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HARDIPRENEURSHIP IN DISRUPTIVE TIMES: DEVELOPING AND VALIDATING A CONSTRUCT FOR MIGRANT REINTEGRATION

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ABSTRACT

Hardipreneurship is introduced in this study as a novel construct that integrates psychological hardiness with hardy entrepreneurial behaviors to explain the hardiness of return migrants in times of economic disruption. While existing research has examined hardiness and entrepreneurship separately, little attention has been given to their integration within the context of migrant reintegration. This study addresses that gap by drawing on hardiness theory, entrepreneurial orientation, achievement motivation, self-efficacy, and the Conservation of Resources Theory to conceptualize and empirically validate the construct. Using a mixed-method design, the study combined literature reviews, expert evaluations, and focus group discussions with return migrants to generate initial indicators. These were further refined through content validation and psychometric testing. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) confirmed a six-dimensional structure consisting of psychological hardiness, innovation, digital adaptability, socio-economic networking, crisis adaptation, and readiness to sustain entrepreneurial ventures. From an initial pool of 28 indicators, 11 were retained as valid and reliable measures of the construct. The findings contribute to theory by extending entrepreneurial orientation with psychological resources, offering a more integrative lens for understanding hardiness-driven entrepreneurship. Practically, the validated scale provides a tool for policymakers, microfinance institutions, and development organizations to design holistic reintegration programs that strengthen the mental and entrepreneurial capacities of return migrants. By linking psychological capital with entrepreneurial adaptability, the study positions Hardipreneurship as a critical framework for sustaining livelihoods in uncertain and disruptive environments.

KEYWORDS: Hardipreneurship, Hardiness, Entrepreneurial Orientation, EFA, CFA, Migrant Reintegration.

1. INTRODUCTION

The pursuit of the Sustainable Development Goals (SDGs) has stimulated extensive global and scholarly attention, particularly in efforts to decrease poverty, promote decent work, and reduce inequalities (SDG 1, SDG 8, SDG 10). These goals emphasize the need for inclusive and sustainable economic participation, especially among vulnerable groups such as return migrants whose economic resilience contributes not only to their well-being but also to national development (Glass & Newig, 2019; Vallentine et al., 2024). Although the SDGs have been widely examined in terms of synergies, trade-offs, and indicators (Nilsson et al., 2018; Pradhan et al., 2017; Spaier et al., 2017; Stafford-Smith et al., 2017; Weitz et al., 2018), governance and implementation challenges remain largely normative (Boas et al., 2016; Bowen et al., 2017; Meuleman & Niestroy, 2015).

Global economic transformations marked by digitalization, automation, and geopolitical uncertainty have intensified vulnerabilities in the labor market (Hugh Whittaker et al., 2020; Nepochatenko et al., 2025). These shifts disproportionately affect return migrants who frequently struggle with reintegration, limited formal employment opportunities, low financial literacy, and insufficient psychosocial support (Chan & Piper, 2024; Duchek, 2020; Harkins et al., 2017; Maheen & King, 2023; Mayor & Ramos, 2020; Thurik et al., 2024a; van Wijk et al., 2022). Reintegration is therefore not merely a technical or economic issue but a multidimensional process requiring coordination across individual, community, and institutional levels (Kreuter et al., 2020; Velenturf & Purnell, 2021). Strengthening reintegration necessitates cross-sector collaboration involving government actors, civil society, international agencies, and the return migrants themselves (Kerwin et al., 2025; IOM, 2019).

In Indonesia, migrant workers represent a significant development force, evidenced by large-scale departures and remittances (Maksum, 2021; Yougie Alhabsy Barnadi et al., 2025). BP2MI recorded 274,965 Indonesians working abroad in 2023, with Central Java contributing 59,009 workers (IOM, 2023). However, upon returning home, many migrants encounter fragmented reintegration programs, limited entrepreneurial support, and inadequate preparation for rapidly changing technological environments (BP2MI, 2023). These shortcomings risk perpetuating cycles of underemployment, poverty, and remigration (Bircan et al., 2020; Kuptsch & Mieres, 2025). Thus,

reintegration policies must be designed holistically, addressing economic, social, and psychological dimensions to enable return migrants to build empowered and sustainable livelihoods (Chen, 2025; IOM, 2019).

Despite the growing literature on return migration, important gaps remain. Many studies focus on remittances (Adegbile et al., 2025; Maksum, 2021), gendered household dynamics (Donato et al., 2025; Pearson & Sweetman, 2019; Tuccio & Wahba, 2018), or informal labor participation (Sibagariang et al., 2023). Other work explores post-migration social marginalization or limited local engagement (Chen, 2025; Jacobs, 2022; Prah & Sibiri, 2021; Roskrige & Poot, 2024). Meanwhile, international research highlights psychosocial interventions and community-based reintegration (ASEAN Secretariat, 2022; IOM, 2019; Sagi, Bareket-Bojmela, et al., 2021; OECD, 2024). Emerging studies further demonstrate the importance of personal traits, digital adaptability, and social innovation in shaping post-migration hardiness (Garrido-Moreno et al., 2024a; Lång et al., 2025; Silva, B. G., Andriese, N. C., & Combs, 2025). Yet, only limited scholarship integrates psychological hardiness with entrepreneurial capacity into a unified construct applicable to return migrants navigating complex economic landscapes (Brändle et al., 2025; Korber & McNaughton, 2018; Kromidha & Bachtar, 2024).

Hardiness consisting of commitment, control, and challenge has long been recognized as a key psychological resource that enables individuals to cope with stress and interpret difficulties as opportunities for growth (Kobasa et al., 1982a; Maddi, 2007). Individuals high in hardiness demonstrate greater persistence and adaptive responses in uncertainty (B. H. Kim & Suh, 2021; Maheen & King, 2023; Pradipto et al., 2020; Predko et al., 2023; Yi et al., 2024). Meanwhile, entrepreneurial orientation reflected through innovativeness, risk-taking, and proactiveness is consistently linked to entrepreneurial success, opportunity recognition, and resilience (Lumpkin & Dess, 2001). Integrating these perspectives is crucial for understanding how return migrants navigate reintegration, pursue economic agency, and respond to technological disruptions (Maksum, 2021).

Building on these foundations, this study introduces Hardipreneurship, a synthetic framework that unites psychological hardiness and entrepreneurial orientation within a single construct. It recognizes return migrants as active agents capable of drawing upon psychological capital, social networks, and transnational experience to create

adaptive and sustainable entrepreneurial pathways. The framework is grounded in Conservation of Resources Theory (Hobfoll, 2001a), which posits that individuals strive to protect, maintain, and accumulate resources under stress. For return migrants, entrepreneurial activity becomes a strategy for restoring resources depleted during migration and reintegration. This aligns with recent scholarship positioning migrants as empowered innovators who generate social and economic value within their home communities (Juzwiak et al., 2014; McGregor, E. & Siegel, 2013; Sime & Fox, 2015).

By situating hardipreneurship within the broader discourse on digital ethics, cultural adaptation, and sustainable human values, this study advances two primary contributions. First, it offers a theoretical contribution by validating a novel construct that integrates psychological hardiness, entrepreneurial orientation, and digital adaptability—bridging migration and entrepreneurship studies. Second, it provides practical insights for policymakers and practitioners by identifying pathways through which reintegration programs can strengthen long-term empowerment beyond short-term assistance. In alignment with the aims of Scientific Culture, the hardipreneurship framework illustrates how scientific and technological progress can be harmonized with cultural inclusivity and psychological resilience. Overall, this study enriches academic discussions on return migration, hardiness, and entrepreneurship while offering a timely response to the challenges of reintegration in an era of economic disruption.

2. THEORETICAL FRAMEWORK

2.1. The Core Concept of Hardiness

The notion of hardiness was first introduced by (Kobasa et al., 1982b), as a personality structure that shapes how individuals confront stressful situations. It consists of three dimensions: first, commitment refers to the tendency to remain engaged and purposeful rather than disengaged, even in the face of difficulty. Second, control denotes the belief that one can exert influence over life events and outcomes rather than feeling powerless. Third, challenge reflects the capacity to perceive change and adversity as opportunities for growth rather than as threats. Collectively, these dimensions form a psychological foundation that shapes individuals' hardiness and adaptive responses to stress.

Subsequent work (Maddi, 2007) expanded this framework by conceptualizing hardiness as an interpretive style that guides how individuals make sense of and respond to adversity. From this

perspective, hardiness fosters optimism, proactivity, and constructive coping strategies, and has been empirically shown to buffer against stress-related outcomes such as anxiety, depression, and performance decline. Recent studies reaffirm the relevance of hardiness in today's volatile global context, where individuals face pressures stemming from economic disruption, pandemics, and social conflict (B. H. Kim & Suh, 2021). Evidence demonstrates that high levels of hardiness are associated with stronger hardiness, adaptive functioning, and psychological well-being, particularly among vulnerable populations such as migrants and return migrants (Predko et al., 2023; Yi et al., 2024). Research in Indonesia also shows that return migrants with higher levels of hardiness report greater psychological well-being and stronger self-regulation in decision-making (Pradipto et al., 2020). In this study, hardiness is employed as a psychological foundation of hardipreneurship, emphasizing its role in sustaining motivation, self-regulation, and persistence when return migrants confront the challenges of reintegration and entrepreneurial adaptation. In contemporary contexts, hardiness plays a pivotal role in helping individuals navigate digital transformation and technological disruption. As societies become increasingly mediated by artificial intelligence and virtual platforms, the ability to remain committed, exercise control, and embrace change becomes essential not only for psychological well-being but also for ethical adaptation and sustainable participation in the digital economy.

2.2. The Core Concept of Entrepreneurship

Entrepreneurship has long been understood not merely as an economic activity but as a process of value creation rooted in innovation, independence, and initiative (Malki et al., 2022; Stoyanov & Stoyanova, 2022). Early definitions emphasized entrepreneurship as the pursuit of opportunities regardless of resources currently controlled, highlighting the centrality of innovation and risk-taking in shaping economic activity (Kusa et al., 2021). Building on this foundation, (Lumpkin & Dess, 2001) the notion of entrepreneurial orientation was introduced, a strategic posture characterized by three dimensions: first, innovation as the ability to generate novel ideas and solutions. Second, proactiveness refers to the tendency to anticipate and act on future opportunities. Third, risk-taking, which is defined as the willingness to commit resources under uncertainty. This perspective broadened entrepreneurship beyond business creation to a

behavioral and strategic approach applicable to individuals and organizations alike. Subsequent scholarship extended this view by framing entrepreneurship as a mindset shaped by cognitive and affective factors such as optimism, courage, and confidence (Vamvaka et al., 2020).

Recent research positions entrepreneurship as a strategic approach for navigating crises and uncertainty. In contexts marked by economic disruption, entrepreneurship enables individuals to build new livelihoods, strengthen household hardiness, and reduce dependency on unstable labor markets (Thurik et al., 2024a)(Silva, B. G., Andriese, N. C., & Combs, 2025). Studies also highlight its empowering role for marginalized groups, including women, youth, and return migrants, by transforming accumulated knowledge, skills, and transnational experience into tangible economic opportunities (Lång et al., 2025). In this study, entrepreneurship is employed as the behavioral and strategic dimension of hardipreneurship, underscoring the role of innovation, proactivity, and risk-taking in enabling return migrants to create sustainable economic activities while adapting to volatile and uncertain environments. In the digital era, entrepreneurship increasingly occurs within technologically mediated environments where innovation and opportunity recognition depend on digital literacy, online networking, and ethical decision-making in virtual markets. Scholars highlight that digital entrepreneurship not only drives economic transformation but also raises questions about inclusivity, cultural adaptation, and human values in the use of technology for social empowerment.

2.3. Applications of Hardiness Across Domains

Since its introduction in personality psychology, the concept of hardiness has been extended well beyond its original scope and applied across diverse domains such as organizations, education, health, the military, and entrepreneurship. (Maddi, 2007) advanced the concept into training and intervention programs aimed at enhancing coping mechanisms in work, educational, and crisis contexts. In organizational settings, hardiness has been associated with more substantial job commitment, higher job satisfaction, and lower levels of burnout. For example, (Mujajati et al., 2024) found that civil servants with higher hardiness exhibited greater organizational commitment and stronger resistance to occupational stress. In higher education, recent studies emphasize the importance of fostering hardiness among students and faculty in the post-pandemic era through growth mindset approaches

and experiential learning (Jianping et al., 2023; SAEI & LEE, 2024).

Within entrepreneurship, hardiness has gained increasing attention as a factor supporting persistence and recovery in the face of business failure. (Isichei et al., 2024) demonstrate that hardiness contributes to entrepreneurial perseverance, while (Iga et al., 2025) highlighting the role of psychological capital, including hardiness, in sustaining women-owned small businesses across countries. Organizational hardiness and the ability to innovate and digitalize during crises have also been linked to the psychological hardiness of individuals (Garrido-Moreno et al., 2024a). Despite these insights, most studies continue to examine hardiness and entrepreneurship separately. Few attempts have been made to integrate these perspectives into a unified conceptual framework that explains how internal psychological strengths shape adaptive economic strategies. Recent discussions also extend the role of hardiness into digital and hybrid learning environments, where adaptability and self-regulation are crucial for maintaining engagement and performance. In cultural and educational contexts, hardiness supports ethical decision-making and hardiness against digital fatigue, emphasizing its relevance in sustaining human-centered values in technologically saturated societies.

2.4. Integrating Hardiness and Entrepreneurship

This gap becomes more evident when viewed through the migration literature, where return migrants are often framed primarily in relation to remittances (Adegbile et al., 2025; Maksum, 2021), gender roles and domestic responsibilities (Donato et al., 2025; Pearson & Sweetman, 2019; Tuccio & Wahba, 2018), or participation in informal labor markets (Sibagariang et al., 2023). Other research has underscored issues of marginalization and weak local participation (Chen, 2025; Jacobs, 2022; Prah & Sibiri, 2021; Roskrige & Poot, 2024), or the importance of psychosocial interventions and community-based approaches to reintegration (Ndreka, 2021; OECD, 2024). While some studies in South Asia highlight the role of social innovation and individual traits in post-migration hardiness (ASEAN Secretariat, 2022; IOM, 2019; Sagi, Bareket-Bojmela, et al., 2021), and others point to entrepreneurship as a viable reintegration pathway (Garrido-Moreno et al., 2024a; Lång et al., 2025; Silva, B. G., Andriese, N. C., & Combs, 2025). Very few have combined psychological hardiness with entrepreneurial behavior in a single framework (Brändle et al., 2025; Korber & McNaughton, 2018;

Kromidha & Bachtiar, 2024).

Against this background, hardipreneurship is introduced as a novel construct that integrates psychological hardiness and entrepreneurial orientation, framed within Conservation of Resources (COR) Theory (Hobfoll, 1989, 2001b). COR theory argues that individuals strive to acquire, protect, and expand resources, whether psychological, material, or social, when under stress. Hardiness serves as a core psychological resource, enabling individuals to sustain meaning, maintain perceived control, and frame change as opportunity (Kobasa, 1986; Maddi, 2002). Entrepreneurship, in turn, provides a behavioral mechanism through which individuals convert resources into adaptive strategies, encompassing innovation, proactiveness, and risk-taking (Lumpkin & Dess, 2001). Integrating these domains allows for a more holistic understanding of how return migrants adapt economically and psychologically in contexts of disruption. Integrating these domains also enables a broader understanding of human adaptation in an age of technological and cultural convergence. Within the digital economy, Hardipreneurship embodies how psychological and behavioral resources can be mobilized ethically to sustain innovation, creativity, and hardiness amid global disruption. This synthesis resonates with the journal's concern for technological innovation balanced with human values.

2.5. The Hardipreneurial Mindset

Conventional approaches to entrepreneurship often portray entrepreneurial action as primarily economic, focused on opportunity recognition, innovation, and resource mobilization (Olairewaju & Muhumuza, 2024). Meanwhile, hardiness research emphasizes the psychological capacity to cope with stress and adversity (Kobasa, 1986; Maddi, 2002). Both literatures, however, tend to examine these domains in isolation, overlooking how psychological strengths and entrepreneurial behaviors interact as mutually reinforcing processes. This separation risks underestimating the lived experiences of return migrants, who must simultaneously navigate psychological pressures and economic insecurity in volatile contexts (Izquierdo-Condoy et al., 2025b; Şahin Mencütek, 2021b).

The concept of a hardipreneurial mindset addresses this limitation by reframing entrepreneurship as not only an economic strategy but also a manifestation of inner strength, adaptive courage, and psychological persistence. In this sense, entrepreneurial behavior functions as a channel

through which psychological hardiness is translated into tangible economic action. Empirical studies suggest that individuals high in hardiness are more likely to perceive stressors as challenges, sustain commitment to long-term goals, and exercise agency under pressure (Zeng & Ouyang, 2020). These capacities are critical for return migrants, who often face precarious reintegration conditions (OECD, 2019).

This perspective also challenges the dominant assumption that entrepreneurship is merely a reactive response to limited opportunities. Instead, the hardipreneurial mindset emphasizes proactive value creation anchored in psychological resources such as hardiness, grit, and self-efficacy (Gomez & Fisher, 2003; Luthans & Youssef-Morgan, 2017). For return migrants, entrepreneurship becomes more than a means of economic independence. It is a pathway for self-reconstruction, post-trauma recovery, and the restoration of dignity within their. By integrating psychological and economic perspectives, the hardipreneurial mindset provides a more holistic and context-sensitive framework for explaining how vulnerable groups transform disruption into sustainable reintegration. In the context of digital culture, the hardipreneurial mindset also reflects a form of digital ethics emphasizing responsible innovation, empathy, and inclusivity in technology-driven economies. It represents a synthesis of psychological hardiness and moral consciousness, ensuring that adaptation to technological change remains aligned with sustainable human development and global ethical values.

3. METHODS

3.1. Participants

Data for this study were collected from return migrants in Central Java Province, Indonesia, who had engaged in self-employment after returning from overseas. A non-probability purposive sampling strategy was employed, with inclusion criteria requiring that participants had prior work experience as international migrants and had operated their own business for a minimum of six months. A total of 175 respondents were recruited for the quantitative survey, representing various districts and cities in Central Java, including Banyumas, Brebes, Cilacap, Wonosobo, and Semarang.

Prior to empirical validation, the content validity of the newly developed construct was assessed through expert review. Experts in management, psychology, and entrepreneurship were invited to

evaluate the theoretical definition of the construct, the coherence of its components, and the relevance of individual items to the domain of Hardipreneurship. This step ensured that the construct was both conceptually sound and contextually appropriate before being subjected to statistical analysis.

3.2. Materials

Hardipreneurship was conceptualized as a novel construct integrating the psychological dimensions of hardiness with the behavioral characteristics of entrepreneurship, framed within the hardiness of return migrants in the face of economic disruption. The construct emerged from a synthesis of theories: hardiness (Kobasa, 1986; Kobasa et al., 1982a), need for achievement (McClelland et al., 1953), self-efficacy (Bandura, 1978) and classical entrepreneurship (Cantillon, 1755; Schumpeter, 1934), later enriched by entrepreneurial hardiness perspectives (Murnieks et al., 2020). This conceptualization captures the profile of “hardy entrepreneurs” who combine innovative capacity and risk-taking with strong commitment, the ability to confront challenges, and control over personal and external pressures.

The indicators of the Hardipreneurship construct were derived through literature integration and field exploration, followed by expert validation. The finalized construct comprises six core dimensions: three representing hardiness (commitment, control, and challenge) and three representing entrepreneurship (innovation, risk-taking, and proactiveness). A total of 28 items were developed across these dimensions. Responses were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.3. Procedures

This study was conducted in two main stages: the conceptual development of the Hardipreneurship construct and the validation of its measurement indicators, employing a combination of qualitative and quantitative approaches.

Stage 1. Indicator Development

The first stage aimed to clarify the conceptual foundation of Hardipreneurship. A theoretical exploration was conducted through an extensive literature review, complemented by interviews and focus group discussions (FGDs) with return migrants engaged in entrepreneurial activities. These steps provided a holistic understanding of how psychological hardiness and entrepreneurial orientation converge in practice. Expert input from

the fields of psychology, management, and community development was incorporated to refine the dimensions and definitions of the construct. This stage established the theoretical grounding and conceptual framework of Hardipreneurship as a novel contribution to the intersection of personality psychology and entrepreneurship, particularly in the context of post-migration hardiness.

Stage 2. Instrument Development And Validation

Following the formulation of the construct and the development of its indicators, the second stage involved testing the validity and reliability of the instrument. Items were derived from the synthesis of literature, migrant interviews, and expert feedback to ensure alignment with the conceptual domain of Hardipreneurship. The scale was subjected to Exploratory Factor Analysis (EFA) to identify the initial factor structure, followed by Confirmatory Factor Analysis (CFA) to assess model fit. Analyses were conducted using SPSS 26 and SmartPLS 3. The results provided evidence of good construct validity, supporting the use of Hardipreneurship as a robust and contextually grounded measure of entrepreneurial hardiness among return migrants.

3.4. Item Generation

The items of the Hardipreneurship construct were developed through a combination of theoretical grounding and empirical insights from the field. For the hardiness dimensions, indicators were adapted from the conceptual framework of (Kobasa, 1986; Kobasa et al., 1982a; Maddi, 2002), along with personality and cognitive theories underlying resilient behavior. For instance, items for the commitment dimension assessed the extent to which individuals remained fully engaged in their entrepreneurial activities; control items captured beliefs in one's ability to regulate both life and business; and challenge items reflected positive attitudes toward change and obstacles.

For the entrepreneurship dimensions, items were derived from the widely used entrepreneurial orientation (EO) framework (Lumpkin & Dess, 2001). Items on innovation reflected the tendency to introduce new products or services; proactiveness assessed the inclination to act ahead of competitors or environmental shifts; and risk-taking measured willingness to confront uncertainty in business decision-making. In total, 27 items were generated to represent the six dimensions of Hardipreneurship. All items were formatted on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

agree).

4. RESULTS AND DISCUSSION

Stage 1. Item Generation And Measurement

The Hardipreneurship construct was developed through the integration of multiple theoretical perspectives: hardiness (Kobasa, 1986; Kobasa et al., 1982a; Maddi, 2002), entrepreneurial orientation (Lumpkin & Dess, 2001), need for achievement (McClelland et al., 1953), self-efficacy (Bandura, 1978), and Conservation of Resources Theory

(Hobfoll, 1989, 2001b). This integration formed the basis for the novelty of the construct, positioning entrepreneurship not merely as an economic activity but as a manifestation of psychological strength and adaptive capacity in the face of economic pressures, particularly for return migrants in post-disruption contexts. Drawing on the literature review and insights from focus group discussions with return migrants engaged in entrepreneurial activities, six core dimensions of Hardipreneurship were identified, along with their initial indicators (Table 1).

Table 1: Dimensions, Indicators, And Theoretical Foundations of The Hardipreneurship Construct.

Dimension	Indicators	Theoretical Basis & References
Hardiness (Commitment, Control, Challenge)	1. Persistence in facing difficulties 2. Clear goals 3. Family responsibility 4. Confidence in managing business 5. Independent decision-making 6. Endurance under pressure 7. Viewing change as opportunity 8. Enjoying entrepreneurial challenges 9. Learning from failure	(M. Kim et al., 2021a; Kobasa et al., 1982a; Maddi, 2002)
Inovation & Creativity	10. Product/service uniqueness 11. Product modification 12. Responsiveness to market needs	(Lumpkin & Dess, 2001; Schumpeter, 1934; Thurik et al., 2024b)
Digital Technology	13. Use of social media 14. Digital transactions 15. Efficiency through technology 16. Willingness to learn new technologies 17. Participation in digital training	(Garrido-Moreno et al., 2024b; R. P. Shepherd et al., 2014)
Socio-Economic Networking	18. Collaboration with community 19. Participation in training programs 20. Access to psychosocial support	(Sagi, Bareket-Bojmel, et al., 2021)
Adaptation to Global Disruption	21. Having contingency plans during crisis 22. Ability to operate business under difficult conditions 23. Awareness of global economic trends 24. Learning from past crises	(Hobfoll, 2001b; Silva et al., 2025)
Readiness to Become a Hardipreneur	25. Confidence as a hardipreneurship 26. Integration of mental skills and networking capacity 27. Optimism for business sustainability	(Lumpkin & Dess, 2001; D. A. Shepherd & Williams, 2014)

A total of **six dimensions with 27 indicators** were initially generated. All items were formulated using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Content validation conducted by experts confirmed that the indicators were relevant and suitable for empirical testing. All items were expressed as positive statements, with no negatively worded or reverse-coded items, to avoid confusion and ensure clarity in measurement. The selection of

indicators was carefully guided by expert judgment from relevant fields. Once the conceptual definition of the Hardipreneurship construct had been established and the initial indicators developed, preliminary validation was carried out to ensure that the items were not duplicative of other constructs and that the conceptual domain of the construct was accurately represented (MacKenzie et al., 2011). To achieve this, indicators were derived through a

triangulated process involving a comprehensive literature review, interviews with return migrants as the target population, and feedback from experts and practitioners familiar with the context of migrant reintegration and empowerment (Churchill, 1979; MacKenzie et al., 2011).

Stage 2. Scale Development

The Exploratory Factor Analysis (EFA) began with assumption testing to ensure the suitability of the data for factor analysis. The first step involved assessing the adequacy of correlations among indicators using Bartlett's Test of Sphericity. The

second step examined sampling adequacy through the Kaiser-Meyer-Olkin (KMO) measure. The KMO statistic compares the magnitude of partial correlation coefficients, with recommended values ranging from 0.50 to 1.00. Values below 0.50 indicate that factor analysis is inappropriate for the data. The results showed that Bartlett's Test of Sphericity was statistically significant ($p < 0.05$), confirming sufficient correlations among variables to proceed with factor extraction. The KMO value also exceeded the recommended threshold, indicating high sampling adequacy. These results, presented in Table 2, provide evidence that the data met the necessary assumptions for conducting factor analysis.

Table 2: KMO And Bartlett's Test Result.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.906
Bartlett's Test of Sphericity	Approx. Chi-Square	2525.476
	df	55
	Sig.	0.000

The KMO value of 0.906 exceeds the minimum acceptable threshold of 0.60, indicating meritorious sampling adequacy. Likewise, Bartlett's Test of Sphericity ($\chi^2 = 2525.476$, $p < 0.001$) confirmed that the intercorrelations among items were sufficient for factor analysis. These results support the robustness of the data and justify proceeding with Exploratory Factor Analysis. The next step was to determine the number of factors that could be extracted from the set of indicators. This was conducted through the Total Variance Explained analysis, which reports the

percentage of variance in the data accounted for by the extracted factors. The results are presented in Table 3. In addition to the variance explained, a scree plot was examined to visualize the distribution of eigenvalues and to identify the optimal number of factors to be retained in the model. The point of inflection, or "elbow point," in the scree plot indicated the cutoff point where additional factors contributed minimal explanatory power. This graphical inspection confirmed the factor structure suggested by the eigenvalue criterion.

Table 3: Total Variance Explained From EFA of Hardipreneurship.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.333	66.662	66.662	7.333	66.662	66.662
2	0.969	8.809	75.471			
3	0.563	5.119	80.589			
4	0.488	4.438	85.027			
5	0.447	4.067	89.094			
6	0.410	3.727	92.821			
7	0.296	2.692	95.513			
8	0.218	1.985	97.498			
9	0.135	1.226	98.724			
10	0.080	0.726	99.449			
11	0.061	0.551	100.000			

Extraction Method: Principal Component Analysis. The results of the Total Variance Explained analysis are reported in Table 3. The first component had an eigenvalue greater than 1.0 and accounted for 66.662% of the total variance, which indicates strong internal consistency of the construct. All subsequent

components had eigenvalues below 1.0 and were therefore not retained, consistent with the Kaiser criterion. This result suggests that the Hardipreneurship construct is represented as a unidimensional factor structure at this stage of analysis. Model fit indices indicated a good overall

model fit, with SRMR = 0.061, NFI = 0.921, and CFI = 0.945, all within acceptable ranges (Hair et al., 2019). These results confirm that the proposed

measurement model for Hardipreneurship demonstrates an adequate level of fit with the observed data.

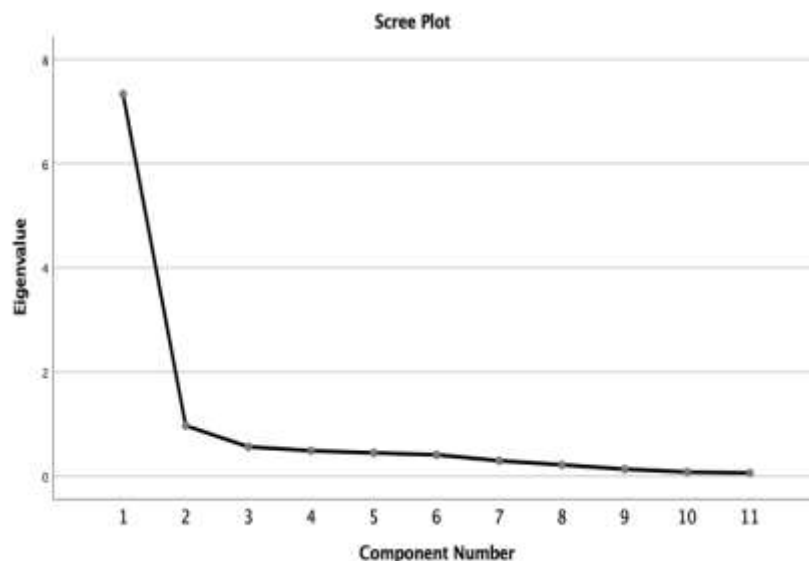


Figure 1: Screen Plot Showing Eigenvalue Distribution Used To Determine Factor Extraction.

Table 4: Component Matrix^a Illustrating Factor Loading Patterns From The EFA Stage.

	Component
	1
Hardines1	0.776
Hardines2	0.717
Hardines3	0.912
Hardines4	0.839
Hardines5	0.903
Hardines6	0.764
Hardines7	0.911
Hardines8	0.924
Hardines9	0.894
Hardines10	0.608
Hardines11	0.655
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

The results of the component matrix analysis indicated that most indicators exhibited factor loadings above the recommended threshold of 0.60, suggesting that these indicators were appropriate for inclusion in subsequent studies (J. F. Hair et al., 2014). Indicators that did not meet this criterion were eliminated to ensure that only items with substantial contributions were retained, consistent with the guidelines proposed by Kline (Kline, 2016). Consequently, the remaining indicators were deemed valid at the exploratory stage and were carried forward for further validation through Confirmatory Factor Analysis (CFA) to assess the overall fit of the measurement model. Out of the 27 initial indicators, 16 items exceeded the minimum loading threshold of 0.60 and were retained for confirmatory analysis, while 11 were removed due to

low or cross-loadings. Beyond statistical criteria, the removal of the 11 items also reflected theoretical considerations. Several indicators represented external contextual factors such as family responsibility, community support, or general digital habits, while relevant to reintegration, did not capture the intrinsic psychological and entrepreneurial attributes central to the Hardipreneurship construct. These items were therefore excluded due to conceptual overlap with stronger indicators measuring core traits such as persistence, opportunity framing, risk-taking, and proactive behavior. The retained items thus represent theoretically distinct and internally driven components consistent with hardiness and entrepreneurial orientation. This refinement process ensured that only the most empirically strong and

conceptually relevant indicators were included in the next validation stage.

4.1. Confirmatory Factor Analysis (CFA)

In the next stage, Confirmatory Factor Analysis (CFA) was conducted to further establish the construct validity of Hardipreneurship. CFA was employed to test whether the indicators grouped under their respective latent variables consistently measured the intended construct. The primary objective of this analysis was to examine the unidimensionality of the measurement instrument and to evaluate the model's overall fit in representing the Hardipreneurship construct.

The CFA results indicated that, out of the original 27 indicators, only 11 were retained. The majority of the items were excluded because their standardized

factor loadings fell below the recommended threshold of 0.60, thus failing to meet construct validity criteria (J. F. Hair et al., 2019, 2021). By retaining only indicators with loadings above 0.60, the measurement model became more parsimonious and ensured that the retained items consistently represented the construct of Hardipreneurship. This process of item elimination also highlights that, although all indicators were conceptually relevant, only the most empirically robust items adequately explained the construct in practice.

The results of the CFA are presented in the following table and figure, which display the standardized factor loadings of the retained indicators and a visual illustration of the overall measurement model for the Hardipreneurship construct.

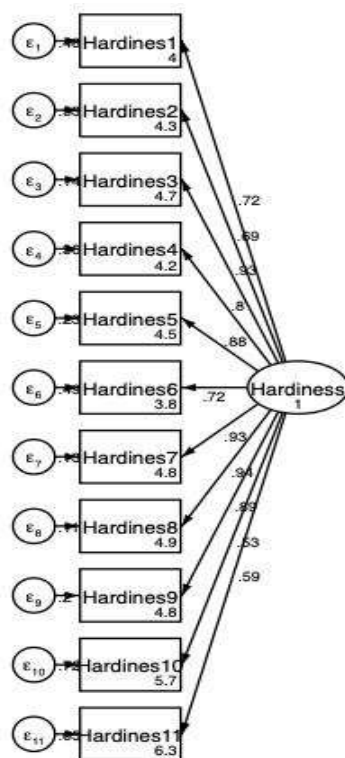


Figure 2: Standardized CFA Loadings indicating.

The CFA results further demonstrated that the Hardipreneurship construct achieved high composite reliability, indicating strong internal consistency and robustness of the measurement instrument (J. F. H. Hair et al., 2019). Although several indicators were eliminated due to factor loadings below the recommended threshold of 0.60, the overall reliability of the scale remained excellent. This finding suggests that the retained indicators consistently represented the underlying construct, while the elimination process ensured the unidimensionality and parsimony of the model

(Kline, 2016). Construct validity was deemed satisfactory, supporting the conclusion that the instrument can be employed with a high degree of confidence for empirical assessment of Hardipreneurship.

The next step in the Confirmatory Factor Analysis (CFA) was to evaluate the strength of the relationships between the observed indicators and their underlying latent construct using standardized factor loadings.

These values reflect the extent to which each indicator represents the construct being measured. In

line with established guidelines, factor loadings of ≥ 0.60 are considered acceptable for early-stage research, while values of ≥ 0.70 indicate strong contributions to construct validity.

The results of the standardized factor loadings for the retained indicators are presented in the following table.

Table 5: Loading Factor Of Hardipreneurship Result.

Indicator	Loading Factor
Hardines1	0.721
Hardines2	0.687
Hardines3	0.927
Hardines4	0.800
Hardines5	0.879
Hardines6	0.715
Hardines7	0.933
Hardines8	0.944
Hardines9	0.892
Hardines10	0.526
Hardines11	0.589

The results showed that most indicators demonstrated standardized factor loadings above 0.50, indicating that they significantly represented the Hardipreneurship construct. A small number of indicators with loadings below the minimum threshold were eliminated to maintain the quality of the measurement model, in line with the recommendations of (Kline, 2016). This elimination process was necessary to preserve unidimensionality and to enhance the construct validity of the scale. Accordingly, the retained indicators can be considered to provide substantial contributions to the latent variable they are intended to measure.

5. DISCUSSION

The findings of this study confirm that Hardipreneurship, as a novel construct, is not only conceptually grounded but also empirically supported through the validation of its indicators. The CFA results, which retained 11 core indicators, highlight the complementary foundations of psychological hardiness and entrepreneurial orientation. Theoretically, this reinforces the perspective of (Lumpkin & Dess, 2001), who emphasized the roles of innovation, proactiveness, and risk-taking in explaining successful entrepreneurial behavior. However, the present study contributes new insights by integrating hardiness as a critical psychological resource that enables individuals to withstand pressure and uncertainty. In doing so, entrepreneurial orientation is extended beyond external business strategies to encompass internal psychological dimensions, making the concept of Hardipreneurship particularly relevant in the context of return migrants.

The retained indicators within the hardiness dimension include persistence in facing difficulties,

clarity of goals, family responsibility, confidence in managing a business, independent decision-making, endurance under pressure, perceiving change as an opportunity, enjoying entrepreneurial challenges, and learning from failure. These findings are closely aligned with the framework introduced by (Kobasa, 1986; Kobasa et al., 1982a) and later expanded by (Kobasa et al., 1982a; Maddi, 2002), which conceptualizes hardiness as a psychological resource that enables individuals to withstand stress and view change as an opportunity rather than a threat. In the case of return migrants, such attributes serve as protective mechanisms against the pressures of adaptation and entrepreneurial risk. This resonates with the argument of (Delgado et al., 2021; M. Kim et al., 2021b) who emphasize that individuals with higher levels of hardiness are better able to manage uncertainty and make strategic decisions in dynamic environments.

Turning to the dimensions of innovation and creativity, the retained indicators include the uniqueness of products or services, product modification, and responsiveness to market needs. These indicators reflect the adaptive capacity of return migrants to align their business offerings with shifting consumer preferences. Innovation has long been regarded as the central engine of competitive advantage (Lumpkin & Dess, 2001; Schumpeter, 1934), and more recent evidence highlights that product creativity contributes significantly to value creation in saturated markets, underscoring the necessity of innovation for sustaining small-scale enterprises (Thurik et al., 2024b).

The digital technology dimension retained indicators such as the use of social media, digital transactions, technological efficiency, continuous learning of new technologies, and participation in

digital training. These findings reinforce the argument of (Garrido-Moreno et al., 2024b) that digital adoption directly enhances business performance by broadening market reach and improving operational efficiency. For return migrants, digital technologies serve not only as tools for marketing but also as instruments for managing finances, engaging with customers, and expanding networks. Similarly note that digital literacy represents a core entrepreneurial competency that enables rapid adaptation to industrial disruptions.

For the socio-economic networking dimension, the indicators of community collaboration, participation in training, and access to psychosocial support highlight the role of social capital in entrepreneurial hardiness. Networks provide resources that go beyond financial capital, facilitating information exchange, market access, and emotional support. This finding aligns with evidence from the ASEAN Secretariat which emphasize the importance of strong community ties in migrant reintegration. (Sagi, Bareket-Bojmel, et al., 2021) further showed that community support is among the most decisive factors for the survival of microenterprises in rural and semi-urban contexts.

The adaptation to the global disruption dimension retained indicators such as contingency planning, business continuity under challenging conditions, awareness of global economic trends, and learning from past crises. These findings are consistent with Conservation of Resources (COR) Theory (Hobfoll, 2001b), which posits that individuals seek to protect, conserve, and accumulate resources in times of threat. Adaptability becomes a crucial mechanism for resource preservation. (Silva et al., 2025) confirm that adaptability plays a decisive role in maintaining enterprise sustainability during global crises such as pandemics or economic recessions.

Finally, the readiness to become a Hardipreneur dimension was represented by indicators including confidence as a hardipreneurship, integration of mental strength, skills, and networks, and optimism regarding business sustainability. These findings resonate with the concept of psychological capital (Luthans & Youssef-Morgan, 2017), which emphasizes optimism, self-efficacy, hardiness, and hope as key drivers of entrepreneurial success. Similarly, (D. A. Shepherd & Williams, 2014) argue that the combination of mental strength, technical competence, and social support is critical for entrepreneurs to survive and thrive in competitive and uncertain markets.

6. CONCLUSION

This study set out to conceptualize and validate the Hardipreneurship construct as a novel framework that integrates psychological hardiness with entrepreneurial behavior in post-migration contexts. The analysis confirmed that the proposed construct holds empirical validity and theoretical coherence, bridging the gap between psychological hardiness and hardy entrepreneurship. Compared to the initial design, which proposed six dimensions and 28 indicators, the final results show that while most indicators were retained, some were eliminated due to limited statistical contribution. This suggests that although all indicators were theoretically relevant, only the most representative ones could be empirically validated to ensure parsimony and measurement validity. Theoretically, these findings reinforce the argument that Hardipreneurship is an integrative construct that combines psychological hardiness with hardy entrepreneurial skills in a coherent framework. The novelty of this study lies in merging hardiness with entrepreneurial orientation, adapted to the context of return migrants in the digital era, a perspective that remains underexplored in the literature. The construct thus captures not only psychological hardiness but also practical skills that are directly aligned with the demands of modern markets.

From a practical standpoint, the findings highlight the need for holistic empowerment programs for return migrants that integrate mental hardiness training, innovation development, digital adoption, network building, and strategies for navigating global disruptions. At the theoretical level, this study advances the entrepreneurial orientation framework (Lumpkin & Dess, 2001) by demonstrating that it becomes more robust when combined with psychological attributes such as hardiness, leading to a novel conceptual lens for explaining business hardiness under disruption. In practical application, the Hardipreneurship scale offers utility for both researchers and practitioners. For investors and development agencies, it provides a tool to assess the psychological readiness and entrepreneurial capacity of potential partners. For return migrants, it serves as a self-assessment instrument to gauge their level of commitment, hardiness, innovativeness, and digital readiness before embarking on independent ventures.

In conclusion, the Hardipreneurship instrument offers a practical framework for designing empowerment and business support programs for return migrants. Local governments, microfinance institutions, and development organizations can draw on these findings to prioritize interventions

that strengthen the core dimensions of Hardipreneurship, enabling return migrants not only to survive but also to thrive in dynamic business environments. Nonetheless, this study is limited by its geographic scope and relatively narrow sample, which restricts the generalizability of the findings.

Future research is encouraged to apply and validate the Hardipreneurship scale in different cultural and geographical contexts to examine its cross-cultural stability. Comparative studies across migrant sub-groups, destination countries, or reintegration settings may also reveal how cultural norms, social structures, and institutional environments influence the expression of Hardipreneurship. Such approaches would strengthen the generalizability of the construct and

support its use in broader global migration research.

Future research should extend validation across diverse regions and business sectors, employ higher-order factor models to explore the hierarchical structure of the construct, and examine its longitudinal impact on business performance, sustainable innovation, and financial hardiness. In the broader context of the Sustainable Development Goals (SDGs), these insights reaffirm the importance of developing human-centered innovation models that balance economic competitiveness with social inclusion and ethical responsibility. The Hardipreneurship construct, therefore, not only advances academic discourse but also embodies the principles of scientific culture that seek harmony between progress, ethics, and humanity.

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