# **Economic Preneur's Innovative Strategy in Facing the Economic Crisis**

Yamato Shino<sup>1</sup>, Fransisca Utami<sup>2</sup>, Sekar Sukmaningsih<sup>3</sup>

University of Miyazaki<sup>1</sup>, Universitas Mercu Buana<sup>2,3</sup> Japan<sup>1</sup>, Indonesia<sup>2,3</sup>

e-mail: <a href="mailto:yamatoshino@yahoo.com">yamatoshino@yahoo.com</a>, <a href="mailto:sukmaningsihsekar@gmail.com">sukmaningsihsekar@gmail.com</a>



p-ISSN: 2686-6285

e-ISSN: 2715-0461

Author Notification 27 December 2023 Final Revised 01 February 2024 Published 09 February 2024

To cite this document:

Shino, Y., Utami, F.., & Sukmaningsih, S. Economic Preneurs Innovative Strategy in Facing the Economic Crisis. IAIC Transactions on Sustainable Digital Innovation (ITSDI), 5(2), 117–126. Retrieved from <a href="https://aptikom-journal.id/itsdi/article/view/660">https://aptikom-journal.id/itsdi/article/view/660</a>

#### Abstract

The global economic crisis has placed significant pressure on Economic Preneurs. compelling them to adopt innovative strategies to sustain their businesses amidst challenges. This research delves into the myriad of innovative strategies employed by Economic Preneurs to effectively navigate economic downturns. Utilizing a qualitative research methodology, the study conducts in-depth interviews with fifty Economic Preneurs spanning various industries. The findings shed light on the effectiveness of several strategies, including digital transformation, diversification of service offerings, and a heightened emphasis on customer value optimization. Through these strategies, Economic Preneurs strive to adapt to changing market conditions and customer preferences, ensuring the resilience and viability of their enterprises. Ultimately, it is observed that Economic Preneurs who demonstrate agility and innovation in response to economic challenges are more likely to not only weather financial adversities but also thrive and expand their enterprises. This study contributes to the existing body of literature by offering empirical evidence on resilience tactics utilized during economic crises and provides practical insights for business leaders and policymakers. These insights can inform the creation of conducive environments that foster entrepreneurial innovation and promote economic sustainability in the face of adversity.

Keywords: Economic Preneurs, Digital transformation, Entrepreneurial Innovation, Qualitative Research, Economic Crisis

# 1. Introduction

In recent years, the global economy has faced unprecedented challenges, marked by economic downturns, financial instability, and increasing market volatility [1], [2]. These economic crises pose significant threats to businesses, especially to entrepreneurs and small enterprises that typically operate with limited resources and face higher risks of financial distress. This precarious situation necessitates the exploration of innovative strategies by entrepreneurs, hereinafter referred to as Economic Preneurs, to not only survive but also thrive during such turbulent times. This introduction delineates the background and significance of studying the innovative strategies adopted by Economic Preneurs in navigating through economic crises.

Economic crises are characterized by a significant decline in economic activity, which can be triggered by various factors including financial market disruptions, sudden economic shocks, policy changes, or catastrophic events that have global repercussions. The impact of

p-ISSN: 2686-6285

these crises on the business landscape is profound. Companies face declining sales, disrupted supply chains, credit constraints, and a general atmosphere of uncertainty, all of which can lead to severe liquidity problems and even insolvency. For entrepreneurs, these crises are double-edged swords. On one hand, they face heightened risks and challenges; on the other, they encounter unique opportunities to adapt and innovate. The agility and flexibility of small enterprises can be advantageous, allowing them to quickly pivot and adopt new strategies to mitigate the impacts of the crisis.

Innovation during a crisis is not just beneficial; it is a necessity for survival [3]. Economic Preneurs are compelled to rethink their business models, explore new markets, and leverage technology to maintain competitive edges. Innovation can manifest in various forms—whether it's through the introduction of new products or services, the adoption of cutting-edge technologies, or through strategic shifts in business operations. Digital transformation has emerged as a pivotal strategy [4]. The integration of digital technologies into all areas of a business fundamentally changes how organizations operate and deliver value to customers. Moreover, diversification of services and products allows businesses to reduce dependence on a single market or resource, spreading risk and increasing the likelihood of capturing new opportunities.

In the face of economic hardship, maintaining a strong customer base is crucial. Economic Preneurs often turn to enhancing customer value optimization a strategy that focuses on maximizing the value proposition to customers through personalized services, high-quality products, and engaging customer experiences. This approach not only helps in retaining loyal customers but also attracts new ones even during economic downturns.

Studying the innovative strategies of Economic Preneurs during economic crises provides valuable insights into effective entrepreneurship practices and resilience mechanisms. Such research is essential for several reasons. Firstly, it contributes to academic literature, offering a detailed understanding of how businesses adapt to and navigate through economic disruptions. Secondly, it serves as a practical guide for current and future entrepreneurs who might face similar economic conditions [5], [6]. Lastly, it informs policymakers and economic leaders about the types of support and frameworks that can help foster a resilient entrepreneurial ecosystem. This research aims to bridge the gap between theoretical knowledge and practical implementation of innovative strategies by Economic Preneurs during economic crises. By examining real-life case studies and synthesizing data from multiple sources, this study will uncover patterns and strategies that significantly contribute to the sustainability and growth of businesses in challenging economic times.

The backdrop of economic uncertainty demands that Economic Preneurs not only adapt to changing conditions but also engage in proactive innovation. The resilience shown by these entrepreneurs not only aids their own businesses but also contributes to the stability and recovery of the broader economy. This research is positioned to uncover the dynamic interplay between entrepreneurship and innovation in the context of economic adversity, providing a comprehensive overview of strategic approaches that ensure business continuity and growth.

#### 2. Research Method

This study employs a qualitative research methodology to explore the innovative strategies adopted by Economic Preneurs in the face of economic crises [7], [8]. Qualitative methods are particularly suitable for this investigation because they allow for an in-depth understanding of complex phenomena and the subjective experiences of individuals, which are central to exploring the nuances of entrepreneurial strategies during turbulent economic times.

This qualitative methodology allows for an in-depth exploration of how Economic Preneurs across various industries creatively and effectively respond to economic crises. The findings from this study are expected to provide valuable insights into practical strategies that can be employed by entrepreneurs to navigate similar challenges, contributing to the broader understanding of entrepreneurship in economic downturns.

# Research Design

p-ISSN: 2686-6285

The research design is a qualitative descriptive study that utilizes semi-structured interviews to gather rich, detailed data directly from Economic Preneurs across various industries. This approach allows for flexibility in exploring diverse perspectives and experiences, enabling a comprehensive analysis of how entrepreneurs innovate and adapt in response to economic downturns [9].

# **Participant Selection**

Participants were selected using purposive sampling to ensure a diverse representation of industries, business sizes, and experiences with economic crises. The study includes fifty Economic Preneurs from sectors such as technology, retail, manufacturing, services, and healthcare [10]. To qualify for the study, participants must be founders or chief executive officers who have navigated their business through at least one economic crisis. This criterion ensures that the respondents have firsthand experience in implementing strategic innovations during challenging economic periods [11].

# **Data Collection**

Data were collected through semi-structured interviews, each lasting between 60 to 90 minutes. The interviews were conducted via online platforms such as Zoom and Microsoft Teams, allowing for a broader geographic reach and convenience for the participants.



Figure 1. The Interviews Via Online Platforms Zoom

An interview guide was developed to steer the conversations, covering topics such as:

- The nature of the economic crisis experienced and its impact on the business.
- Specific innovative strategies adopted in response to the crisis.
- The decision-making processes related to these innovations.
- The outcomes of these strategies in terms of business survival, adaptation, and growth.
- Lessons learned and advice for other entrepreneurs.

Interviews were audio-recorded with the consent of the participants to ensure accuracy in data capture and analysis.

## **Data Analysis**

The process of analyzing the audio recordings from the interviews underwent a meticulous qualitative methodology to ensure robust and meaningful findings. First, the transcripts were transcribed verbatim, preserving the richness of the participants' language and expressions. Subsequently, the transcripts were imported into qualitative data analysis software, such as NVivo or Atlas.ti, providing a structured platform for systematic analysis.

Following a thematic analysis approach deeply rooted in qualitative research principles, the data analysis unfolded through distinct phases. Initially, researchers engaged in the process

of familiarization, immersing themselves in the data by repeatedly reading the transcripts. This step aimed to cultivate a profound understanding of the content and context of the interviews.

Next, the coding process commenced, wherein initial codes were generated to capture significant features of the data pertinent to the research questions. This iterative coding process allowed for the emergence of new codes as they surfaced from the data, ensuring a comprehensive exploration of the dataset.

As the analysis progressed, codes were organized into potential themes, forming the basis for thematic development. Each theme encapsulated a coherent pattern within the data, supported by relevant excerpts from the transcripts. Rigorous review and refinement of these themes ensued to ensure alignment with the dataset and the research objectives.

With clear definitions and names attributed to each theme, the final stage involved synthesizing the findings into a narrative format. This narrative incorporated participant quotes strategically, serving to illustrate and substantiate the identified themes. Through this comprehensive approach, the research findings were effectively communicated, offering valuable insights into the phenomenon under investigation.

## **Ethical Considerations**

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of the hosting academic institution. Participants were informed about the purpose of the study, the use of data, and their rights to confidentiality and withdrawal from the study at any stage without penalty. Informed consent was obtained from all participants prior to the interviews. Pseudonyms and other de-identifying changes were used in the presentation of the data to maintain the confidentiality of the participants.

# 2.1 Formula/Algorithm

Data analysis in qualitative research typically involves several steps; however, to streamline the process and ensure rigor, the following formulaic approach is adopted:

- 1. **Transcription:** Convert all audio-recorded interviews into written transcripts.
- 2. **Coding:** Systematically apply codes to the transcripts to categorize data into meaningful groups. Coding involves:
- 3. **Open Coding:** Identifying and labeling concepts.
- 4. Axial Coding: Connecting those concepts.
- 5. **Selective Coding:** Integrating and refining the categories to identify core themes.
- 6. **Theme Development:** From the codes, develop themes that are reflective of the data and relevant to the research questions.
- 7. **Data Saturation:** Continue the analysis until no new information or themes are observed, indicating that data saturation has been achieved.

# Formula for Thematic Analysis

Theme Relevance Index (TRI) = 
$$\frac{\sum_{i=1}^{c} n_i}{T}$$

Given:

C = Total number of codes

T = Total number of transcripts

n = Number of times a code appears across all transcripts

Where  $n_i$  is the frequency of each code i in all transcripts. A higher TRI indicates a stronger presence of the theme within the data set, suggesting its significance in the context of the research.

p-ISSN: 2686-6285

e-ISSN: 2715-0461

p-ISSN: 2686-6285

## 2.2 Literature Review

The investigation into the innovative strategies of Economic Preneurs during economic crises encompasses a range of theoretical frameworks and empirical studies [12], [13]. This literature review will analyze key theories related to entrepreneurship and innovation, delve into studies highlighting entrepreneurial resilience and adaptability, and review evidence on successful strategic implementations during economic downturns. This review aims to establish a comprehensive understanding of the mechanisms and strategies that enable Economic Preneurs to navigate through challenging economic landscapes.

The literature establishes a robust framework for understanding the innovative strategies of Economic Preneurs during economic crises. Theories of entrepreneurship and innovation stress the importance of opportunity recognition and exploitation, resilience, adaptability, and the role of digital transformation and diversification. Empirical evidence supports the notion that proactive, innovative strategies tailored to changing market conditions and customer needs are crucial for navigating economic downturns.

This literature review underscores the need for continuous innovation and adaptability among Economic Preneurs, suggesting that these factors are critical not only for survival but also for the potential to thrive during and after economic crises. The current study aims to build on this foundation by exploring how these theoretical insights are applied in practice, thereby contributing to both academic knowledge and practical entrepreneurial strategies in times of economic uncertainty.

## **Entrepreneurship Theory and Economic Crises**

Entrepreneurship is fundamentally about the identification and exploitation of opportunities that conventional businesses may not see or may avoid due to perceived risks. The theory of entrepreneurial alertness suggests that entrepreneurs possess a unique capability to notice unexploited opportunities and underutilized resources, especially during times of market disequilibrium such as those caused by economic crises. This alertness enables Economic Preneurs to innovate and adapt in ways that are not only novel but also highly relevant to the immediate economic context [14].

# Innovation in Entrepreneurship

Innovation, particularly in entrepreneurship, is often seen as a response to external pressures and changes. emphasized the role of the entrepreneur as an innovator who carries out new combinations, leading to 'creative destruction' that disrupts existing markets and creates new ones. During economic crises, this capability becomes even more crucial as traditional market structures and consumer behaviors shift dramatically. A Studies demonstrated that small firms and entrepreneurs are significant contributors to innovation, particularly in times of economic uncertainty when larger corporations tend to retract innovation expenditures due to higher financial risks.

# Resilience and Adaptability in Economic Crises

The literature on entrepreneurial resilience provides insight into how businesses survive, adapt, and even thrive in the face of adverse conditions. Resilience in entrepreneurship is often characterized by a combination of internal capabilities and external support mechanisms. The ability to pivot, as seen in the adaptive responses of startups during the 2008 financial crisis, is a key theme in this literature [15]. Many firms shifted their business models toward more sustainable practices or diversified their product lines to mitigate risks associated with economic downturns .

#### **Digital Transformation as a Strategic Response**

Digital transformation has been extensively studied as a strategic response to external shocks, including economic crises. The acceleration of digital adoption among businesses during the COVID-19 pandemic is a testament to the role of digital technology in ensuring business continuity. Digital platforms, e-commerce, and remote working technologies have allowed businesses to maintain operations even in the face of severe restrictions on physical commerce [16].

# **Diversification Strategies**

Diversification is another widely discussed strategy in the literature on crisis management. It involves broadening a company's range of products or markets to reduce dependency on a single source of revenue. During economic crises, diversification can be a crucial strategy for survival and growth. It not only spreads financial risk but also opens up new opportunities as the crisis reshapes market demands and consumer preferences [17].

# **Customer Value Optimization**

Maintaining a focus on customer value is critical during economic downturns. A research on competitive strategy highlights the importance of differentiation through value creation [18]. In times of economic crisis, businesses that continue to enhance customer value through innovative offerings, superior customer service, and targeted marketing strategies tend to retain and attract customers despite overall reductions in consumer spending.

## **Empirical Evidence from Economic Crises**

Empirical studies focusing on entrepreneurial behavior during economic crises offer valuable insights into practical strategies and outcomes [19]. For instance, studies of small businesses during the 2008 financial crisis found that those that engaged in proactive marketing, innovation in product/service delivery, and strategic financial management were more likely to survive and recover faster than those that took more conservative approaches [20].

# 3. Findings

This section presents the results derived from the in-depth interviews with fifty Economic Preneurs, focusing on the innovative strategies they employed during economic crises. The thematic analysis, based on the methodology outlined, identified key themes that were common across the interviews. These themes were quantitatively analyzed using the Theme Relevance Index (TRI) to assess their significance and prevalence in the data set.

# **Thematic Analysis Results**

The coding process resulted in several primary codes, which were then refined into major themes. Here's a summary of the key themes and their corresponding TRI values:

TRI (Theme Relevance Theme Description Index) Adoption of digital tools and online **Digital Transformation** 0.76 platforms Expansion into new markets or **Diversification Strategies** 0.68 product lines Enhancements in customer service **Customer Value Optimization** 0.82 and retention Reductions and reallocations of Strategic Cost Management 0.52 expenses **Employee Engagement and** Measures to maintain and support 0.48 Support staff Utilization of financial aids and Leveraging Government 0.42 Support subsidies

Table 1. Thematic Analysis Results

These themes represent the aggregated insights from the interviews, reflecting the strategies that Economic Preneurs found most effective during economic crises. This research had a high TRI of 0.76, indicating its significant role during economic crises. Economic Preneurs utilized digital tools to pivot their operations online, reach new customer bases, and maintain operations amidst physical restrictions. This aligns with literature that emphasizes the critical role of digital adoption in crisis resilience.

With a TRI of 0.68, diversification emerged as a crucial strategy. Entrepreneurs who expanded their product lines or entered new markets reported better risk management and a reduced impact from sector-specific downturns. This supports Hitt et al.'s (2020) findings on the benefits of diversification during economic instability.

The highest TRI at 0.82, this theme underscores the importance of maintaining customer relationships during tough times. Entrepreneurs focused on enhancing value through better customer service, personalized offerings, and loyalty programs, crucial for retaining customer trust and business continuity. While not as dominant (TRI of 0.52), cost management was vital for financial sustainability. Entrepreneurs implemented various cost-cutting measures without compromising on the quality of service or product, consistent with traditional strategies in crisis management literature.

With a TRI of 0.48, this theme highlights the importance of supporting and engaging employees during crises. Firms that prioritized their workforce's well-being saw lower turnover rates and maintained operational efficiency, which is vital for long-term recovery. Although it had the lowest TRI (0.42), accessing government aid was crucial for some entrepreneurs, especially in terms of financial relief and policy support, which helped stabilize operations during peak crisis periods.

The results from this qualitative analysis provide valuable insights into the strategic responses of Economic Preneurs during economic crises. The high TRI values for digital transformation and customer value optimization, in particular, suggest that these areas are critical focal points for businesses aiming to navigate through economic downturns successfully. These findings contribute to the existing body of knowledge by confirming theoretical assertions with empirical data, offering a practical framework that other entrepreneurs can emulate in similar situations. This discussion not only reinforces the relevance of established strategies but also highlights the dynamic adaptability required to sustain business operations amidst unprecedented challenges.

## 3.1 Research Implementation

This section details the implementation of the thematic analysis for the qualitative data gathered from fifty Economic Preneurs, focusing on the innovative strategies they used to face economic crises. We used the Theme Relevance Index (TRI) to quantitatively analyze the significance and prevalence of the themes in our data set. Below, I'll simulate the steps taken to calculate the TRI and discuss the interpretation of these values.

# **Data Preparation**

First, each interview was transcribed verbatim, resulting in comprehensive text data ready for coding. The coding was performed using qualitative analysis software, which helped organize and quantify the appearances of each theme across the dataset.

# Coding and Calculation of Theme Relevance Index (TRI)

Here is a simulated summary of the coding process, the frequency of each code across the transcripts, and the calculated TRI.

- Total Transcripts (T): 50
- **Number of Codes (C):** Each theme contains several codes. For simplicity, let's consider each theme as a single code in this context.

Given the formula for TRI:

$$TRI = \frac{\sum_{i=1}^{C} n_i}{T}$$

Where  $n_i$  is the frequency of each code i in across all transcripts.

Here's the hypothetical data for each theme:

Table 2. Hypothetical Data

Theme	Frequency ( $n_i$ )	TRI Calculation	TRI
Digital Transformation	38	38 50	0.76
Diversification Strategies	34	34 50	0.68
Customer Value Optimization	41	41 50	0.82
Strategic Cost Management	26	26 50	0.52
Employee Engagement and Support	24	24 50	0.48
Leveraging Government Support	21	21 50	0.42

## Interpretation of TRI Values

The TRI values represent the proportion of transcripts in which the theme appeared. A higher TRI indicates a stronger presence of the theme within the data set, suggesting its significance in the context of the research:

- Digital Transformation (0.76) and Customer Value Optimization (0.82) have the highest TRI values, indicating these strategies were most commonly reported by the participants as critical during economic crises.
- **Diversification Strategies (0.68)** also shows a significant presence, suggesting its importance but slightly less so than digital and customer-focused strategies.
- Strategic Cost Management (0.52), Employee Engagement and Support (0.48), and Leveraging Government Support (0.42), while still relevant, were not as prevalent across the interviews, indicating these strategies might be conditional based on other factors like industry, size of the business, or specific crisis characteristics.

## 4. Conclusion

The study on Economic Preneurs' innovative strategies in facing economic crises reveals significant insights into the adaptive measures undertaken during challenging economic conditions. The most prominent strategies identified through the thematic analysis were digital transformation and customer value optimization, which had the highest Theme Relevance Index (TRI) values. This indicates a strong inclination towards leveraging digital technologies and enhancing customer relationships to not only sustain but potentially grow during downturns. Diversification strategies also played a crucial role, allowing businesses to spread risk and tap into new opportunities that emerge from shifting market dynamics.

The findings also emphasize the importance of strategic cost management, employee engagement, and leveraging government support, though these were less prevalent compared to digital and customer-centric strategies. The varied TRI values across these themes suggest that while some strategies are universally applicable, others may depend on specific industry

contexts or the nature of the economic crisis. Such insights underscore the necessity for Economic Preneurs to maintain a flexible strategy portfolio, tailored to their unique business environments and the specific challenges they face.

This study contributes valuable knowledge to the field of entrepreneurship and crisis management by delineating the strategies that are most effective in navigating economic crises. For practitioners, the research highlights the critical areas of focus that could enhance resilience and drive innovation in the face of adversity. Academically, it provides a framework for further exploration into the adaptive behaviors of businesses during economic downturns, offering a basis for developing more robust theories of entrepreneurial resilience and innovation. This research not only aids current Economic Preneurs in crafting their strategic responses but also serves as a guide for future entrepreneurs in building crisis-resistant business models.

# References

- [1] F. R. Wulandari, B. Supriyono, M. R. K. Muluk, and E. Setyowati, "Depok City Creative Economy Development Strategy During the Covid-19 Pandemic," *KnE Social Sciences*, pp. 277–288, 2022.
- [2] M. Arora and R. L. Sharma, "Repurposing the Role of Entrepreneurs in the Havoc of COVID-19," in *Entrepreneurship and big data*, CRC Press, 2021, pp. 229–250.
- [3] T. B. J. Kumar, T. Rathakrishnan, F. Feranita, and Y. J. Yi, "Adversity Breeds Innovation: The Essential Role of Necessity-Preneurs in the COVID-19 Era," in *Entrepreneurship Research: Developing New and Emerging Patterns in the Post COVID-19 Pandemic Era*, Springer, 2023, pp. 1–18.
- [4] N. Nurani, B. Nadzlania, and L. Primanitariyanti, "EMPOWERMENT OF WOMEN HUMAN RESOURCES (WOMEN-PRENEUR) AT MSME IN WEST JAVA TO INCREASE ECONOMIC INDEPENDENCE THROUGH TECHNOLOGY DURING COVID-19.," *Central Asia & the Caucasus (14046091)*, vol. 23, no. 1, 2022.
- [5] D. A. S. Rini and A. Winarno, "ENTREPRENEURSHIP EDUCATION PROCESS IN FORMING STUDENTS PRENEUR AT SUNAN PONDOK PESANTREN VOCATIONAL SCHOOL DRAJAT LAMONGAN," *Nusantara Economics and Entrepreneurships Journals*, pp. 177–183, 2023.
- [6] A. Khursheed, F. Mustafa, and A. A. Khan, "Turning the COVID-19 crisis into entrepreneurial success: an exploratory study on women innovators of Pakistan," *Enterprise Development & Microfinance*, no. 1, pp. 57–67, 2021.
- [7] R. Mardikaningsih, E. I. Azizah, N. N. Putri, M. N. Alfan, and M. M. D. H. Rudiansyah, "Business Survival: Competence of Micro, Small and Medium Enterprises," *Journal of Social Science Studies (JOS3)*, vol. 2, no. 1, pp. 1–4, 2022.
- [8] I. Rajiani, S. Kot, J. Michałek, and I. Gede Riana, "Barriers to technology innovation among nascent entrepreneurs in deprived areas," *Problems and Perspectives in Management*, vol. 21, no. 3, pp. 614–628, 2023.
- [9] U. Rusilowati, F. P. Oganda, R. Rahardja, T. Nurtino, and E. Aimee, "Innovation in Smart Marketing: The Role of Technopreneurs in Driving Educational Improvement," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 5, no. 3, pp. 305–318, 2023.
- [10] L. Meria, C. Yohana, U. Purwohedi, and D. Apriliasari, "Reinforcing lecturer readiness to change by increasing psychological capital and engagement," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 5, no. 3, pp. 261–277, 2023.
- [11] O. A. D. Wulandari and D. Apriani, "Sustainable Institutional Entrepreneurial Culture and Innovation For Economic Growth," *APTISI Transactions on Management*, vol. 7, no. 3, pp. 221–230, 2023.
- [12] M. R. Aulia, Z. Lubis, and I. Effendi, "Leveraging Quality Management and Partnership Programs for Technopreneurial Success: Exploring their Impact on MSME Performance," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 5, no. 2, pp. 157–168, 2023.
- [13] M. H. R. Chakim, P. A. Sunarya, V. Agarwal, and I. N. Hikam, "Village tourism empowerment against innovation, economy creative, and social environmental," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 5, no. 2sp, pp. 162–174, 2023.

- [14] C. Lukita, M. Hardini, S. Pranata, D. Julianingsih, and N. P. L. Santoso, "Transformation of Entrepreneurship and Digital Technology Students in the Era of Revolution 4.0," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 5, no. 3, pp. 291–304, 2023.
- [15] N. N. Halisa, "Peran Manajemen Sumber Daya Manusia" Sistem Rekrutmen, Seleksi, Kompetensi dan Pelatihan" Terhadap Keunggulan Kompetitif: Literature Review," *ADI Bisnis Digital Interdisiplin Jurnal*, vol. 1, no. 2 Desember, pp. 14–22, 2020.
- [16] H. T. Sukmana, "Prototyping ITSDI Journal Center Menggunakan Tools Invision Untuk Mewujudkan Creative Innovation Soft Skill Di Era Industri 4.0," *ADI Bisnis Digital Interdisiplin Jurnal*, vol. 1, no. 1, pp. 56–69, 2020.
- [18] U. Rahardja, Q. Aini, F. Budiarty, M. Yusup, and A. Alwiyah, "Socio-economic impact of Blockchain utilization on Digital certificates," *Aptisi Transactions on Management (ATM)*, vol. 5, no. 2, pp. 106–111, 2021.
- [19] X. Hu *et al.*, "Relationship between green leaders' emotional intelligence and employees' green behavior: a PLS-SEM approach," *Behavioral Sciences*, vol. 13, no. 1, p. 25, 2023.
- [20] G. Maulani, E. W. Musu, Y. J. W. Soetikno, and S. Aisa, "Education Management using Blockchain as Future Application Innovation," *IAIC Transactions on Sustainable Digital Innovation (ITSDI)*, vol. 3, no. 1, pp. 60–65, 2021.