



E-PROCEEDINGS

INTERNATIONAL TINKER INNOVATION & ENTREPRENEURSHIP CHALLENGE

(i-TIEC 2025)

"Fostering a Culture of Innovation and Entrepreneurial Excellence"



e ISBN 978-967-0033-34-1



9 789670 033341

23 January 2025
PTDI, UiTM Cawangan Johor
Kampus Pasir Gudang

ORGANIZED BY:

Electrical Engineering Studies, College of Engineering
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang
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e ISBN: 978-967-0033-34-1

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Published in Malaysia by
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang, 81750 Masai



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PREFACE

It is with great pleasure that we present the e-proceedings of International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), which compiles the extended abstracts submitted to the International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), held on 23 January 2025 at **PTDI, Universiti Teknologi MARA (UiTM) Cawangan Johor, Kampus Pasir Gudang**. This publication serves as a valuable resource, showcasing the intellectual contributions on the invention and innovation among students, academics, researchers, and professionals.

The International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), organized under the theme "Fostering a Culture of Innovation and Entrepreneurial Excellence," is designed to inspire participants at various academic levels, from secondary students to higher education students and professionals. The competition emphasizes both innovation and entrepreneurship, encouraging the development of product prototypes that address real-world problems and have clear commercialization potential. By focusing on technological and social innovations, i-TIEC 2025 highlights the importance of turning creative ideas into viable, market-ready solutions that can benefit users and society. The extended abstracts in this e-proceedings book showcase the diverse perspectives and depth of research presented during the event, reflecting the strong entrepreneurial element at its core.

We extend our sincere gratitude to the contributors for their dedication in sharing their innovation and the organizing committee for their hard work in ensuring the success of the event and this publication. We also appreciate the support of our collaborators; Mass Rapid Transit Corporation Sdn. Bhd. (MRT Corp), Universitas Labuhanbatu, Indonesia (ULB), Universitas Riau Kepulauan, Indonesia (UNRIKA) and IEEE Young Professionals Malaysia, whose contributions have been instrumental in making this event and publication possible.

We hope that this e-proceedings book will serve as a valuable reference for researchers, educators, and practitioners, inspiring further studies and collaborations in both innovation and entrepreneurship. May the knowledge shared here continue to spark new ideas and market-ready solutions, advancing our collective expertise and fostering the growth of entrepreneurial ventures.

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B-SS108: DIGITAL MARKETING INNOVATION FOR FISH CRACKERS MSMES IN SELAT NENEK, BATAM CITY

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ABSTRACT

This article explores digital marketing innovations applied to micro, small, and medium enterprises (MSMEs) producing fish crackers in the Selat Nenek area, Batam City. The main focus of this study is to investigate how the use of digital technologies can enhance the competitiveness and expand the market for fish cracker products, which are predominantly reliant on conventional marketing methods. This research uses a qualitative approach with a case study design, involving interviews with MSME owners and an analysis of the use of social media, websites, and e-commerce platforms. The findings indicate that digital marketing innovations can improve product visibility, expedite transactions, and expand market reach both locally and internationally. However, challenges such as limited access to technology, lack of digital marketing knowledge, and inadequate infrastructure were also identified. This article offers recommendations to strengthen MSME capacity in optimizing digital marketing, with involvement from the government and educational institutions to provide training and support.

Keywords: Digital marketing, MSMEs, fish crackers, innovation, Selat Nenek, Batam.

1. Product Description

Crackers made from fish. This homemade fish cracker business has been established for 40 years since 1984. The business, managed by Mrs. Marzia, is carried out using simple equipment technology. The processed fish crackers are then marketed around the community of Selat Nenek Island. Household industries are production systems that create products through a value-added process of specific raw materials, carried out at home and using simple production tools. Essentially, household industry products are handmade, unique, and often associated with local wisdom and appropriate technology. Household industries usually operate with relatively small capital and production capacity, which makes them categorized as micro or small businesses according to the criteria. Examples include handmade crafts, processed foods, or small-scale textiles produced at home.

Furthermore, household industries are often managed by a family or passed down through generations, although exceptions exist for those already considered advanced and applying management systems. Once again, it should be emphasized.

2. Pictures



Figure 1. Interview with Mrs. Marzia



Figure 2. Providing Social Media Usage Training

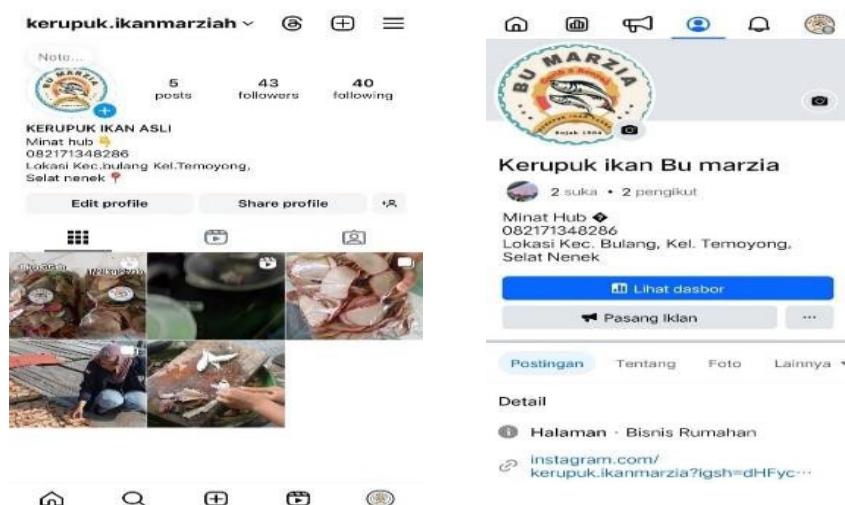
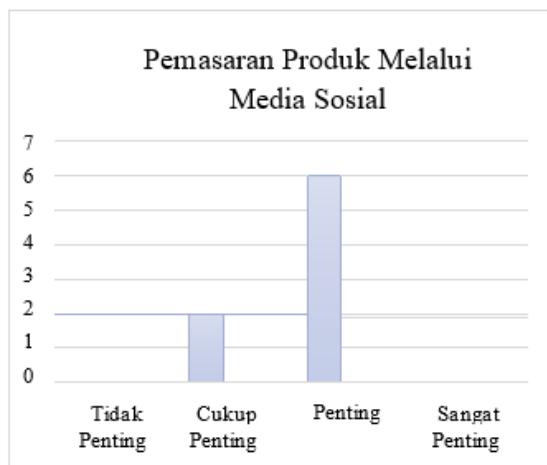


Figure 3. Instagram & Facebook Social Media Accounts

Table 1. Primary Data Processed by Researchers, 2024

3. Novelty and uniqueness

Implementation of Digital Marketing Innovation in Limited Areas

This study integrates the concept of social media marketing innovation into micro-enterprises on Pulau Selat Nenek, which have never previously utilized social media to support their product marketing. Focusing on remote areas and traditional businesses provides a new dimension in connecting modern technology with local challenges.

Development of MSME Capacity through Social Media

This study directly involves MSME actors in training on the use of platforms such as Instagram and Facebook. This process includes creating digital content, managing accounts, and implementing data-based marketing strategies, which have never been done before in this region.

Local Economic and Social Impacts

The results of the study show an increase in the visibility of fish cracker products in the digital market, which contributes to increasing the income of business actors and strengthening their relationships with consumers through interactions on social media. This highlights the positive economic impact of marketing digitalization on small MSMEs.

Participation-Based Implementation Model

The approach used is participation-based, where business owners and implementation teams jointly identify challenges and implement digital marketing solutions. This creates an empowerment model that can be replicated in other locations.

With a focus on integrating digital technology into micro-enterprise marketing in remote areas, this study offers a unique and practical solution to address market access limitations for MSMEs.

4. Benefit to mankind

a. Enhancing Digital Knowledge and Skills

This research helps MSME (Micro, Small, and Medium Enterprises) operators of fish crackers in Pulau Selat Neneh to understand digital marketing through social media. Previously, they had limited knowledge of digital marketing strategies, but now they can create digital content, use marketing technologies, and leverage social media to promote their products

b. Implementation of Digital Marketing Strategies

MSME operators have applied digital marketing strategies such as creating engaging visual content, using social media, and promoting products online. This enables them to increase market access and reach new consumers beyond geographical boundaries

c. Economic Impact Improvement

By utilizing digital marketing innovations, MSME operators can increase their income and create positive economic impacts for the surrounding community. The enhanced product visibility through digital platforms also helps expand their consumer network

d. Sustainable Support

This research encourages ongoing support from the government and community to continue training and mentoring MSME operators to deepen their understanding of digital marketing

This research significantly benefits the growth of MSMEs through social media marketing innovations, directly impacting the improvement of living standards and economic development of the community.

5. Innovation and Entrepreneurial Impact

This research focuses on improving the marketing quality of MSMEs, particularly fish cracker businesses on Selat Neneh Island, through innovative social media marketing strategies. Key aspects of the innovation and its entrepreneurial impact include:

a. Introduction of Digital Marketing Tools:

- i. The research introduced social media platforms such as Instagram and Facebook to fish cracker entrepreneurs, helping them transition from traditional to digital marketing methods.
- ii. Training on features such as creating posts, editing content, and using hashtags enhanced the appeal of their products to a broader audience.

b. Empowerment Through Knowledge Sharing:

- i. Entrepreneurs were educated on the benefits of digital marketing, including broader consumer reach, cost efficiency, and targeted promotion strategies.
- ii. Hands-on training improved their confidence and ability to manage their digital presence.

c. Economic and Business Growth:

- i. The implementation of these digital tools resulted in increased visibility and customer engagement, evident through likes, shares, and new followers.
- ii. Orders for fish crackers via social media demonstrated a direct positive economic impact, highlighting the potential for scaling operations beyond local markets.

d. Entrepreneurial Development:

- i. Entrepreneurs developed new skills such as content creation and online customer interaction, fostering innovation in their marketing and sales approaches.
- ii. These skills contributed to the sustainability and resilience of their businesses in the digital age.

Overall, the research demonstrated how targeted innovation in social media marketing could transform local entrepreneurship by equipping MSMEs with modern tools to compete in a broader marketplace.

6. Potential commercialization

The commercialization potential of fish cracker MSMEs on Selat Nenek Island through digital marketing innovation has promising prospects. By utilizing social media platforms such as Instagram and Facebook, business actors can reach a wider market and increase interaction with consumers. Creating attractive content, such as product photos and videos, accompanied by a distinctive logo design and the use of hashtags and location tags, can increase the visual appeal of the product and strengthen business branding. This makes it easier for customers to access information about products, prices, and how to purchase, thereby encouraging increased sales.

In addition, social media provides an opportunity for MSMEs to develop markets outside the local geographic area. With the right digital marketing strategy, business actors can expand their customer network outside the region. Direct interaction with customers through comments and messages on social media also allows business actors to get useful feedback to improve their products or marketing strategies. All of this contributes to increasing the visibility and competitiveness of products in the wider market.

The economic impact of this marketing digitalization is also significant. Increased sales have the potential to increase business actors' income, which in turn can have a positive impact on the local economy. Ongoing support from various parties, including the government and educational institutions, is very important to strengthen empowerment efforts of these MSMEs, so that the digital transformation that has begun can continue to grow and provide long-term benefits for the community on Selat Nenek Island.

7. Acknowledgment

We express our heartfelt gratitude to Universitas Riau Kepulauan, the local government and community in Pulau Selat Nenek, particularly the small and medium enterprise (SME) stakeholders and all individuals and organizations who have supported and contributed to the completion of this research.

8. Authors' Biography



Yoga Prasetyo is a seventh-semester student in the Accounting Program at Universitas Riau Kepulauan. With a strong commitment to mastering accounting principles, he actively engages in both academic and extracurricular activities, aiming to apply his knowledge in real-world contexts. Yoga is focused on developing his skills to address complex financial challenges, with aspirations of becoming a professional who contributes to the economic development of his community.



Rona Tanjung is an academic affiliated with the Universitas Riau Kepulauan. She has research interests in the fields of human resource management, information systems, and informatics management. He is currently the head of the Digital Business Study Program at the Universitas Riau Kepulauan



Raihana is a seventh-semester student in the Accounting Program at Universitas Riau Kepulauan. She is dedicated to mastering the core principles of accounting and is actively involved in both her academic pursuits and extracurricular activities. Raihana aims to leverage her knowledge to solve financial problems and contribute meaningfully to the economic growth of her community. With a strong sense of responsibility and a passion for the field, she aspires to become a competent professional in accounting.



Hanafi Siregar is a lecturer in the Accounting Program at Universitas Riau Kepulauan, where he also serves as the Secretary of the Accounting Study Program. With extensive experience in both research and community service, Hanafi has significantly contributed to the development of the academic field of accounting. His work includes conducting research that addresses real-world accounting issues and engaging in community outreach programs that promote financial literacy and sustainable practices. As an educator and administrator, he is dedicated to fostering a collaborative and impactful learning environment for students.