and medium-sized enterprises. *Business: Theory and Practice*, 16(2), 140–148. <https://doi.org/10.3846/btp.2015.568>
- [27] Stasytytė, V., & Aleksienė, L. (2015b). Operational risk assessment and management in small and medium-sized enterprises. *Business: Theory and Practice*, 16(2), 140–148. <https://doi.org/10.3846/btp.2015.568>
- [28] Sum, R. M. (2015). *Risk management decision-making: the analytic hierarchy process approach*. *J. International Business and Entrepreneurship Development* (Vol. 8).
- [29] Trivedi, M. K., Rastogi, N., & Trivedi, M. K. (2016). PESTLE TECHNIQUE-A TOOL TO IDENTIFY EXTERNAL RISKS IN CONSTRUCTION PROJECTS. Retrieved from www.irjet.net
- [30] Varpio, L., Paradis, E., Uijtdehaage, S., & Young, M. (2020, July 1). The Distinctions Between Theory, Theoretical Framework, and Conceptual Framework. *Academic Medicine*. Lippincott Williams and Wilkins. <https://doi.org/10.1097/ACM.0000000000003075>
- [31] Wallenius, J., Dyer, J. S., Fishburn, P. C., Steuer, R. E., Zionts, S., & Deb, K. (2008). Multiple criteria decision making, multiattribute utility theory: Recent accomplishments and what lies ahead. *Management Science*, 54(7), 1336–1349. <https://doi.org/10.1287/mnsc.1070.0838>
- [32] Wu, Y. (2020). *The Marketing Strategies of IKEA in China Using Tools of PESTEL, Five Forces Model and SWOT Analysis*.