

ANXIOUS AT THE DIGITAL THRESHOLD: ARTIFICIAL INTELLIGENCE ANXIETY, DIGITAL LITERACY, AND ENTREPRENEURIAL INTENTION AMONG INDONESIAN RETURN MIGRANT WORKERS

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Abstract

Digitalisation and artificial intelligence are reshaping the economies to which migrant workers return, yet little is known about how returnees perceive and prepare for these changes. This study analyses the entrepreneurial intention, digital literacy, and readiness for artificial intelligence of Indonesian return migrant workers and tests the relationship between artificial intelligence anxiety and entrepreneurial intention. A cross-sectional survey was conducted among return migrant workers in Kebumen Regency, Central Java, as an output of the partnership between the Migrant Resources Center of Universitas Muhammadiyah Purwokerto and PT Bryna Sukses Abadi, a labour placement company. Data were analysed with one-sample t-tests, Pearson correlation, and descriptive analysis of business-relevant digital tasks. Return migrants hold an entrepreneurial intention above the neutral point, while their digital literacy lies below it. Their self-reported readiness for artificial intelligence is not significantly below neutral, although their actual ability to use artificial intelligence tools is very limited. Digital capability declines steeply from basic smartphone use towards online selling and artificial intelligence. Artificial intelligence anxiety is negatively and significantly related to entrepreneurial intention. The study introduces artificial intelligence anxiety into research on return migration and extends social cognitive theory by positioning technology anxiety as an emotional barrier to entrepreneurial intention among migrant workers. It argues for reintegration and pre-departure programmes that combine practical digital training with confidence building.

Keywords: Artificial Intelligence Anxiety; Digital Literacy; Entrepreneurial Intention; Return Migration; Social Cognitive Theory; Technology Readiness; Indonesia

INTRODUCTION

Digital technologies and artificial intelligence are transforming the structure of work worldwide. Automation and generative artificial intelligence are expected to affect a large share of occupations, particularly routine and clerical tasks (Acemoglu & Restrepo, 2019; Eloundou et al., 2024; Frey & Osborne, 2017). The effects are uneven, as workers with less education and women are more exposed (Gmyrek et al., 2023). At the same time, millions of migrant workers move between countries and eventually return to home economies that have changed during their absence (ILO, 2021; McAuliffe & Oucho, 2024).

Indonesia is one of the largest migrant-sending countries in Asia, and Kebumen Regency is a major migrant-sending area in Central Java (BP2MI, 2024). Most migrants from this region work as domestic workers and factory operators in Malaysia, Hong Kong, and Taiwan. On return, they face an economy increasingly built on digital marketing, e-commerce, and digital financial

services. The national digital literacy index shows that digital skills remain unevenly distributed across Indonesian society (Kominfo & Katadata Insight Center, 2022).

The main problem facing return migrants is no longer access to smartphones but the ability to use them productively. The digital divide has shifted from access to skills and types of use (Hargittai, 2002; Scheerder et al., 2017; van Deursen & van Dijk, 2014). Anxiety about artificial intelligence, the fear of being replaced or left behind by technology, adds a psychological barrier for this group (Johnson & Verdicchio, 2017; Li & Huang, 2020; Wang & Wang, 2022). This barrier may weaken the entrepreneurial intention that is a principal route to economic reintegration for return migrants (Démurger & Xu, 2011; Liñán & Chen, 2009; Wahba & Zenou, 2012).

Social cognitive theory explains how these variables are linked. Human behaviour results from the reciprocal interaction of personal, behavioural, and environmental factors, with self-efficacy as the central mechanism (Bandura, 1986, 1997). Competence in using technology strengthens technological self-efficacy (Compeau & Higgins, 1995; Venkatesh, 2000). Conversely, technology anxiety lowers self-efficacy and the intention to act (Heinssen et al., 1987; Venkatesh, 2000; Wang & Wang, 2022). Entrepreneurial self-efficacy, in turn, is a strong determinant of entrepreneurial intention (Chen et al., 1998; Krueger et al., 2000; Zhao et al., 2005).

Prior studies, however, leave several gaps. The first empirical gap is that research on returnee entrepreneurship focuses on savings, work experience, and networks without measuring digital capability (Black & Castaldo, 2009; Démurger & Xu, 2011; Piracha & Vadean, 2010). The second empirical gap is that studies of artificial intelligence anxiety mostly involve students and office workers in high-income countries (Brougham & Haar, 2018; Kaya et al., 2024; Wang & Wang, 2022). The third empirical gap concerns the scarcity of evidence on the digital divide among return migrants in Southeast Asia, despite their intensive smartphone use (Madianou & Miller, 2012; Scheerder et al., 2017; van Deursen & van Dijk, 2014).

The first methodological gap lies in digital literacy measures that are general and do not distinguish levels of business-relevant digital tasks (Hargittai, 2002; Scheerder et al., 2017; van Dijk, 2020). The second methodological gap is that returnee studies rely on census or household survey data without psychological measures (McCormick & Wahba, 2001; Piracha & Vadean, 2010; Wahba & Zenou, 2012). The third methodological gap is that entrepreneurial intention instruments were developed with university students and have rarely been tested among workers with basic education (Krueger et al., 2000; Liñán & Chen, 2009; Zhao et al., 2005).

The first conceptual gap arises because technology readiness and technology anxiety are often treated as a single construct, although they are distinct (Heinssen et al., 1987; Parasuraman, 2000; Parasuraman & Colby, 2015). The second conceptual gap is that artificial intelligence anxiety has not been linked to entrepreneurial intention, as earlier work related it mainly to attitudes and learning behaviour (Kaya et al., 2024; Li & Huang, 2020; Wang & Wang, 2022). The third conceptual gap concerns fear of failure, which is rarely incorporated into entrepreneurial intention models for vulnerable groups (Cacciotti et al., 2016; Chen et al., 1998; Krueger et al., 2000).

This study extends the work of Wang and Wang (2022) on artificial intelligence anxiety and of Wahba and Zenou (2012) on returnee entrepreneurship. The extension is needed because the former did not address economic decisions, while the latter did not consider

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technological change. The objective is to analyse the levels of entrepreneurial intention, digital literacy, and readiness for artificial intelligence, and to test the relationship between artificial intelligence anxiety and entrepreneurial intention among return migrants in Kebumen. The research is an output of the partnership between the Migrant Resources Center of Universitas Muhammadiyah Purwokerto and PT Bryna Sukses Abadi.

The novelty lies in testing artificial intelligence anxiety as a barrier to entrepreneurial intention among return migrant workers. The theoretical contribution extends social cognitive theory to migrant reintegration amid technological change. The practical contribution provides a basis for designing digital training and psychological support for migrant protection agencies and placement companies.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Social Cognitive Theory

Social cognitive theory explains human behaviour as the outcome of reciprocal interaction among personal factors, behaviour, and the environment (Bandura, 1986). Personal factors include beliefs, expectations, and emotional states that shape the choice of action (Bandura, 1986, 1997). The central construct is self-efficacy, an individual's belief in the capability to execute actions required to attain particular outcomes (Bandura, 1977, 1997).

Self-efficacy derives from four sources: mastery experiences, vicarious experiences, social persuasion, and physiological and emotional states (Bandura, 1997). Mastery experience is the most powerful source, whereas anxiety is an emotional state that undermines efficacy beliefs (Bandura, 1997). Anxious individuals tend to avoid tasks they perceive as exceeding their capabilities (Bandura, 1986). The theory has been applied to technology use and entrepreneurship. Computer self-efficacy predicts technology adoption (Compeau & Higgins, 1995), while computer anxiety lowers perceived ease of use (Venkatesh, 2000). Entrepreneurial self-efficacy strengthens entrepreneurial intention (Boyd & Vozikis, 1994; Chen et al., 1998; Zhao et al., 2005). Social cognitive theory suits this study because it explains how migration can build self-efficacy, how limited digital skills constrain confidence to run a business, and how anxiety about artificial intelligence weakens the entrepreneurial intention of return migrants.

Hypothesis Development

Entrepreneurial intention of return migrants

Entrepreneurial intention is the conscious commitment to start a business at some point in the future (Krueger et al., 2000; Liñán & Chen, 2009). Intention is the most immediate predictor of entrepreneurial behaviour because business creation is planned rather than spontaneous (Ajzen, 1991; Krueger et al., 2000). Return migrants show a higher propensity for self-employment than non-migrants because they bring savings and work experience home (Dustmann & Kirchkamp, 2002; McCormick & Wahba, 2001). Surviving and working abroad also builds resilience and independence (Black & Castaldo, 2009; Démurger & Xu, 2011). Many returnees view entrepreneurship as an alternative to repeated migration and as a way to remain close to their families (Cassarino, 2004; Piracha & Vadean, 2010).

Social cognitive theory states that mastery experience in overcoming difficulty is the strongest source of self-efficacy, which subsequently drives intention (Bandura, 1997). Migration provides intense mastery experiences, including adapting to foreign workplaces, managing income across currencies, and supporting families from afar (Bandura, 1997; Cassarino, 2004). Such experiences should raise the belief that one can manage the uncertainties of business (Chen et al., 1998; Zhao et al., 2005).

Studies in China, Egypt, and Albania find that returnees are more likely to become entrepreneurs after coming home (Démurger & Xu, 2011; Piracha & Vadean, 2010; Wahba & Zenou, 2012). Evidence from Ghana and Côte d'Ivoire similarly shows that capital and experience transferred from abroad increase business creation among returnees (Black & Castaldo, 2009). Entrepreneurial intention also reflects the perceived desirability of self-employment relative to other options (Krueger et al., 2000; Liñán & Chen, 2009). For returnees, the alternatives are often low-paid local wage work or another period abroad, both of which make self-employment comparatively attractive (Dustmann & Kirchkamp, 2002; Piracha & Vadean, 2010). Women returnees in particular value the flexibility of running a business close to home (Wilson et al., 2007). Grounded in this reasoning, return migrants are presumed to hold a reasonably strong entrepreneurial intention. The first hypothesis is formulated as follows.

H1: The entrepreneurial intention of return migrants lies above the neutral point.

Digital literacy of return migrants

Digital literacy covers the ability to use digital devices to search for information, communicate, transact, and create value (van Dijk, 2020). The contemporary digital divide lies in skills and types of use rather than access to devices (Hargittai, 2002; van Deursen & van Dijk, 2014). People with less education tend to use the internet for communication and entertainment rather than capital-enhancing activities (Robinson et al., 2015; Scheerder et al., 2017; van Deursen & van Dijk, 2014). Digital exclusion also tends to reproduce existing social and economic disadvantage (Helsper, 2012). Migrant workers use smartphones primarily to maintain relationships with family across borders (Madianou & Miller, 2012).

Social cognitive theory explains that skills rarely practised do not generate mastery experiences, so self-efficacy in that domain remains low (Bandura, 1997; Compeau & Higgins, 1995). Returnees whose digital experience is confined to messaging have had few opportunities to master commercial tasks such as content creation or online selling (Madianou & Miller, 2012; Nambisan, 2017). Findings among less-educated groups across countries show lagging productive digital skills (Hargittai, 2002; Scheerder et al., 2017; van Deursen & van Dijk, 2014). Systematic reviews further indicate that education, age, and occupational background are among the strongest determinants of digital skills and outcomes (Robinson et al., 2015; Scheerder et al., 2017).

Considering the arguments above, the digital literacy of return migrants is expected to be inadequate. Hence, the second hypothesis is:

H2: The digital literacy of return migrants lies below the neutral point.

Readiness for artificial intelligence

Technology readiness describes the propensity to embrace and use new technologies (Parasuraman, 2000; Parasuraman & Colby, 2015). It is shaped by drivers such as optimism and

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innovativeness and by inhibitors such as discomfort and insecurity (Parasuraman, 2000). Limited exposure to artificial intelligence leaves routine workers feeling unprepared for change (Brougham & Haar, 2018; Gmyrek et al., 2023). Workers in routine occupations perceive smart technology as a threat to their careers (Brougham & Haar, 2018). Technology-induced stress also reduces confidence in coping with new systems (Tarafdar et al., 2007).

Social cognitive theory explains that the absence of direct experience with a technology weakens belief in one's ability to master it (Bandura, 1986; Compeau & Higgins, 1995). Without mastery or vicarious experience of artificial intelligence, returnees lack the information needed to form confident efficacy judgements (Bandura, 1997). Studies of attitudes towards artificial intelligence show lower readiness among groups with limited technological exposure (Kaya et al., 2024; Li & Huang, 2020; Wang & Wang, 2022). Validation studies of general attitudes towards artificial intelligence also reveal a combination of perceived benefits and concerns among ordinary users (Schepman & Rodway, 2020).

With these considerations in mind, return migrants' readiness for artificial intelligence is presumed to be low. The third hypothesis proposed is:

H3: The readiness of return migrants for artificial intelligence lies below the neutral point.

Artificial intelligence anxiety and entrepreneurial intention

Artificial intelligence anxiety is fear and apprehension about the effects of artificial intelligence, including threats of replacement and difficulties of adaptation (Johnson & Verdicchio, 2017; Wang & Wang, 2022). It comprises distinct dimensions such as job replacement anxiety, learning anxiety, and sociotechnical blindness (Li & Huang, 2020; Wang & Wang, 2022). Technology anxiety reduces willingness to try and use technology (Heinssen et al., 1987; Venkatesh, 2000). Fear of failure also inhibits the decision to start a business (Cacciotti et al., 2016; Morgan & Sisak, 2016).

Social cognitive theory holds that anxiety lowers self-efficacy, and low self-efficacy weakens the intention to act (Bandura, 1986, 1997). When running a business is perceived to require digital tools, anxiety about those tools should reduce perceived feasibility and hence intention (Krueger et al., 2000; Nambisan, 2017). Consistent with this logic, entrepreneurial self-efficacy predicts entrepreneurial intention across settings (Chen et al., 1998; Wilson et al., 2007; Zhao et al., 2005). Artificial intelligence anxiety weakens motivated learning and attitudes towards technology (Kaya et al., 2024; Wang & Wang, 2022), and perceived threats from smart technology are associated with greater career concern among workers (Brougham & Haar, 2018).

Following this chain of reasoning, return migrants who are more anxious about artificial intelligence are expected to hold weaker entrepreneurial intentions. Therefore, the fourth hypothesis is stated as follows.

H4: Artificial intelligence anxiety is negatively related to the entrepreneurial intention of return migrants.

METHOD

The study used a quantitative approach with a cross-sectional survey design. It formed the mapping stage of a consortium research programme (Riset Konsorsium Unggulan Berdampak) implemented by the Migrant Resources Center of Universitas Muhammadiyah Purwokerto with PT Bryna Sukses Abadi, a labour placement company in Kebumen. The partner provided access to returnee communities, validated field data, and facilitated data collection. The population comprised return migrant workers in Kebumen Regency. Respondents were selected through purposive and snowball sampling via partner networks and village officials in six sub-districts: Buayan, Rowokele, Gombong, Sempor, Karanganyar, and Pejagoan. Data were collected from February to July 2026, yielding 127 return migrant respondents. The instrument was piloted with 15 return migrants before the main survey, and all respondents signed informed consent. Forty-two in-depth interviews were conducted in parallel to contextualise the survey results.

Table 1. Operational definitions and measurement of variables

Variable	Operational definition	Indicators	Scale
Entrepreneurial intention	Commitment of return migrants to start or develop a business	Intention within one year; concrete business idea; prepared resources; willingness to join mentoring; preference for business over re-migration (five items)	Likert 1–5
Digital literacy	Ability to use digital devices for business	Smartphone use for business; social media content; online marketplace selling; financial applications; artificial intelligence tools; avoiding digital fraud	Likert 1–5
Readiness for artificial intelligence	Belief in being ready for technological change including artificial intelligence	Feeling prepared for technological and artificial intelligence change at work	Likert 1–5
Artificial intelligence anxiety	Fear and apprehension about the effects of artificial intelligence	Worry about replacement by machines or artificial intelligence; feeling technologically left behind; not knowing how to adapt (three items)	Likert 1–5

The first to third hypotheses were tested with one-sample t-tests against the scale midpoint of 3, using one-sided tests consistent with each hypothesis. The fourth hypothesis was tested with Pearson correlation, the coefficient of determination, and a 95% confidence interval based on Fisher's transformation. Effect sizes followed Cohen (1988). Digital capability by task was analysed descriptively by grouping responses into unable (1–2), moderate (3), and able (4–5). The significance level was 0.05.

RESULTS

Respondent Profile

Respondents were predominantly women of prime working age with secondary education who had worked as domestic workers (Table 2). Nearly half had returned less than one year earlier, and most did not run an active business.

Table 2. Profile of return migrants (n = 127)

Characteristic	Category	n	%
Gender	Female	104	81.9
	Male	23	18.1
Age	< 25 years	8	6.3
	25–34 years	41	32.3
	35–44 years	58	45.7
	> 44 years	20	15.7
Education	Primary	22	17.3
	Junior secondary	48	37.8
	Senior secondary	49	38.6
	Diploma/Bachelor	8	6.3
Destination	Malaysia	52	41.0
	Hong Kong	36	28.3
	Taiwan	24	18.9
	Other	15	11.8
Occupation abroad	Domestic worker	69	54.3
	Factory operator	39	30.7
	Other	19	15.0
Time since return	< 1 year	62	48.8
	1–3 years	41	32.3
	> 3 years	24	18.9
Business status	Running a business	31	24.4
	Business closed	18	14.2
	No business, planning one	52	40.9
	No business, no plan	26	20.5

Descriptive Statistics and Digital Capability

Digital literacy and readiness for artificial intelligence were the weakest components of returnees' human capital, scoring below the technical skills acquired abroad (mean 3.78) and their financial literacy (mean 3.38). Capability declined sharply from basic towards productive and artificial intelligence tasks (Table 3). Only 17.3% could sell on online marketplaces and 7.1% could use artificial intelligence tools. Overall, only 23.6% possessed digital literacy adequate for business.

Table 3. Capability in business-relevant digital tasks (n = 127, %)

Digital task	Able (4–5)	Moderate (3)	Unable (1–2)
Avoiding digital fraud	46.5	31.5	22.1
Using a smartphone for business	40.9	32.3	26.8
Using financial applications	29.1	37.0	33.9
Creating social media content	26.0	33.1	40.9
Selling on online marketplaces	17.3	28.3	54.3
Using artificial intelligence tools	7.1	20.5	72.5

High artificial intelligence anxiety was reported by 67.7% of respondents. The most endorsed statements were worry about replacement by machines or artificial intelligence (71.7%), feeling technologically left behind (68.5%), and not knowing how to adapt (62.2%). These concerns coincided with broader post-return uncertainty: 74.0% reported anxiety about their economic future and 61.4% described a loss of purpose after returning.

Hypothesis Testing

Table 4. One-sample t-tests against the neutral point (n = 127)

Hypothesis	Variable	Mean	SD	t(126)	p (one-sided)	Cohen's d	Decision
H1	Entrepreneurial intention	3.52	0.74	7.92	< 0.001	0.70	Supported
H2	Digital literacy	2.87	0.88	-1.66	0.049	-0.15	Supported
H3	Readiness for artificial intelligence	2.91	0.94	-1.08	0.141	-0.10	Not supported

Entrepreneurial intention lay significantly above the neutral point with a medium effect, supporting the first hypothesis. Digital literacy lay significantly below the neutral point, although the effect was small, supporting the second hypothesis. Readiness for artificial intelligence was below the neutral point, but not significantly, so the third hypothesis is not supported.

Table 5. Correlation between artificial intelligence anxiety and entrepreneurial intention

Hypothesis	Relationship	r	t(125)	p	R ²	95% CI	Decision
H4	AI anxiety → entrepreneurial intention	-0.54	-7.17	< 0.001	0.29	[-0.65, -0.40]	Supported

Artificial intelligence anxiety was negatively and significantly correlated with entrepreneurial intention, accounting for 29% of its variance. The fourth hypothesis is supported.

Qualitative Evidence

Interviews clarified why limited digital confidence matters for enterprise. Returnees typically held between 187 and 342 migrant community contacts on their phones, yet 91.3% had never used them for business and only 28.3% had received business information through them. A former domestic worker who had spent six years in Singapore explained (R-007, female, 40): “I have migrant friends everywhere: Hong Kong, Malaysia, Taiwan. They would buy my products if I sold them. But I don’t know how to sell online. I’m not confident, I’m afraid of being cheated, afraid of losing money.” Her account links a ready market, a skills gap in online selling, and fears of fraud and failure.

Discussion

The support for the first hypothesis shows that return migrants hold a reasonably strong entrepreneurial intention. This finding supports social cognitive theory, which identifies mastery experience in overcoming hardship as the most powerful source of self-efficacy (Bandura, 1997). Surviving and working in foreign workplaces, managing earnings across currencies, and supporting families from a distance appear to build the belief that one can manage a business. The result is consistent with studies reporting a higher propensity for self-employment among returnees (Démurger & Xu, 2011; Piracha & Vadean, 2010; Wahba & Zenou, 2012). It also suggests that entrepreneurship is seen as a meaningful alternative to repeated migration, echoing the view of return as a stage in which migrants mobilise resources accumulated abroad (Cassarino, 2004).

Intention, however, is not action. A sizeable proportion of respondents planned a business but had not started one, and others had already closed a venture. Intention models recognise that perceived feasibility and external resources mediate the step from intention to behaviour (Ajzen, 1991; Krueger et al., 2000). The remaining findings help explain what lowers perceived feasibility among returnees.

The level of intention observed is also consistent with the profile of the sample. Most respondents were women who had returned recently and who had spent several years managing household budgets and remittances from abroad. Women’s entrepreneurial intentions are often shaped by family considerations and by the desire for flexible work close to home (Wilson et al., 2007). For many returnees, a small business represents a way to earn income without leaving their children again. Entrepreneurial intention among returnees may thus be driven as much by the wish to avoid re-migration as by the attraction of entrepreneurship itself, which helps explain why intention remains high even when capabilities are limited (Cassarino, 2004; Piracha & Vadean, 2010).

The support for the second hypothesis confirms that return migrants experience a second- and third-level digital divide rather than an access divide. Their capability is reasonable for basic and protective tasks but falls sharply for productive tasks such as creating content, selling on marketplaces, and using artificial intelligence. This pattern is consistent with evidence that less-educated groups use the internet for communication rather than capital-enhancing purposes (Robinson et al., 2015; Scheerder et al., 2017; van Deursen & van Dijk, 2014). Smartphone use during migration, centred on family relationships (Madianou & Miller, 2012; Zuhaena et al. (2025)), has not produced mastery experiences in commercial tasks, so digital self-efficacy for business remains low (Bandura, 1997; Compeau & Higgins, 1995).

The shape of the capability profile can be understood as a digital ladder. The lower rungs, such as avoiding fraud and using a phone for business communication, are climbed by many returnees. The upper rungs, such as marketplace selling and artificial intelligence, are climbed by few. The steepest drop occurs at the transition from communication to commerce, which is precisely the step that digital entrepreneurship requires (Nambisan, 2017). Programmes that assume returnees are digitally connected because they own smartphones risk skipping the rungs on which most returnees are stuck. This finding also addresses the methodological gap concerning general literacy measures, showing the value of task-level measurement for programme design (Hargittai, 2002; van Dijk, 2020).

The small effect size for digital literacy deserves careful interpretation. Average literacy is only modestly below neutral because relatively good performance on basic tasks offsets very weak performance on advanced tasks. Averages therefore conceal the severity of the gap at the upper end of the ladder. This illustrates a broader point in digital inequality research: aggregate indices can mask stratified patterns of use that matter most for economic outcomes (Helsper, 2012; Scheerder et al., 2017).

The rejection of the third hypothesis provides an interesting finding. Returnees did not feel markedly unprepared for artificial intelligence, yet their actual ability to use artificial intelligence tools was very limited. This gap between perceived readiness and actual capability can be explained by minimal exposure: returnees may not yet recognise the skills that artificial intelligence demands (Parasuraman & Colby, 2015). Without mastery or vicarious experience, efficacy judgements are poorly calibrated (Bandura, 1997). The finding also confirms that technology readiness and technology anxiety are distinct constructs that should be measured separately (Heinssen et al., 1987; Parasuraman, 2000). A person may simultaneously feel moderately ready in general terms and anxious about specific threats such as job replacement.

This distinction matters for interventions. If readiness is overestimated, returnees may not seek training until they encounter a concrete failure, such as an unsuccessful attempt at online selling. Conversely, anxiety may be triggered by specific narratives of replacement that circulate in media and social networks (Brougham & Haar, 2018; Johnson & Verdicchio, 2017). Programmes should therefore combine realistic demonstrations of what artificial intelligence can and cannot do with practical tasks that calibrate efficacy beliefs.

The support for the fourth hypothesis is the most important finding of this study. Returnees who were more anxious about artificial intelligence held weaker entrepreneurial intentions. The result supports social cognitive theory, which holds that anxiety reduces self-efficacy and thus weakens intention (Bandura, 1986, 1997). It is consistent with research showing that technology anxiety reduces willingness to try technology (Venkatesh, 2000; Wang & Wang, 2022) and that self-efficacy predicts entrepreneurial intention (Chen et al., 1998; Zhao et al., 2005). It also extends the literature on artificial intelligence anxiety, which has focused on attitudes and learning (Kaya et al., 2024; Li & Huang, 2020), to the domain of economic decisions. This addresses the conceptual gap concerning the absence of a link between artificial intelligence anxiety and entrepreneurial intention.

The interview evidence clarifies the mechanism. Returnees possess transnational networks that could serve as a first market, yet they lack the digital skills to sell online and fear being cheated or losing money. Anxiety about technology and fear of failure reinforce each other (Cacciotti et al., 2016; Morgan & Sisak, 2016). The economic value of migrant networks,

which earlier research identified as a key entrepreneurial resource (Wahba & Zenou, 2012), increasingly depends on digital capability. Without that capability, networks remain sources of emotional support rather than business assets.

The negative association should be interpreted cautiously because the design is cross-sectional. Causality may run in both directions: returnees with weaker business plans may feel more anxious about technology, or a third factor such as low education or general economic insecurity may drive both. The widespread anxiety about the economic future and loss of purpose among respondents suggests that technology anxiety is embedded in a broader experience of post-return uncertainty. Nevertheless, the strength of the association marks artificial intelligence anxiety as a meaningful target for intervention.

The findings also suggest a sequence for capability building. Training that begins with tasks returnees already partly master, such as using a phone to communicate with customers and recognising fraudulent offers, can create early mastery experiences that raise efficacy before more demanding tasks are introduced (Bandura, 1997; Compeau & Higgins, 1995). Marketplace selling and content creation can then be taught through guided practice with real products, while artificial intelligence tools can be introduced as assistants for simple tasks such as writing product descriptions or answering customer questions. Vicarious experience from peers who have succeeded online, a recognised source of self-efficacy (Bandura, 1997), may be particularly persuasive for returnees who distrust formal instruction. Such a design addresses skills and emotions together rather than treating anxiety as a by-product that will disappear once skills are taught (Tarafdar et al., 2007; Wang & Wang, 2022).

Taken together, the findings describe a paradox. Return migrants hold strong entrepreneurial intentions built on the resilience of migration, but these intentions are constrained by weak productive digital skills and by anxiety about artificial intelligence. Gender adds a further layer: most respondents were women who had worked in domestic service, a group that research identifies as particularly exposed to technological change and digital exclusion (Gmyrek et al., 2023; Helsper, 2012). Labour placement companies such as PT Bryna Sukses Abadi, which interact with migrants before departure and after return, are well positioned to integrate digital and artificial intelligence literacy into pre-departure and reintegration services, preparing migrants for the economy to which they will return rather than the one they left.

CONCLUSION

This study concludes that return migrant workers in Kebumen hold a reasonably strong entrepreneurial intention, but their digital literacy is inadequate, particularly for productive tasks such as online marketplace selling and the use of artificial intelligence. Their readiness for artificial intelligence is not significantly low, although their actual ability to use artificial intelligence tools is very limited. Artificial intelligence anxiety is negatively related to entrepreneurial intention. Theoretically, the study extends social cognitive theory by positioning technology anxiety as an emotional barrier to entrepreneurial efficacy and intention among migrant workers, and it demonstrates that technology readiness and technology anxiety are distinct constructs.

Practically, the Migrant Resources Center of Universitas Muhammadiyah Purwokerto, PT Bryna Sukses Abadi, migrant protection agencies, and placement companies should incorporate staged digital training along the digital ladder, practical artificial intelligence literacy, digital fraud awareness, and confidence building into pre-departure and reintegration programmes. Training should also help returnees activate their transnational networks as a first market through safe online channels.

The study has several limitations. The purposive sample was drawn from a single regency, so the results cannot be generalised to all Indonesian return migrants. The cross-sectional design precludes causal inference. Artificial intelligence anxiety was measured with a small number of statements rather than a validated multi-item scale, and readiness for artificial intelligence was captured by a single item. The analysis did not control for gender, education, or time since return, which may confound the observed associations.

Future research should employ validated artificial intelligence anxiety scales, extend sampling to several migrant-sending regions, and apply structural equation modelling to test entrepreneurial self-efficacy as a mediator between anxiety and intention. Comparative studies of return and prospective migrants could reveal whether anxiety forms before departure or after return. Intervention studies should test whether digital and artificial intelligence literacy training reduces anxiety and strengthens entrepreneurial intention, and whether these effects translate into business creation and survival.

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