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The Influence of Career Development and Startup Ecosystem Support on the Retention of Gen Z Entrepreneurs in the Digital Startup Ecosystem

Novy Fitria[1], Fauzan Muttaqien[2], Via Lailatul Rizki[3], I Gusti Ayu Panca Dewi[4], I Komang Oka Permadi[5], Thanh Lam Nguyen[6]

Department of Management, Institut Teknologi dan Bisnis Widya Gama Lumajang, Indonesia[1,2,3]
Department of Management, Faculty of Economics and Business, Universitas Mahasaraswati Denpasar, Bali, Indonesia[4,5]
Ho Chi Minh City University of Economics and Finance, Vietnam[6]

Corresponding Author: Novy Fitria (novyfitria3@gmail.com)

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ABSTRACT

This study examines the influence of career development and startup ecosystem support on the retention of Generation Z digital entrepreneurs in Indonesia. The increasing involvement of young people in digital entrepreneurship raises the need to understand the factors that enable them to maintain long-term entrepreneurial engagement. Using an explanatory quantitative approach, data were collected through structured questionnaires and analyzed with multiple linear regression to identify the role of individual development and ecosystem support. The results indicate that career development contributes to strengthening entrepreneurial commitment by enhancing clarity of goals, competence, and confidence, while startup ecosystem support provides essential external reinforcement through networks, mentoring, collaboration, and resource access. The interaction of both factors shows a complementary effect in sustaining entrepreneurial involvement. This study concludes that the retention of Gen Z digital entrepreneurs is shaped by a combination of internal developmental processes and external ecosystem support, and it offers practical implications for educators, incubators, and policymakers in strengthening digital entrepreneurship programs.

Keywords: Career Development, Digital Entrepreneurship, Generation Z, Retention, Startup Ecosystem.

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INTRODUCTION

Over the past decade, the global economic landscape has undergone substantial transformation alongside the rapid digitalization occurring across sectors. This transformation has not only reshaped how organizations operate but also stimulated the emergence of more flexible and technology-driven economic activities. Indonesia, as one of the fastest-growing digital economies in Southeast Asia, reflects similar dynamics. National reports indicate that Indonesians particularly Generation Z are increasingly utilizing digital technologies not only as consumers but also as creators of new

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economic value (Ministry of Communication and Informatics, 2023). According to the Indonesia Digital Development Horizon 2025–2030, the Indonesian digital economy is projected to reach US$146 billion by 2025, supported by internet penetration expected to exceed 80% and a user base in which more than one-third consists of Gen Z (Ministry of Communication and Informatics, 2023). These developments have contributed to a growing interest in digital entrepreneurship among Gen Z, who leverage social media, digital services, and e-commerce platforms to initiate business ventures. However, the sustainability of Gen Z entrepreneurship remains a significant challenge; data from the Central Statistics Agency (BPS) show that out of more than 56 million business actors in Indonesia, only 6.1 million (less than 11%) are aged 20–29, indicating a gap between demographic potential and actual entrepreneurial realization (BPS, 2023).

Previous studies reveal mixed findings regarding the determinants of entrepreneurial sustainability. Research focusing on internal factors highlights the importance of adaptive competence, problem-solving ability, self-confidence, and self-development as foundations for resilience during the early stages of entrepreneurship (Lee & Kim, 2021; Putra & Lestari, 2022). Conversely, other studies emphasize the dominance of external factors such as mentoring, networking, community collaboration, and ecosystem support in sustaining digital entrepreneurial activities (Rahman et al., 2020; Suryani, 2023). Generational perspectives further suggest that Gen Z possesses unique characteristics, including a need for rapid feedback, a preference for digital collaboration, and high sensitivity to unsupportive environments conditions that may not be adequately captured in studies using multigenerational samples (Morris & Minet, 2022). These contextual limitations and differing research focuses have resulted in an incomplete understanding of entrepreneurial sustainability among Gen Z, particularly within the digital sector.

These limitations point to several clear research gaps. First, prior studies have not integrated career development as an internal factor with startup ecosystem support as an external factor within a unified analytical model, resulting in fragmented insights. Second, empirical research focusing exclusively on Gen Z digital entrepreneurs in Indonesia remains limited, despite the strategic importance of this group in driving the national digital economy. Third, the interaction between career development and ecosystem support, specifically how these two dimensions reinforce each other in sustaining entrepreneurial continuity, has rarely been empirically examined, leaving a conceptual gap regarding the synergistic mechanisms that underpin digital entrepreneurial retention. In line with these identified gaps, the novelty of this study lies in its integrated approach that combines career development and startup ecosystem support within a single analytical model specifically designed to examine the sustainability of Generation Z digital entrepreneurs in Indonesia. Unlike previous research that analyzed internal and external factors separately, this study offers a synergistic perspective, showing that career development as an internal process becomes more effective when embedded in a supportive entrepreneurial ecosystem. Furthermore, this study provides original empirical evidence derived directly from Gen Z digital entrepreneurs operating within Indonesia's rapidly expanding digital economy, an understudied context in global entrepreneurship research.

Based on these research gaps and this study's novelty, the objective is to provide a more comprehensive understanding of the factors that influence the retention of Generation Z digital entrepreneurs in Indonesia. Specifically, this study aims to analyze how career development as an internal factor contributes to entrepreneurial retention, examine the extent to which startup ecosystem support as an external factor affects business sustainability, and evaluate the interaction effect between career development and ecosystem support in creating a synergistic mechanism that strengthens digital entrepreneurial retention among Generation Z.

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THEORETICAL FRAMEWORK AND HYPOTHESES

Career Development

Career development is understood as a structured process that enables individuals to enhance their competencies, clarify their professional direction, and strengthen their long-term commitment to their roles. This process builds confidence, self-regulation, and long-term orientation, as demonstrated in studies by Hu et al. (2022) and Greenhaus et al. (2019). A clear career direction increases individuals' intention and persistence in maintaining their professional activities. For Generation Z, career development becomes particularly important because this demographic exhibits a strong need for self-improvement, continuous learning, and clarity of purpose. Lee and Kim (2021) found that clear career paths are positively associated with an individual's resilience in sustaining professional engagement, including in the context of digital entrepreneurship.

Startup Ecosystem Support

Startup ecosystem support includes networks, market access, mentoring, digital infrastructure, and policy-related assistance that enable entrepreneurs to build and sustain their ventures. Malecki (2021) showed that the quality of an ecosystem strengthens legitimacy, information flows, and access to resources that help entrepreneurs cope with uncertainty. Rahman et al. (2020) and Suryani (2023) emphasized that the availability of mentoring, collaborative communities, and external resources enhances entrepreneurs' readiness to navigate market dynamics. For Gen Z entrepreneurs operating in the digital ecosystem, such support becomes a critical external factor influencing business sustainability.

Entrepreneurial Retention

Entrepreneurial retention refers to the sustained commitment to continue managing and developing an existing venture. Retention is shaped by a combination of motivation, self-confidence, environmental support, and perceived business continuity, as explained by Uy et al. (2017) and reinforced by Gabay-Mariani et al. (2023). Among Generation Z entrepreneurs, retention aligns closely with generational values such as autonomy, meaningful work, growth opportunities, and stable social support. Morris and Minet (2022) noted that the alignment between personal development and environmental stability influences Gen Z's sustainability.

Hypothesis Development

Career Development and Entrepreneurial Retention

Career development provides clarity of goals, strengthens personal capacities, and enhances readiness to cope with entrepreneurial pressures. These elements directly contribute to an entrepreneur's ability to sustain long-term engagement in business activities. This is consistent with findings by Hu et al. (2022) and Lee and Kim (2021), who reported that individuals with strong career development exhibit greater intention and persistence in maintaining professional activities.

H1: Career development has a positive effect on the retention of Gen Z digital entrepreneurs.

Startup Ecosystem Support and Entrepreneurial Retention

A startup ecosystem that provides access to mentoring, resources, and professional networks creates a supportive structure that enhances business sustainability. Such support reduces uncertainty and strengthens entrepreneurs' adaptability. This aligns with findings by Rahman et al. (2020), Suryani (2023), and Malecki (2021), who found that a strong ecosystem increases entrepreneurial commitment and sustainability.

H2: Startup ecosystem support has a positive effect on the retention of Gen Z digital entrepreneurs.

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Interaction Between Career Development and Ecosystem Support on Retention
Entrepreneurial retention emerges from the interaction between internal and external factors. Career development enhances an individual's ability to leverage ecosystem support, while a conducive ecosystem amplifies the effectiveness of career development strategies. This is consistent with Gabay-Mariani et al. (2023), who demonstrated that the integration of personal and environmental factors is a key determinant of entrepreneurial sustainability.

H3: Career development and startup ecosystem support jointly have a positive effect on the retention of Gen Z digital entrepreneurs.

METHODS

This study uses a quantitative method with an explanatory approach to analyze the effects of career development and ecosystem support on Gen Z entrepreneurial sustainability. The model includes two independent variables (career development, startup ecosystem support) and one dependent variable (entrepreneurial retention). The population comprises Gen Z individuals (born 1995–2010) who actively manage digital-based businesses, including online commerce, tech startups, and digital services. A purposive sampling method ensured that respondents had active ventures operating for at least three months. The sample consists of 100 respondents, fitting explanations in regression-based studies.

Data were collected through structured questionnaires with a five-point Likert scale. Validity was assessed using Pearson correlation, and reliability was evaluated with Cronbach's alpha (>0.70). Data analysis involved descriptive statistics, classical assumption tests (normality, multicollinearity, heteroscedasticity), and multiple linear regression using SPSS.

RESULTS AND DISCUSSION

Table 1. Data Analysis

Number	Informant	Information
1	Gender	56% male, 44% female
2	Education	72% undergraduate, 20% diploma, 8% postgraduate
3	Business Type	Digital-based ventures

Source: Processed primary data (2025)

This study begins with the presentation of respondent characteristics. A total of 100 Gen Z digital entrepreneurs participated in the study, with a gender distribution of 56% male and 44% female. The majority of respondents held an undergraduate degree (72%), while the remainder were diploma holders (20%) and postgraduate graduates (8%). All respondents were actively managing digital ventures, thus the sample profile reflects a population of young entrepreneurs with a technological orientation and high educational background.

Table 2. Validity Test Results

Variable	KMO	Bartlett's Sig.	Factor Loading Range	Status
Career Development	0.846	0.000	0.634–0.822	Valid
Startup Ecosystem Support	0.873	0.000	0.612–0.834	Valid
Entrepreneurial Retention	0.821	0.000	0.628–0.817	Valid

Source: SPSS processed data (2025)

Table 3. Reliability Test Results

Variable	Cronbach's Alpha	Status
Career Development	0.893	Reliable

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Startup Ecosystem Support	0.907	Reliable
Entrepreneurial Retention	0.881	Reliable

Source: SPSS processed data (2025)

The research instruments were evaluated for quality through validity and reliability tests. The validity test using KMO and Bartlett's Test showed that all variables had KMO values above 0.5 and Bartlett's significance below 0.05, indicating that the data were suitable for further analysis. Factor loadings ranged from 0.612 to 0.834, confirming that all items met construct validity requirements. The reliability test demonstrated that Cronbach's Alpha values were above 0.70 for all variables, indicating good internal consistency.

Table 4. Normality Test (Kolmogorov–Smirnov)

Statistic	Sig.	Conclusion
0.082	0.082	Normal distribution

Source: SPSS processed data (2025)

Table 5. Heteroskedasticity Test (Glejser)

Variable	Sig.	Conclusion
Career Development	0.241	No heteroskedasticity
Startup Ecosystem Support	0.317	No heteroskedasticity
Interaction (CD × SES)	0.288	No heteroskedasticity

Source: SPSS processed data (2025)

Table 6. Linearity Test

Variable	Sig. Deviation from Linearity	Conclusion
Career Development	0.114	Linear
Startup Ecosystem Support	0.128	Linear

Source: SPSS processed data (2025)

Table 7. Multicollinearity Test

Variable	Tolerance	VIF	Status
Career Development	0.812	1.232	No multicollinearity
Startup Ecosystem Support	0.804	1.244	No multicollinearity
Interaction (CD × SES)	0.721	1.387	No multicollinearity

Source: SPSS processed data (2025)

Before conducting the model analysis, classical assumption tests were performed. The normality test using Kolmogorov–Smirnov showed a significance value of 0.082, which is greater than 0.05, indicating that the residuals are normally distributed. The multicollinearity test showed that all variables had Tolerance values above 0.10 and VIF values below 10, confirming no multicollinearity. The Glejser heteroskedasticity test indicated that all significance values were above 0.05, meaning the model was free from heteroskedasticity. The linearity test confirmed that the relationships between independent and dependent variables were linear, indicating that the regression model met all necessary statistical assumptions.

Table 8. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation
Career Development	4.21	0.42
Startup Ecosystem Support	4.34	0.38
Entrepreneurial Retention	4.18	0.45

Source: SPSS processed data (2025)

Descriptive analysis showed that all variables had high mean scores. Career development obtained a mean of 4.21, ecosystem support had the highest mean of 4.34, and entrepreneurial retention had a mean of 4.18. These results indicate that respondents consistently value both internal and external factors in sustaining their digital ventures.

Table 9. Regression Model Results

Variable	B	Std. Error	Beta	t	Sig.
Career Development	0.280	0.102	0.280	2.745	0.007
Startup Ecosystem Support	0.462	0.089	0.462	5.191	0.000
Interaction (CD × SES)	0.125	0.058	0.125	2.155	0.033
$R^2 = 0.615$					
F = 55.874 (p = 0.000)					

Source: SPSS processed data (2025)

Multiple linear regression analysis was used to examine the effects of career development, startup ecosystem support, and their interaction on the retention of Gen Z digital entrepreneurs. The results indicated that all independent variables had a significant effect. Career development positively influenced retention ($\beta = 0.280$; $p = 0.007$). Startup ecosystem support was the most dominant variable ($\beta = 0.462$; $p = 0.000$). The interaction between career development and ecosystem support was also significant ($\beta = 0.125$; $p = 0.033$), indicating that these factors work synergistically rather than independently. The R^2 value of 0.615 suggests that the model explains 61.5% of the variance in entrepreneurial retention.

The findings of this study indicate that the retention of Gen Z digital entrepreneurs is shaped by a multidimensional mechanism involving internal factors, external factors, and the reinforcing relationship between them. The significant influence of career development suggests that clear career direction, opportunities for self-development, and structured learning experiences contribute to psychological resilience and long-term commitment among young entrepreneurs. These results are consistent with Hu et al. (2022), who emphasized that career clarity and self-efficacy enhance consistent entrepreneurial behavior, and Lee and Kim (2021), who found that clear career orientation promotes endurance and perseverance in managing business dynamics. In the digital entrepreneurship context, this means that Gen Z individuals with well-defined career goals and ongoing development opportunities are more capable of managing rapidly changing market pressures.

Startup ecosystem support was found to have a stronger effect than career development, highlighting the central role of external environments in sustaining entrepreneurial ventures among Gen Z. This finding aligns with Rahman et al. (2020) and Suryani (2023), who stressed that professional networks, collaborative communities, business mentoring, and access to resources play key roles in maintaining young entrepreneurs' venture sustainability. Beyond material support, a strong ecosystem also functions as a psychological buffer, helping entrepreneurs navigate the high uncertainty of digital markets. These results reinforce the literature emphasizing that a supportive environment is crucial for enhancing persistence and long-term engagement in digital entrepreneurship.

The significant interaction between career development and ecosystem support provides an important theoretical contribution. It indicates that the effectiveness of career development cannot be understood independently of the entrepreneurial environment surrounding Gen Z digital entrepreneurs. Individuals with high capabilities in a weak ecosystem have limited retention, whereas a strong ecosystem is suboptimal without adequate career preparedness. This synergistic pattern underscores that entrepreneurial retention results from reciprocal relationships between individual readiness and ecosystem support—a perspective still rarely discussed in previous literature. This study extends the findings of Gabay-Mariani et al. (2023), highlighting that the

sustainability of young entrepreneurs is strongly influenced by the alignment between individual development needs and available structural support. Overall, this study confirms that the sustainability of Gen Z digital entrepreneurs cannot be explained by a single factor. Retention emerges from an integrative process connecting individual capability development, ecosystem stability and access, and the synergy between them. The findings provide a more comprehensive understanding of the dynamics of entrepreneurship sustainability in the digital era and address gaps in previous research, which often emphasized either internal or external factors separately.

CONCLUSION

Based on the analysis and discussion, this study concludes that the sustainability of Gen Z digital entrepreneurs is influenced by a combination of internal and external factors that mutually reinforce one another. Career development, as an internal factor, plays a crucial role in enhancing entrepreneurial retention. Processes such as mentoring, training, and clear professional development pathways not only develop technical skills but also strengthen confidence, mental resilience, and motivation among young entrepreneurs in navigating the dynamics of digital markets. Startup ecosystem support, as an external factor, demonstrates a more dominant role in sustaining venture continuity. Access to professional networks, collaborative communities, incubation, funding, and a stable supportive environment provides a critical foundation for Gen Z digital entrepreneurs to persist in highly uncertain market conditions. This emphasizes that entrepreneurial success relies not only on individual capabilities but also significantly on the quality of the ecosystem in which they operate.

Furthermore, this study found that career development and ecosystem support do not operate independently; rather, they reinforce each other in improving the retention of young entrepreneurs. Career development is more effective in a supportive ecosystem, and conversely, a strong ecosystem becomes more meaningful when entrepreneurs are adequately prepared in their career pathways. These findings highlight that Gen Z entrepreneurial sustainability results from the interaction between individual capacity and structural support. In summary, the retention of Gen Z digital entrepreneurs is multidimensional and requires a holistic approach considering both individual readiness and ecosystem preparedness. The findings offer comprehensive insights into the dynamics of digital entrepreneurial sustainability and provide a critical basis for designing more effective entrepreneurship development strategies for Gen Z.

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