RSF Conference Proceeding Series: Business, Management and Social Science, Vol. 5 No. 1 (2025) https://doi.org/10.31098/bmss.v5i1.925

Research Paper

Integrating Techno-Entrepreneurial Relationship Marketing (TERM) to Strengthen Student Entrepreneurial Competitiveness in Central Java

Dika Vivi Widyanti*, Noor Suroija, M. Nahar, Bagus Yunianto Wibowo,
Andi Setiawan, Sri Wahyuni, Sandi Supaya, Makmun Riyanto
Politeknik Negeri Semarang, Indonesia

Received : Aug 25, 2025	Revised : Aug 27, 2025	Accepted : Aug 27, 2025	Online : September 23, 2025

Abstract
The Techno-Entrepreneurial Relationship Marketing (TERM) model is a strategic framework that integrates digital innovation with relationship-based marketing to support student entrepreneurs in Central Java. This research adopts a mixed-methods design to evaluate how TERM impacts marketing outcomes by focusing on digital adoption, entrepreneurial orientation, and proactive customer interaction. Surveying 150 student-run ventures across 35 regions, the study finds that TERM significantly improves marketing performance by enabling responsive, data-informed strategies and fostering deeper customer relationships. Tools such as CRM systems, social media, and analytics platforms enhance customer retention and market relevance. The study concludes that embedding TERM into entrepreneurship education equips students with the digital and relational competencies needed to compete effectively in the evolving business landscape.

Keywords: *Techno-Entrepreneurial Relationship Marketing, Entrepreneurial Competitiveness, Student Entrepreneurs, Digital Marketing, Relationship Management*

INTRODUCTION

Entrepreneurship is a catalyst for innovation, job creation, and economic development, especially in emerging economies such as Indonesia. In Central Java, a growing number of student entrepreneurs aspire to develop competitive ventures. However, they often encounter challenges, including limited capital, intense market rivalry, and inadequate digital capabilities. With the digital transformation reshaping business landscapes, these entrepreneurs must adapt by leveraging technologies such as social media, data analytics, and CRM tools to remain relevant and responsive.

Techno-Entrepreneurial Relationship Marketing (TERM) emerges as a relevant framework that combines entrepreneurial mindset, technology use, and relationship marketing to address these challenges. Despite its potential, empirical studies on TERM within the context of student-led businesses remain limited. This study investigates how TERM supports marketing performance and competitive advantage among student entrepreneurs in Central Java, thereby offering insights for academic institutions and policymakers.

LITERATURE REVIEW

Resource-Based View (RBV)

RBV posits that competitive advantage stems from resources that are valuable, rare, inimitable, and non-substitutable (VRIN). Digital resources such as CRM tools (Nguyen, 2007), social platforms, and analytics, enable businesses to personalize communication, swiftly adapt to market dynamics, and enhance loyalty, thereby becoming critical strategic assets for entrepreneurial success (Staniewski & Awruk, 2019).

Corresponding author's email: dikaviviwidyanti@polinrs.ac.id

Entrepreneurial Orientation (EO)

Entrepreneurial Orientation refers to an organization's tendency toward innovation, proactiveness, and risk-taking. These traits empower student entrepreneurs to explore new market opportunities, adopt digital solutions, and proactively engage customers an essential foundation for successful TERM implementation (Højland & Rohrbeck, 2018).

Relationship Marketing

This approach emphasizes long-term customer engagement, loyalty, and two-way communication (Arabshahi, 2021). Digital platforms now allow entrepreneurs to deliver personalized services and feedback loops. TERM leverages these principles to develop sustained customer relationships, which in turn support differentiation and brand strength (He & Calder, 2020).

TERM Integration

Integrating RBV, EO, and relationship marketing creates a robust model for TERM. Previous studies (e.g., Wang & Ahmed, 2007) affirm that the strategic use of technology combined with entrepreneurial behavior enhances firm performance (Campos-Núñez & Serrano-Malebrán, 2024). TERM becomes particularly vital for resource-constrained student businesses facing dynamic consumer expectations (Armantier et al., 2017).

RESEARCH METHOD

A mixed-methods approach was employed to examine the effectiveness of TERM among student entrepreneurs. The quantitative phase involved a survey distributed to 150 students operating businesses in 35 districts/cities in Central Java. Key constructs measured included:

- Information Technology Adoption
- Entrepreneurial Orientation
- Interaction Proactiveness
- Marketing Performance

Data were analyzed using Structural Equation Modeling (SEM) with AMOS 24.0. Qualitative insights were also obtained through interviews to enrich the interpretation of statistical findings.

FINDINGS AND DISCUSSION

Respondent Profile

The majority of respondents were aged between 22 – 23, with businesses operating for 7–12 months. Their ventures spanned food, fashion, and service industries.

Data Normality

Normality tests confirmed that the dataset met univariate and multivariate assumptions. No outliers or multicollinearity issues were detected. The model passed all goodness-of-fit criteria, indicating its reliability.

Table 1. Assessment of Normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
EO3	1,000	5,000	-,257	-1,050	-,566	-1,155
EO2	1,000	5,000	-,256	-1,046	-,631	-1,287
EO1	1,000	5,000	-,434	-1,772	-,333	-,680
ITA3	1,000	5,000	-,264	-1,079	-,435	-,888
ITA2	1,000	5,000	-,306	-1,248	-,540	-1,102

Variable	min	max	skew	c.r.	kurtosis	c.r.
ITA1	1,000	5,000	-,330	-1,349	-,551	-1,125
CA4	1,000	5,000	-,414	-1,688	-,526	-1,073
CA1	1,000	5,000	-,211	-,860	-,759	-1,549
CA2	1,000	5,000	-,158	-,646	-,614	-1,254
CA3	1,000	5,000	-,460	-1,879	-,246	-,502
MP3	1,000	5,000	-,343	-1,401	-,642	-1,311
MP2	1,000	5,000	-,273	-1,113	-,349	-,711
MP1	1,000	5,000	-,268	-1,093	-,783	-1,599
IP3	1,000	5,000	-,141	-,577	-,745	-1,522
IP2	1,000	5,000	-,282	-1,152	-,253	-,516
IP1	1,000	5,000	-,439	-1,793	-,515	-1,051
RC3	1,000	5,000	-,370	-1,511	-,225	-,458
RC2	1,000	5,000	-,229	-,937	-,851	-1,738
RC1	1,000	5,000	-,280	-1,143	-,524	-1,069
TERM3	1,000	5,000	-,380	-1,551	-,477	-,973
TERM2	1,000	5,000	-,257	-1,050	-,610	-1,246
TERM1	1,000	5,000	-,258	-1,054	-,810	-1,653
Multivariate					-2,357	-2,132

Hypothesis Testing

Table 2. Hypothesis Test Result (Region weights)

			Estimate	S.E.	C.R.	P
TERM	←	Information Technology Adoption	,514	,065	7,912	***
TERM	←	Entrepreneurial Orientation	,613	,073	8,378	***
Responsiveness Capability	←	TERM	,887	,065	13,556	***
Interaction Proactiveness	←	TERM	,968	,069	14,094	***
Marketing Performance	←	Responsiveness Capability	,154	,038	4,084	***
Marketing Performance	←	Interaction Proactiveness	,105	,033	3,166	,002
Marketing Performance	←	TERM	,746	,074	10,036	***
Competitive Advantage	←	Marketing Performance	,987	,071	13,859	***
RC3	←	Responsiveness Capability	,962	,088	11,334	***
IP3	←	Interaction Proactiveness	,967	,084	11,474	***
CA4	←	Competitive	,960	,081	11,808	***

			Estimate	S.E.	C.R.	P
		Advantage				
MP2	←	Marketing Performance	,933	,088	10,582	***
MP1	←	Marketing Performance	1,000			
MP3	←	Marketing Performance	,956	,085	11,212	***
ITA1	←	Information Technology Adoption	1,000			
ITA3	←	Information Technology Adoption	,940	,083	11,364	***
ITA2	←	Information Technology Adoption	,921	,080	11,588	***
EO1	←	Entrepreneurial Orientation	1,000			
EO3	←	Entrepreneurial Orientation	1,019	,095	10,715	***
EO2	←	Entrepreneurial Orientation	1,087	,095	11,405	***
TERM1	←	TERM	1,000			

Source: Processed Primary Data, 2024

Discussion

Technology adoption facilitates real-time communication, customer insight gathering, and cost-effective operations—strengthening marketing strategy. Entrepreneurial orientation fosters a proactive mindset that is essential for adapting TERM principles. Moreover, TERM fosters interaction proactiveness and responsiveness capability, which are central to sustaining long-term customer value (Kumar & Reinartz, 2016).

TERM's positive influence on marketing performance aligns with earlier studies (e.g., Sin et al., 2002), demonstrating its effectiveness in increasing customer retention, market share, and profitability. Ultimately, improved marketing performance translates to sustainable competitive advantage.

CONCLUSIONS

This study affirms that TERM is a valuable strategy for student entrepreneurs in navigating the digital economy. By integrating technology use, proactive behavior, and customer-centric marketing, TERM enhances marketing outcomes and fosters competitive differentiation. Educational institutions are encouraged to integrate TERM into entrepreneurship curricula to build digitally savvy, relationship-oriented entrepreneurs. Furthermore, the implications of this study are:

- For educators: TERM should be taught as part of entrepreneurship training.

- For policymakers: Digital tools and mentoring programs should support youth entrepreneurship.
- For entrepreneurs: Adoption of TERM provides a structured path to digital competitiveness.

LIMITATIONS & FURTHER RESEARCH

The study is limited to student entrepreneurs in Central Java. Future research should include a broader demographic and apply longitudinal analysis to capture dynamic effects over time. Further exploration of moderating variables such as institutional support, digital literacy, and market turbulence is also recommended.

REFERENCES

Arabshahi, M., Wang, D., Sun, J., Rahnamayiezekavat, P., Tang, W., Wang, Y., & Wang, X. (2021). Review on sensing technology adoption in the construction industry. *Sensors, 21*(24), 8307. https://doi.org/10.3390/s21248307

Armantier, O., Topa, G., van der Klaauw, W., & Zafar, B. (2017). An overview of the survey of consumer expectations. *Economic Policy Review, 23*(2), 51–72. Federal Reserve Bank of New York.

Campos-Núñez, F., & Serrano-Malebrán, J. (2024). Enhancing firm performance: How entrepreneurial orientation and information technology capability interact. *Applied Sciences, 14*(16), 7243. https://doi.org/10.3390/app14167243

He, J., & Calder, B. J. (2020). The experimental evaluation of brand strength and brand value. *Journal of Business Research, 115,* 194–202. https://doi.org/10.1016/j.jbusres.2020.04.035

Højland, J., & Rohrbeck, R. (2018). The role of corporate foresight in exploring new markets: Evidence from three case studies in the BOP markets. *Technology Analysis & Strategic Management, 30*(6), 734–746. https://doi.org/10.1080/09537325.2017.1337887

Kumar, V., & Reinartz, W. (2016). Creating enduring customer value. *Journal of Marketing, 80*(6), 36–68. https://doi.org/10.1509/jm.15.0414

Nguyen, T. H., Sherif, J. S., & Newby, M. (2007). Strategies for successful CRM implementation. Information Management & Computer Security, 15(2), 102–115.

Sin, L. Y. M., Tse, A. C. B., Yau, O. H. M., Lee, J. S. Y., & Chow, R. (2002). The effect of relationship marketing orientation on business performance in a service-oriented economy. *Journal of Services Marketing, 16*(7), 656–676.

Staniewski, M. W., & Awruk, K. (2019). Entrepreneurial success and achievement motivation: A preliminary report on a validation study of the questionnaire of entrepreneurial success. *Journal of Business Research, 101,* 433–440. https://doi.org/10.1016/j.jbusres.2019.01.073

Wang, C. L., & Ahmed, P. K. (2007). *Dynamic capabilities: A review and research agenda*. *International Journal of Management Reviews, 9*(1), 31-51.