
UNEMPLOYMENT IN THE AI REVOLUTION: A TEMPLATE ANALYSIS OF HUMAN CAPITAL DEFICIENCY, SOCIAL INEQUITY, AND CAREER-RELATED PERCEPTIONS AMONG MIDDLE-AGED WORKERS IN VIETNAM

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ABSTRACT

This study examines how middle-aged workers in Vietnam interpret unemployment risks amid rapid diffusion of artificial intelligence and automation. Addressing the lack of worker-centered evidence in a fast-digitizing yet institutionally fragmented labor market, it applies Template Analysis to twenty in-depth interviews with workers aged forty and above, triangulated with digital discourse from TikTok, Facebook, and VOZ.vn. The analysis identifies five overarching themes: (1) obsolescence and erosion of human capital, (2) perceived social inequity in recruitment, training, and everyday treatment, (3) deteriorating career-related outcome perceptions, (4) coping and reskilling strategies that provide short-term buffers but limited mobility, and (5) the moderating role of personality dispositions in appraisal and adaptation. Building on these insights, the paper proposes the Midlife AI Employment Vulnerability (MAIEV) Model, in which Human Capital Deficiency (HCD) and Perceived Social Inequity (PSI) positively co-vary with Career Related Outcome Perceptions (CROP), comprising Low Employability Perception (LEMP), Low Career Adaptability Perception (LCAP), and Unemployment Risk Perception (URP), while Vulnerable Personality Traits (VPT) moderate these relationships. The model clarifies how structural disadvantages and personality-based vulnerabilities intersect to shape employability, adaptability, and perceived risk, offering implications for targeted reskilling policy, age inclusive human resource practices, and future quantitative validation.

Keywords: Artificial Intelligence (AI) and unemployment, Human Capital Deficiency (HCD), Perceived Social Inequity (PSI), Career-Related Outcome Perceptions (CROP), Middle-aged workers in Vietnam.

1. INTRODUCTION

Over the past decade, Vietnam has entered a phase of rapid digital transformation in which artificial intelligence (AI) is increasingly embedded in production, services, and public administration. This transformation coincides with demographic shifts, most notably the aging of

the workforce. At the intersection of technological acceleration and demographic change, workers aged forty and above emerge as a vulnerable group. As job structures shift toward nonroutine, abstract, and digitally mediated tasks, the accumulated “*vintage*” skills of midlife workers depreciate more quickly, weakening their competitiveness if pathways to reskilling and upskilling are blocked (De Grip & Montizaan, 2023; Tschang & Almirall, 2021). This is not only a technical challenge of updating skills but also a social issue, as practices such as age filtering in recruitment or prioritizing training for younger employees increasingly appear in public discourse and fuel perceptions of unfairness.

International research has long anticipated that automation would replace routine tasks, raising unemployment risks for older workers if investments in digital capacity are not sustained (Alcover et al., 2021; Tschang & Almirall, 2021). Yet the Vietnamese context requires a qualitative lens that highlights lived experience. Statistics and surveys show that digital competencies and lifelong learning are associated with better employment outcomes for older adults (Yamashita et al., 2018), but these figures say little about the everyday struggles of workers facing broken promises of training, shrinking opportunities, and financial burdens tied to family obligations. Capturing such experiences demands attention to both structural constraints and cultural dynamics such as “*face*” in career transitions and the stigma attached to downward occupational mobility.

This study approaches the problem by focusing on how midlife workers themselves interpret the intersection of three sets of factors. The first is Human Capital Deficiency (HCD), referring to gaps in digital skills and difficulties accessing opportunities for reskilling. The second is Perceived Social Inequity (PSI), encompassing distributive, procedural, and interactional injustices as workers perceive unfair access to jobs, training, and respectful treatment. The third is Career-Related Outcome Perceptions (CROP), which functions as a psychological window into career opportunities and includes Low Employability Perception (LEMP), Low Career Adaptability Perception (LCAP), and Unemployment Risk Perception (URP). The study also considers the moderating role of Vulnerable Personality Traits (VPT), recognizing that personality configurations such as high neuroticism or low openness may intensify negative perceptions, while protective traits such as optimism and conscientiousness may buffer them (Gonçalves et al., 2021; Zacher, 2014).

Despite substantial international evidence on skill depreciation, organizational justice, and personality differences, several gaps remain when applying these frameworks to Vietnam. First, there is limited qualitative research that documents the emotional and behavioral trajectories of midlife workers facing AI-driven disruption. Surveys confirm that older workers with higher digital literacy fare better, but they do not explain how organizational and cultural barriers prevent skills from converting into actual opportunities. Second, the measures of career-related perceptions are not yet systematically adapted to Vietnam. LEMP, LCAP, and URP must be interpreted within specific conditions such as family financial pressure, occupational pride, and domestic corporate structures. Third, very few studies integrate HCD, PSI, and CROP into a single model, leaving unclear how skills gaps and unfair treatment interact to shape career perceptions. Finally, there is a lack of worker-centered accounts that connect in-depth interviews with digital discourse on platforms such as TikTok, Facebook, and VOZ, where hidden age norms in recruitment and training are frequently discussed and potentially reinforce PSI.

To address these gaps, this study employs Template Analysis, using HCD, PSI, CROP, and VPT as a priori codes while remaining open to emergent themes. The empirical design combines twenty

in-depth interviews with heterogeneous participants aged forty and above, spanning different sectors and regions, with digital discourse data from Vietnamese online platforms. This approach allows the study to situate personal narratives within broader public conversations about AI, automation, and labor market risks.

The research pursues three objectives that translate into specific questions. The first objective is to describe how midlife workers experience and narrate unemployment risks in the context of AI and automation. The second objective is to capture how they perceive HCD, PSI, and CROP, and how these perceptions interrelate in their life stories. The third objective is to explore the structural implications of these linkages, with particular attention to the moderating role of personality.

Research Questions (RQs):

1. How do middle-aged workers in Vietnam experience and narrate unemployment risks amid AI and automation?
2. How do they perceive Human Capital Deficiency (HCD), Perceived Social Inequity (PSI), and Career-Related Outcome Perceptions (CROP: LEMP, LCAP, URP), and how are these perceptions linked in their life stories?
3. In what ways do HCD and PSI co-vary positively with LEMP, LCAP, and URP, and how do Vulnerable Personality Traits (VPT) moderate the strength of these relationships?

The expected contributions are threefold. At the theoretical level, the study connects Human Capital Theory, Social Exchange Theory, and the Big Five personality framework to explain why deficits in skills and perceived injustice jointly deteriorate career perceptions, and why personality traits produce divergence across individuals in similar circumstances (Coyle-Shapiro & Diehl, 2017; De Grip & Montizaan, 2023; Zacher, 2014). At the methodological level, it offers a Vietnamese-coded thematic map that illustrates two analytical axes: organizational structures and skill processes leading to CROP, and personality dispositions that moderate their effects. This contributes new qualitative evidence of processes often invisible to standardized surveys, such as *“sleepless nights over tuition fees,” “hesitation to switch from office to manual work,”* or the *“gap between certificates and real experience.”* At the applied level, the study proposes the Midlife AI-Employment Vulnerability (MAIEV) Model, treating CROP as a second-order construct composed of LEMP, LCAP, and URP, with HCD and PSI as positive antecedents and VPT as a moderator. This model provides a basis for future quantitative testing with PLS-SEM and supports policy debates on age-inclusive human resource practices, targeted reskilling for workers over forty, and psychological as well as career counseling for vulnerable personality profiles.

In sum, in a Vietnam that is digitizing rapidly while its workforce ages, midlife unemployment cannot be reduced to a problem of missing skills. It is the outcome of intersecting dynamics of skill depreciation, perceived social inequity, and personality-based vulnerability. By bringing workers' voices to the center of interpretation, this study contributes a contextualized thematic framework and a conceptual model that can inform both academic inquiry and labor market policies in the age of AI.

2. LITERATURE REVIEW

Human Capital Deficiency (HCD)

Human Capital Theory explains why middle-aged and older workers are exposed to employment risks when technologies change rapidly. Skills depreciate over time, and when task requirements are reshaped by artificial intelligence and automation, older workers are more likely to experience skill obsolescence that lowers their job prospects and raises unemployment risk (De Grip & Montizaan, 2023; Goštautaitė & Šerelytė, 2024). Empirical work shows that older workers often concentrate in declining occupations or face productivity penalties tied to vintage effects, which reduces employability if reskilling is limited (Bosch & ter Weel, 2013; Lovász & Rigó, 2013). Lifelong learning and continuous investment in human capital are therefore central to maintaining employability in later career stages, yet participation in firm-sponsored training typically decreases with age which can further widen the skills gap precisely when AI diffusion accelerates (De Grip & Montizaan, 2023; Dostie & Léger, 2014). Large-scale assessments also link higher literacy and digital competencies to better employment outcomes for older workers, underscoring the actionable pathway from skill endowments to employability (Yamashita et al., 2018). In sum, HCD captures a constellation of deficits that include outdated digital skills and insufficient opportunities for upskilling or reskilling; these deficits are consequential in AI-intensive labor markets that favor adaptive and nonroutine capabilities (Tschang & Almirall, 2021).

Perceived Social Inequity (PSI)

Perceived Social Inequity refers to workers' sense that employment opportunities and treatment are distributed unfairly. It encompasses distributive, procedural, and interactional dimensions of justice; relates closely to age discrimination; and is amplified when the psychological contract is breached. Prospective evidence indicates that declines in organizational justice co-move with lower job satisfaction and poorer health outcomes, highlighting how justice perceptions function as a macro-indicator of workplace well-being (Herr et al., 2020). Studies focused on ageism show that intentional and unintentional age discrimination depress engagement and that older workers are especially sensitive to subtle informational and interpersonal forms of injustice that erode dignity and respect at work (Brienza & Bobocel, 2017; James et al., 2013; Previtali, 2024). Perceptions of unfairness can also spill into counterproductive work behavior, particularly when organizational identification is weak; discretionary HR practices that invest in development can buffer this pathway, signaling reciprocity and fairness (De Clercq et al., 2021). Intergenerational contact improves the climate by reducing perceived age discrimination and conflict, suggesting that social structures at work shape PSI as much as formal policies do (Drury & Fasbender, 2024). In labor markets undergoing digital transformation, PSI may rise when older applicants infer age filters in recruitment or experience procedural barriers to training access, reinforcing perceived exclusion from AI-complementary roles (Binyamin & Brender-Ilan, 2023).

Career-Related Outcome Perceptions (CROP)

Career-Related Outcome Perceptions synthesize three tightly linked perceptions. Low Employability Perception, abbreviated LEMP, captures how workers judge their chances of securing desirable employment. Low Career Adaptability Perception, abbreviated LCAP, reflects doubts about one's resources to handle career tasks and transitions. Unemployment Risk Perception, abbreviated URP, is the subjective probability of job loss or prolonged

nonemployment. International evidence shows that perceived employability predicts intention to continue working; it is supported by jobs with high learning value and participation in training, and it is dampened when financial security pulls toward retirement (Le Blanc et al., 2019). Perceived employability also interacts with job insecurity in shaping satisfaction, although older workers with high perceived employability do not fully escape the negative effects of insecurity, implying that threats from technological change may be broadly salient in mid- to late-career (Yeves et al., 2019). Organizational attributes tend to matter more for internal employability than external prospects, which is consequential where age discrimination depresses internal mobility in sectors such as healthcare (Pak et al., 2022; Tisch, 2015). Career adaptability is an important psychological resource for well-being and job satisfaction among older workers, with stronger effects earlier in late career, which connects LCAP to concrete outcomes (Zacher & Griffin, 2015). Together, this literature positions LEMP, LCAP, and URP as interpretable signals of how workers read their opportunity set during AI-linked restructuring.

Vulnerable Personality Traits (VPT)

VPT denotes a configuration of personality dispositions associated with heightened psychological vulnerability in the face of career shocks. Research on the Big Five shows that neuroticism is negatively related to career adaptability, while conscientiousness, extraversion, openness, and agreeableness generally display positive associations through mechanisms such as proactive behavior and learning goal orientation (Gonçalves et al., 2021; Guan et al., 2017; Zacher, 2014). Personality also relates to unemployment dynamics. Conscientiousness in adolescence predicts lower lifetime unemployment, whereas emotional instability is linked to longer jobless spells, suggesting that trait profiles influence both job search and job retention behaviors across the life course (Egan et al., 2017; Uysal & Pohlmeier, 2011). Because career adaptability predicts subjective career success net of personality, trait effects plausibly operate as moderators that intensify or attenuate how HCD and PSI translate into CROP; for example, high neuroticism may amplify URP under automation anxiety, while low openness or low conscientiousness may depress LCAP when reskilling is required (Gonçalves et al., 2021; Zacher, 2014).

Theoretical Frameworks and their Relevance to Workers Aged 40 Plus

Human Capital Theory explains the structural channel from technological change to uneven labor market outcomes by highlighting depreciation of specific skills and the returns to new learning. Within this frame, AI and automation shift the demand frontier toward nonroutine, abstract, and digitally mediated tasks; workers aged 40 plus who cannot update their skills accumulate HCD that feeds into LEMP and URP, especially in sectors exposed to task automation (De Grip & Montizaan, 2023; Tschang & Almirall, 2021). Social Exchange Theory complements this view by focusing on relational contracts inside organizations. When older workers perceive that employers invest in their development, provide respectful treatment, and enforce age-inclusive practices, reciprocity mechanisms enhance engagement and delay retirement intentions. Conversely, perceived ageism and justice violations weaken the exchange relationship, heighten PSI, and degrade CROP even at fixed skill levels (Bentley et al., 2019; Coyle-Shapiro & Diehl, 2017; James et al., 2013; Sousa et al., 2019). The Big Five personality model provides an individual-difference lens that clarifies heterogeneity in responses to AI-related disruption; VPT captures the subset of trait patterns associated with lower adaptability and higher risk sensitivity, helping to explain why

equivalently skilled workers diverge in LEMP, LCAP, and URP when confronted with the same organizational signals and market shocks (Guan et al., 2017; Zacher, 2014).

International and Vietnamese Context

At the international level, the diffusion of AI and automation is widely expected to displace routine tasks and restructure employment, with particular vulnerability among older workers who must navigate rapid upskilling demands alongside age-graded barriers in organizations and labor markets (Aitken et al., 2024; Alcover et al., 2021; Tschang & Almirall, 2021). Public discourse in Vietnam mirrors these anxieties. Content analysis of online newspaper comments documents rising concern that AI will eliminate jobs, indicating a social climate in which URP is salient and where older workers may anticipate exclusion from digital opportunities, a perception consistent with PSI mechanisms in recruitment and training access (Ngo, 2025). These perceptions are not merely attitudinal epiphenomena. They shape behavior through retirement intentions, training participation, and job search strategies, making CROP a meaningful target for policy and organizational interventions in Vietnam's ongoing digital transformation (Le Blanc et al., 2019; Yeves et al., 2019).

Gaps Leading to Research Questions and Interview Foci

Despite a substantial body of international research on human capital depreciation, justice perceptions, employability, and personality, there remains a paucity of qualitative evidence that centers the voices of Vietnamese workers aged 40 plus as they interpret AI-linked disruptions. Few studies integrate HCD, PSI, and CROP into a single interpretive framework that can reveal how perceived skills gaps and perceived unfairness co-produce low employability and high unemployment risk in concrete career narratives. The moderating role of VPT is theoretically plausible yet underexplored in settings where cultural norms and organizational practices around age intersect with rapid technological change. Moreover, most evidence on employability and adaptability comes from Western or multi-country samples with limited attention to the distinctive institutional and discourse context in Vietnam where anxiety about AI is visible in public commentary but rarely connected to lived experiences across sectors and regions (Le Blanc et al., 2019; Ngo, 2025; Zacher & Griffin, 2015). These gaps motivate a qualitative design that elicits how workers map their own HCD, identify episodes of PSI in hiring or development, and articulate their CROP across LEMP, LCAP, and URP. They also justify probing for trait-consistent patterns in appraisal and coping, enabling an assessment of whether VPT intensifies negative pathways or whether protective profiles dampen them in the Vietnamese context (Gonçalves et al., 2021; Zacher, 2014).

3. METHODOLOGY

Research Design

This study adopted a purely qualitative design grounded in Template Analysis, a flexible form of thematic analysis developed by King and Brooks (2018). Template Analysis is particularly suitable when researchers aim to balance prior theoretical frameworks with openness to emergent insights. It allows the use of a priori codes drawn from established constructs such as Human Capital Deficiency (HCD), Perceived Social Inequity (PSI), Career-Related Outcome Perceptions (CROP: LEMP, LCAP, URP), and Vulnerable Personality Traits (VPT), while leaving analytical space for

new codes arising inductively from the narratives of participants. Similar to other codebook-based approaches, Template Analysis enables systematic comparison across cases while maintaining sensitivity to individual meaning-making (Hildebrandt et al., 2019; Müller et al., 2021).

The choice of Template Analysis aligns with recent calls for in-depth interpretive approaches to capture older workers lived experiences of digital transformation and AI-related disruption. Prior studies have noted that digital transformation amplifies anxiety, perceived exclusion, and subjective job insecurity among older employees (Lebedeva, 2019; Yashiro et al., 2022). A qualitative template framework is therefore methodologically appropriate to explore how these workers narrate skill obsolescence, unfair treatment, and employment risks.

Research Context and Participants

The study was situated in Vietnam, a country undergoing rapid digital transformation in manufacturing, services, and public administration. Vietnam presents an especially relevant case because public discourse reflects widespread anxieties about AI-induced job loss, while institutional support for midlife reskilling remains fragmented (Ngo, 2025).

The sample comprised 20 participants aged over 40, recruited to capture variation in gender, sector, region, and educational attainment. Participants were drawn from sectors unevenly affected by AI, including manufacturing, hospitality, administration, and knowledge work. The geographic spread included both metropolitan hubs such as Hanoi and Ho Chi Minh City and mid-size cities like Da Nang, allowing examination of diverse labor market contexts.

In addition to interview data, the analysis incorporated “*contextual digital data*” collected from platforms such as TikTok, Facebook, and VOZ forum. These sources were anonymized and used to triangulate themes emerging from interviews. Social media discourses provide real-time reflections of fears of exclusion, perceived unfairness, and commentary on retraining policies, offering a valuable counterpoint to interview narratives (Ngo, 2025).

Sampling Strategy and Ethical Considerations

Participants were recruited through purposive sampling aimed at maximizing heterogeneity in age bracket, occupational status, and exposure to automation risks. Snowball sampling complemented this strategy, as initial interviewees introduced peers who fit the study’s criteria. The focus on workers aged 40 and above follows evidence that these demographic experiences higher substitution risks, stronger subjective job insecurity, and more pronounced barriers to retraining (Alcover et al., 2021; Hildebrandt et al., 2019).

Ethical protocols followed international standards for qualitative research. All participants received information sheets explaining the study’s aims, methods, and rights, including the right to withdraw at any stage. Informed consent was obtained in writing before data collection. Confidentiality was ensured through pseudonyms, with identifying details removed from transcripts. For digital data, only publicly accessible content was analyzed, and excerpts were paraphrased or anonymized to prevent traceability. These practices align with emerging ethical guidelines for digital labor research (Lebedeva, 2019).

Data Collection

Semi-structured interviews served as the primary method of data collection. Interview guides were structured around four thematic axes: (i) anxiety about AI and automation, (ii) experiences of

exclusion or unfair treatment (PSI), (iii) strategies of reskilling and perceptions of skill obsolescence (HCD), and (iv) reflections on adaptability and employability (CROP). Each interview lasted between 60 and 90 minutes, was audio-recorded with consent, and transcribed verbatim.

The semi-structured format provided consistency across participants while allowing flexibility for probing emergent issues. Prior studies confirm the value of in-depth interviews with older employees when exploring sensitive topics such as job insecurity, reskilling barriers, and perceived inequities (Jung et al., 2025; Yashiro et al., 2022).

Data Analysis

The analysis followed the core stages of Template Analysis as outlined by King and Brooks (2018). First, the research team immersed themselves in the transcripts, conducting line-by-line reading. An initial round of coding employed three overlapping techniques: in vivo codes that preserved participants' phrasing, descriptive codes summarizing manifest content, and values codes reflecting normative concerns. These first-order codes were then clustered into broader categories, generating higher-order themes.

Key a priori codes were derived from theory, including Human Capital Deficiency (HCD), Perceived Social Inequity (PSI), Career-Related Outcome Perceptions (CROP: LEMP, LCAP, URP), and Vulnerable Personality Traits (VPT). For example, mentions of obsolete digital skills or lack of reskilling programs were coded under HCD, while accounts of being screened out due to age aligned with PSI. Alongside these pre-specified categories, inductive codes emerged from the data, such as coping strategies through gig work or reliance on informal networks, as well as barriers like pride or financial pressure in career transition.

A draft template of themes was iteratively refined through case comparisons and updated to capture both typical and exceptional narratives. A decision log documented coding changes and rationale, ensuring transparency of analytic choices. This iterative refinement resonates with prior applications of Template Analysis to explore older workers' vulnerability in contexts of technological disruption (Müller et al., 2021; Rantanen & Komp-Leukkunen, 2024).

To ensure systematic comparison, a coding book was developed that integrated the a priori codes with inductive codes and provided definitions, exemplar quotes, and theoretical linkages. This coding book served as a guiding framework for subsequent rounds of template refinement, enabling both consistency across coders and transparency for readers.

Table 1. Coding Book for Template Analysis

Code Category	Code Name	Definition / Description	Example Anchor Quote	Theoretical Linkage
A priori	HCD_kynangso	Mentions of outdated or missing digital skills	<i>"New software I've never used"</i> (P02)	HCD → LEMP
A priori	HCD_reskill	Barriers to retraining or reskilling uptake	<i>"Certificate but no real experience"</i> (P08)	HCD → LCAP
A priori	PSI_loc_tuoi	Age-based exclusion in recruitment	<i>"Prioritized under 35"</i> (P14)	PSI → LEMP
A priori	PSI_training	Restricted access to training for older workers	<i>"Priority to younger employees"</i> (P12)	PSI → LCAP
A priori	CROP_LEMP	Perceived lack of employability	<i>"The market has slammed shut"</i> (P02)	LEMP (CROP)
A priori	CROP_LCAP	Doubts about adaptability and transition capacity	<i>"Switching to manual labor... ashamed"</i> (P11)	LCAP (CROP)
A priori	CROP_URP	Anxiety about unemployment or prolonged joblessness	<i>"Sleepless nights over tuition"</i> (P10)	URP (CROP)
A priori	VPT_neuro	Expressions of worry, anxiety, emotional instability	<i>"I can't sleep..."</i> (P10)	VPT × (URP/LEMP)
A priori	VPT_buffer	Optimism, openness, proactive learning	<i>"I retrained... work online"</i> (P16)	VPT × (URP/LCAP) attenuated
Inductive	COP_gig	Coping via gig work or side hustles	<i>"Drive daytime, deliver at night"</i> (P04)	Buffer to URP
Inductive	COP_network	Reliance on social ties for job opportunities	<i>"Friends introduced temp jobs"</i> (P09)	PSI buffer (localized)
Inductive	BARRIER_psy	Pride or stigma blocking job	<i>"Too ashamed to change to manual"</i>	↓ LCAP

		transitions	job” (PV/Internet)	
Inductive	BARRIER_fin	Financial precarity intensifying insecurity	“At 40 without savings, you’re finished” (TikTok, 2025)	↑ URP

Credibility was strengthened through triangulation of interview and social media data, peer debriefing, and maintenance of an audit trail of coding decisions and reflexive memos. Limited member checking and researcher journals enhanced reflexivity. Researchers acted as both facilitators and interpreters, ensuring that coding remained open to emergent categories while cross-validating with contextual digital data. While the relatively small, self-selected sample restricts generalizability, the combination of interviews and digital discourses provided rich and complementary insights into middle-aged workers’ perceptions of unemployment risks under AI disruption.

4. FINDING & DISCUSSION

4.1. Description of the Interview and Internet Samples

Table 2a. Demographic Characteristics of 20 In-depth Interview Participants

ID	Age	Gender	Region/Group	Recent Occupation	Employment Status	Education	Note
P01	42	Male	North	Garment worker	Laid off	High school	Concerned about AI replacing simple labor
P02	45	Female	North	Office staff	Job seeking	Bachelor	Perceived discrimination due to age
P03	51	Male	North	Electrical engineer	Freelancer	Bachelor	Believes technical skills remain useful
P04	48	Male	North	Ride-hailing driver	Part-time	High school	Financial burden
P05	40	Female	North	Sales staff	Rejected in hiring	College diploma	Excluded for being “too old”
P06	46	Male	Central	Construction worker	Unemployed	Secondary school	Fears machine replacement of manual labor

P07	52	Female	Central	Contract teacher	Left job	Bachelor	Job loss after downsizing, tutoring at home
P08	44	Male	Central	Mechanical engineer	Precarious	Bachelor	Disadvantaged as firms prefer younger workers
P09	47	Female	Central	Hotel staff	Quit after COVID	Associate	Excluded from tourism sector
P10	50	Male	Central	Farmer/small business	Self-employed	Secondary school	Failed restaurant attempt
P11	43	Male	South	Programmer	Temporary job	Bachelor	Feels “ <i>lagging behind</i> ” in skills
P12	41	Female	South	HR officer	Unemployed	Bachelor	Replaced by HR software
P13	54	Male	South	Factory worker	Laid off	High school	Perceives injustice after 20 years
P14	49	Female	South	Supermarket staff	Job seeking	High school	Rejected multiple times due to age
P15	46	Male	South	Production manager	Job seeking	Bachelor	Displaced by automated assembly line
P16	42	Female	Overseas (US)	Accountant	Remote job	Bachelor	Retained job thanks to online work
P17	45	Male	Overseas (Germany)	IT	Freelancer	Master	Notes European focus on skills over age
P18	50	Female	Overseas (Japan)	Interpreter	Freelance	Bachelor	Retains work due to language skills
P19	47	Male	Overseas (Australia)	Electrician/plumber	Self-employed	Technical diploma	Maintains clientele, less worried
P20	40	Female	Overseas	Part-time	Precarious	Associate	Considering return

			(Korea)	work		e	to Vietnam but concerned about age
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The interview sample ensured heterogeneity in gender, region (North, Central, South, and overseas Vietnamese), occupation (manual, service, white-collar/knowledge work), and employment status (job seeking, temporary, self-employed). This diversity allows tracing of experiences of workers aged 40 and above in the context of AI and automation.

Table 2b. Internet Sample by Platform and Year

Platform	Total Content	Topics	Opinions	Share of Total	Avg. Opinions per Topic
TikTok	178	10	168	60.96%	16.80
VOZ.vn	69	7	62	23.63%	8.86
Facebook	43	4	39	14.73%	9.75
Threads	2	1	1	0.68%	1.00
Total	292	22	270	100%	12.27

During the observation period, the internet dataset comprised 292 units of content, defined as posts and replies, including 22 original discussion topics and 270 opinion contributions linked to them. A platform-level breakdown highlights the dominance of TikTok, which contributed 178 units, accounting for nearly 61 percent of the dataset. VOZ.vn ranked second with 69 units (24 percent), followed by Facebook with 43 units (15 percent), while Threads contributed only 2 units (<1 percent).

When analyzed in terms of conversational intensity, the dataset averaged about twelve opinions per topic. Yet this figure varied significantly across platforms. TikTok reached nearly seventeen opinions per topic, indicating high engagement and diffusion momentum in discussions about middle-aged unemployment in the AI era. VOZ.vn and Facebook each averaged around nine opinions per topic, reflecting more focused discussions often centered on concrete occupational situations. Threads, in contrast, failed to generate sustained thematic exchanges.

A temporal breakdown reveals that the year 2025 accounted for an overwhelming majority, with 265 content units, representing over 90 percent of the entire dataset. This includes 158 posts from TikTok, 69 from VOZ.vn, 36 from Facebook, and 2 from Threads. Such clustering suggests an accelerated phase of public discourse coinciding with the rapid spread of AI applications into everyday work. Stories of technological replacement, age filtering in recruitment, and pressures to reskill became central discursive themes. By contrast, content from 2021 to 2024 was minimal and dispersed, mostly reporting fragmented experiences of reemployment difficulties after the pandemic or anecdotal comparisons between younger and older workers in service and clerical jobs.

When juxtaposed with the interview sample, the internet sample provides complementary depth

and breadth. The in-depth interviews capture organizational and family contexts and reconstruct emotional trajectories tied to unemployment risks, such as insomnia caused by children's tuition burdens or hesitation in career transition. The internet dataset instead reveals the broader climate of discourse, with repeated markers of invisible age thresholds in recruitment and training, and a highly interactive style of discussion, particularly on TikTok, where narratives of technological displacement, digital skill demands, and perseverance through reskilling recur prominently. Integrating these two sources enables conclusions about human capital deficiency and perceived social inequity to rest not only on individual case narratives but also on the intensity and orientation of mass discourse across digital platforms. Consequently, the triangulation strengthens interpretations of perceived employability, adaptability, and unemployment risk, and it anchors personal experiences within a wider social narrative captured by template analysis.

4.2 Thematic Structure from Template Analysis

Theme 1: Obsolescence and the "Erosion" of Human Capital (Human Capital Deficiency-HCD)

The accounts from interview participants and online discourse converge on the sense that digital skill gaps and rapid technological change are eroding the employability of middle-aged workers. Interviewees frequently described concrete experiences of encountering requirements for unfamiliar software or being bypassed in favor of younger colleagues when firms introduced AI-enabled machinery. One participant explained, *"When I go to interviews now, they ask about new software I've never used. They said they would train me but never followed up"* (P02, female, 45, office worker). Another recounted, *"It was fine with the old assembly line, but once the machines with AI arrived, the younger workers learned faster and I couldn't keep up"* (P13, male, 54, factory worker). Yet not all voices carried the same tone of inevitability. A fifty-one-year-old engineer reflected, *"As an engineer I can still survive thanks to my technical base, but the pace of change is so fast that I have to keep learning continuously"* (P03, male, 51, electrical engineer).

These personal narratives find resonance in the broader internet data, where users frequently echoed the idea that failure to reskill inevitably leads to exclusion. One TikTok comment captured the logic of adaptation bluntly: *"If you don't upgrade your skills you'll be eliminated... society keeps moving and you'll be left behind"* (TikTok, 2025). Another discussion on VOZ.vn connected automation directly to mass redundancies: *"If dark factories become the trend, factory workers will be the first to be unemployed"* (VOZ.vn, 2025).

Taken together, these voices illustrate the mechanism of skill depreciation in the labor market, a process highlighted in Human Capital Theory as the natural consequence of technological acceleration (De Grip & Montizaan, 2023; Tschang & Almirall, 2021). The interviews extend this theoretical insight by showing the organizational dynamics through which human capital deficiency manifests: promises of training that remain unfulfilled, unequal learning curves between older and younger workers, and the partial insulation offered by technical expertise. The online data, by contrast, is more impersonal and emphasizes structural inevitability, portraying automation as a sweeping force that no individual can resist. This difference suggests a tension between subjective accounts that foreground agency, *"I can still adapt if I keep learning"*, and collective discourses that normalize technological replacement as unavoidable. The contrast is significant, because it indicates that while workers may internalize narratives of deficiency, they also identify spaces of resilience, particularly when prior skill endowments provide a buffer.

Table 3. Coding Pathway for Theme 1

Sub-code	Short Quote	Interpretation	Variable Mapping
HCD_kynangso	“New software I’ve never used...” (P02)	Core digital skill gaps remain unfilled	HCD → LEMP
HCD_reskill	“Younger workers learn faster on new machines” (P13)	Limited reskilling capacity constrains adaptability	HCD → LCAP
HCD_matgiatri	“Dark factories...” (VOZ, 2025)	Automation accelerates devaluation of experience	HCD → URP

The juxtaposition of interviews and online data therefore yields a more nuanced view. The interviews highlight organizational failings and personal struggles that reinforce HCD, while the internet sample reflects the broader social climate in which automation is framed as an unstoppable trend. When considered together, the theme demonstrates that human capital erosion is not only the result of individual incapacity but also the product of institutional choices about training, unequal age-related learning opportunities, and the dominant discourse that naturalizes replacement. This synthesis underscores the need to interrogate not just whether older workers lack skills, but why the structures for continuous learning fail to mitigate the erosion of human capital at precisely the stage of life when the stakes for employability are highest.

Theme 2: Perceived Social Inequity (PSI)

The second theme highlights the strong perception of injustice among middle-aged workers, expressed both through concrete experiences in organizational contexts and through broader public discourses online. Interview participants provided vivid accounts of how age became a silent yet decisive filter in recruitment and training, coupled with feelings of disrespect when long service was dismissed without recognition. One retail worker noted, *“My CV was returned because they ‘prioritized under 35’. Nobody said it directly, but the job description made it obvious”* (P14, female, 49, retail). A factory worker with two decades of service described his dismissal as degrading, *“I worked for 20 years and then with restructuring they let me go. It felt like being squeezed dry and thrown away”* (P13, male, 54, factory). Another participant in human resources echoed the exclusionary logic in training access, *“They said retraining slots were limited and that priority went to younger employees”* (P12, female, 41, HR).

These narratives align closely with online commentary, which often articulated the same practices in a blunt, even cynical register. A widely circulated remark on Facebook recounted a recruiter’s instruction: *“Anyone over 30, just reject them”* (Facebook, 2025). Similarly, a user on VOZ.vn observed that *“Job descriptions always require under 35”* (VOZ.vn, 2025). On TikTok, one commenter connected this to systemic contradictions, lamenting, *“They raise the retirement age to 62, but at 40 it’s already impossible to find a job”* (TikTok, 2025).

Together, these accounts illustrate different dimensions of perceived social inequity. At the distributive level, older workers feel systematically denied fair access to job opportunities and

retraining programs. At the procedural level, they encounter hidden rules in recruitment criteria that exclude them based on age rather than competence. At the interactional level, they report treatment that undermines dignity and signals expendability. These patterns corroborate prior findings on organizational justice and age discrimination, showing how perceived unfairness heightens unemployment risk (URP) and depresses employability perceptions (LEMP), while simultaneously eroding career adaptability (LCAP) (Coyle-Shapiro & Diehl, 2017; Drury & Fasbender, 2024; James et al., 2013).

Table 4. Coding Pathway for Theme 2

Sub-code	Short Quote	Interpretation	Variable Mapping
PSI_loc_tuoi	<i>“Prioritized under 35”</i> (P14)	Age-based screening in recruitment	PSI → LEMP
PSI_tontrong	<i>“Squeezed dry and thrown away”</i> (P13)	Interactional injustice and disrespect	PSI → URP
PSI_training	<i>“Priority to younger employees”</i> (P12)	Restricted training access for older workers	PSI → LCAP

The comparison between interviews and internet data demonstrates both complementarity and amplification. Interviews reveal organizational processes in detail, such as unspoken but effective age limits in job descriptions and internal decisions that prioritize youth in training allocations. Social media discourses, however, frame these patterns as “*unwritten norms*” that are pervasive across industries, reinforcing the idea that age-based inequities are not isolated incidents but systemic features of the labor market. The tension between individual cases and collective commentary underscores how PSI operates simultaneously at micro and macro levels: in personal violations of the psychological contract within firms and in the broader cultural expectation that older workers are dispensable. This dual lens highlights that perceived social inequity is both lived in daily organizational practices and legitimized in public discourse, making it a critical mechanism through which career-related outcome perceptions deteriorate among workers over forty.

Theme 3: Career-Related Outcome Perceptions (CROP)

This theme captures how middle-aged workers interpret their employment prospects through three interrelated perceptions: low employability perception (LEMP), low career adaptability perception (LCAP), and unemployment risk perception (URP). Interviewees consistently described a sense of the labor market narrowing against them, doubts about their ability to transition into different kinds of work, and the psychological burden of prolonged joblessness. A forty-five-year-old office worker explained, *“I sent out dozens of applications and heard nothing back. It feels like the market has slammed shut on my age”* (P02, female, 45, office). A programmer who had been considering manual labor reflected on the difficulty of adaptation, *“Switching from office work to manual labor, my health can’t handle it, and honestly, I also feel ashamed”* (P11, male, 43, programmer). Another participant shared the stress of financial obligations, *“Three months without*

a job, I can't sleep at night because of my children's tuition fees" (P10, male, 50, self-employed). These narratives parallel sentiments expressed across online platforms, where users frequently described a labor market that has little tolerance for older applicants. On TikTok, one comment observed, *"Jobs now require 18-30 years old... so many opportunities are lost"* (TikTok, 2025). A Facebook user voiced a harsher conclusion: *"Losing your job at 45 is basically retirement"* (Facebook, 2025). Another TikTok user reported the prolonged nature of exclusion: *"I've been unemployed for a year now... applying for jobs is too difficult"* (TikTok, 2025).

These statements highlight how CROP crystallizes the way older workers "read" their opportunity set in a labor market shaped by both technological disruption and implicit age barriers. LEMP is reduced as human capital deficiencies combine with discriminatory hiring practices, convincing workers that desirable jobs are increasingly out of reach. LCAP is undermined by physical limitations, loss of self-confidence, and the absence of viable pathways to reskill into new roles. URP is amplified by family and financial responsibilities, where each additional month of unemployment deepens stress and creates spirals of anxiety and insomnia. In this sense, CROP operates as both a perceptual outcome and a psychosocial mechanism linking structural constraints to lived experiences (Le Blanc et al., 2019; Yeves et al., 2019).

Table 5. Coding Pathway for Theme 3

Sub-code	Short Quote	Interpretation	Variable Mapping
CROP_LEMP	<i>"The market has slammed shut"</i> (P02)	Perceived narrowing of job opportunities	LEMP (CROP)
CROP_LCAP	<i>"Switching to manual labor... ashamed"</i> (P11)	Doubts about adaptability and transition capacity	LCAP (CROP)
CROP_URP	<i>"Sleepless nights over my children's tuition"</i> (P10)	Anxiety about prolonged unemployment	URP (CROP)

When comparing interview data to internet discourse, a clear distinction emerges. Online discussions emphasize the rigidity of age norms, framing employability as an almost predetermined cutoff tied to arbitrary thresholds like thirty-five or forty-five. The interviews, however, provide deeper insight into the emotional and behavioral pathways through which these norms translate into lived experiences. Sleepless nights, hesitation to switch occupations, and the weight of family obligations illustrate how perceptions of limited opportunity evolve into embodied stress and constrained decision-making. Taken together, the two datasets show that career-related outcome perceptions in Vietnam are shaped not only by structural exclusion but also by the interplay of cultural stigma, economic responsibility, and the erosion of psychological resources in midlife.

Theme 4: Coping and Reskilling

The fourth theme illustrates how middle-aged workers attempt to navigate unemployment by constructing alternative livelihood strategies, while simultaneously confronting significant structural and personal barriers. The interviews show that coping strategies often revolve around shifting into gig work, pursuing short-term reskilling, and mobilizing social networks as transitional support. A ride-hailing driver described his layered survival tactics, *“I drive for ride-hailing services during the day and deliver goods in the apartment complex at night, just to get through this period”* (P04, male, 48, gig driver). Another participant recounted his effort to upskill, *“I took a basic data certificate but the company said they preferred people with hands-on experience”* (P08, male, 44, mechanical engineer). A former hotel worker underscored the reliance on social capital: *“Friends introduced me to some temporary jobs to fill the gap, but it’s unstable”* (P09, female, 47, hotel).

The internet discourse paints a similar picture of necessity-driven improvisation, though often with a sharper, more fatalistic tone. A TikTok user confessed, *“At 44, I sell street food just to survive”* (TikTok, 2025). Others emphasized the role of informal connections and continuous learning, *“Find jobs through groups, friends... learn new skills that are needed”* (TikTok, 2025). Financial precarity was captured bluntly in another comment: *“At 40, being unemployed without savings means you’re finished”* (TikTok, 2025).

These accounts collectively highlight the emergence of multi-sourced livelihood strategies such as ride-hailing, delivery, and petty trade. Short-term reskilling is pursued but often fails to translate into employability because employers demand “real” experience, thus leaving workers stuck in a paradox of certification without access. Social networks play a crucial bridging role, offering entry points into temporary work, but they rarely provide stable or upwardly mobile opportunities. Alongside these strategies, participants revealed barriers that inhibit adaptation: psychological resistance shaped by pride and stigma when moving from white-collar to manual work, family dependencies that constrain flexibility, and financial shortfalls that intensify the fear of long-term unemployment. These barriers erode career adaptability (LCAP) and reinforce unemployment risk perception (URP), even as coping strategies provide short-term buffers.

Table 6. Coding Pathway for Theme 4

Sub-code	Short Quote	Interpretation	Variable Mapping
COP_gig	<i>“Driving and delivering at night”</i> (P04)	Diversifying income through gig work	↓ URP (short-term buffer)
COP_reskill	<i>“Basic data certificate...”</i> (P08)	Reskilling blocked by lack of applied experience	HCD ↔ LEMP/LCAP
COP_network	<i>“Friends introduced temp jobs”</i> (P09)	Social capital as bridging resource	PSI buffer (localized)
BARRIER_psy	<i>“Pride...”</i> (interviews/Internet)	Psychological stigma in occupational shift	↓ LCAP

BARRIER_fin	<i>“Without savings you’re finished”</i> (TikTok)	Financial constraints as a structural barrier	↑ URP
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The juxtaposition of interview data and online commentary demonstrates both convergence and divergence. Both sources confirm the trend toward gig work and micro-entrepreneurship as survival strategies, yet interviews add granularity by revealing how workers treat these as temporary cushions rather than sustainable solutions. They also articulate the frustration that short-term certificates rarely convert into employment opportunities, underscoring the mismatch between policy narratives of lifelong learning and the realities of labor market entry points. Online voices, in contrast, amplify the stark economic calculus, without savings, adaptation becomes almost impossible, thereby framing reskilling and coping as matters of survival rather than proactive career development. This combined evidence suggests that coping and reskilling are less about seizing new opportunities than about mitigating damage, with resilience contingent on personal networks and fragile financial safety nets.

Theme 5: The Moderating Role of Vulnerable Personality Traits (VPT)

The fifth theme centers on the ways in which personality traits shape how middle-aged workers interpret and respond to risks of unemployment in the AI-driven labor market. For some, heightened neuroticism amplifies perceptions of threat, turning financial and occupational uncertainty into recurring cycles of anxiety and insomnia. A self-employed participant articulated this burden directly: *“I can’t sleep, just thinking about my children’s tuition makes me panic”* (P10, male, 50, self-employed). Another participant reflected on a pervasive sense of inadequacy, *“I tend to worry too much, always thinking I can’t keep up anymore”* (P11, male, 43, programmer). By contrast, others demonstrated resilience through personality resources that buffered the negative effects of human capital gaps and perceived unfairness. One accountant described her proactive choice, *“I decided to retrain in digital accounting and work online, even if it means starting small”* (P16, female, 42, accountant).

These patterns resonate strongly with online discourse, where emotional vulnerability and resilience were simultaneously visible. Expressions of despair echo the high neuroticism profile: *“Many sleepless nights... the future feels uncertain”* (Facebook, 2025). Yet equally present were mottos of optimism and persistence, as captured by the comment, *“Lose this round, I’ll fight the next”* (TikTok, 2025).

Taken together, the evidence suggests that vulnerable personality traits act as moderators of how human capital deficiency (HCD) and perceived social inequity (PSI) translate into career-related outcome perceptions (CROP). High neuroticism intensifies unemployment risk perception (URP) and narrows employability perception (LEMP), while low openness or conscientiousness impedes career adaptability (LCAP) by reinforcing hesitation or resistance to occupational change. Conversely, protective traits such as optimism, openness, and proactive learning serve as buffers, dampening the negative influence of structural disadvantages and enabling pathways to reskilling or alternative employment. This dynamic is consistent with research that links personality profiles to heterogeneity in career adaptability and subjective career success (Gonçalves et al., 2021; Zacher, 2014).

Table 7. Coding Pathway for Theme 5

Sub-code	Short Quote	Interpretation	Variable Mapping
VPT_neuro	<i>"I can't sleep..."</i> (P10)	High risk sensitivity linked to neuroticism	VPT × (URP/LEMP)
VPT_close	<i>"Always thinking I can't keep up"</i> (P11)	Low openness/conscientiousness undermines adaptability	VPT × LCAP (negative)
VPT_buffer	<i>"Retrained... work online"</i> (P16)	Protective profile of optimism and openness	VPT × (URP/LCAP) (attenuated effect)

The juxtaposition between interview and internet data provides additional depth. Internet voices often condense complex experiences into slogans of despair or perseverance, thus signaling the broader emotional climate of insecurity and resilience. In contrast, interview data reveal concrete personality profiles and behavioral decisions, whether paralysis through worry, hesitation to switch careers, or determination to reskill online, that explain why individuals with similar structural disadvantages diverge sharply in their career outcomes. This comparison demonstrates that VPT is not merely an abstract trait configuration but a lived factor shaping the degree to which workers can withstand or mitigate the impact of technological disruption. By embedding individual differences into the analysis, the findings highlight the importance of personality-sensitive interventions, where support for vulnerable profiles and reinforcement of protective traits may alter the trajectory of employability among workers over forty.

4.3. Integrated Discussion: Human Capital, Social Inequity, and Personality in Shaping Career Perceptions

The final template reveals how Human Capital Deficiency (HCD) and Perceived Social Inequity (PSI) jointly erode Career-Related Outcome Perceptions (CROP), while Vulnerable Personality Traits (VPT) explain why outcomes diverge among workers in similar conditions. Findings confirm Human Capital Theory through evidence of skill depreciation and a mismatch between short-term credentials and applied experience. They also resonate with Social Exchange Theory, as hidden age filters and unequal training access weaken the psychological contract and heighten unemployment risk. CROP emerges as a psychological lens: employability perceptions (LEMP) shrink, adaptability (LCAP) falters, and unemployment risk (URP) grows, particularly under family and financial strain. VPT further moderates these dynamics, with high neuroticism amplifying anxiety, low openness constraining adaptability, and optimistic-proactive traits providing resilience.

In Vietnam, age-focused HR practices, fragmented reskilling infrastructure, and strong family obligations intensify these mechanisms. Coping strategies such as gig work and short-term training provide temporary buffers but rarely sustainable exits. Illustrative quotes such as *"New software I've never used"* (P02) and *"Under 35 only"* (P14) capture the structural barriers, while mottos like *"Lose this round, I'll fight the next"* (TikTok, 2025) signal resilience. In sum, HCD and PSI

directly shape CROP, moderated by VPT, offering a Vietnam-specific model of midlife unemployment under AI-driven disruption.

5. Proposed Model: The Midlife AI-Employment Vulnerability Model (MAIEV)

The conceptual model derived from the template analysis is presented in Figure 1. It depicts how Human Capital Deficiency (HCD) and Perceived Social Inequity (PSI) jointly shape Career-related Outcome Perceptions (CROP), with the moderating influence of Vulnerable Personality Traits (VPT).

Because all constructs in the model are inherently negative, the relationships among them are positive (co-varying). An increase in HCD, for example, implies a greater lack of updated skills and devalued experience, which directly heightens negative career perceptions. Specifically, higher HCD leads to stronger Low Employability Perception (LEMP), as workers feel their outdated skill portfolios limit access to opportunities. HCD also co-varies positively with Low Career Adaptability Perception (LCAP), since workers with larger skills gaps perceive themselves as less able to adjust to new tasks or occupations. Furthermore, HCD indirectly intensifies Unemployment Risk Perception (URP) through its impact on employability and adaptability.

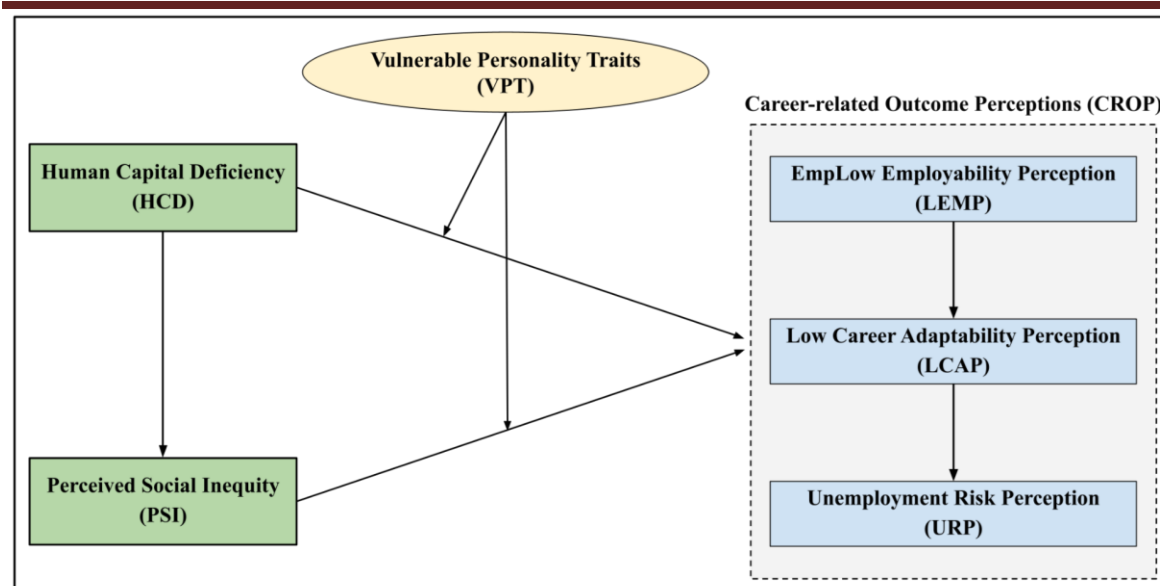
PSI also enters as a parallel antecedent of CROP. Age-based filtering in recruitment, unequal access to training, and disrespectful treatment are perceived as systemic unfairness, which in turn reinforces negative outcome perceptions. Workers exposed to stronger PSI report higher LEMP and LCAP, as well as elevated URP. Here too, the relationship is co-varying: the more pervasive the sense of injustice, the more strongly negative the career outlook becomes.

Within CROP, the three subdimensions form a sequential chain. $LEMP \rightarrow LCAP \rightarrow URP$ represents a cascade in which low employability perceptions reduce adaptability, and reduced adaptability amplifies unemployment risk perceptions. This progression reflects the psychological mechanism through which structural and relational disadvantages crystallize into heightened vulnerability.

VPT serves as a moderator of these structural pathways. Individuals with high neuroticism are especially sensitive to threats, which strengthens the co-variation between HCD/PSI and CROP (e.g., $HCD \rightarrow LEMP$ becomes stronger). Workers low in openness or conscientiousness also exhibit steeper negative outcomes, as they avoid retraining or career shifts, thereby magnifying LCAP. Conversely, protective profiles characterized by optimism, openness, and proactive learning attenuate the pathways, softening the strength of the co-variation.

This model yields clear propositions for further empirical testing. First, HCD positively predicts LEMP and LCAP. Second, PSI positively predicts all three CROP dimensions. Third, LEMP positively predicts LCAP, which positively predicts URP, reflecting the sequential nature of CROP. Finally, VPT moderates all structural relationships, strengthening or weakening them depending on trait configuration. For future quantitative research, CROP can be modeled as a second-order reflective construct composed of LEMP, LCAP, and URP, allowing estimation of its integrated effects within a PLS-SEM framework.

In sum, the MAIEV Model emphasizes that in the Vietnamese context, deficits in human capital and perceptions of injustice do not operate independently but accumulate to shape a cluster of negative career perceptions. These effects are consistently co-varying, and their strength depends on personality dispositions that either amplify vulnerability or provide a buffer.



Source: Developed by the authors based on Template Analysis of qualitative interviews and digital discourse data (2025)

Figure 1. The Midlife AI-Employment Vulnerability Model (MAIEV)

6. CONCLUSION AND IMPLICATIONS

This study set out to explore how middle-aged workers in Vietnam experience and interpret the risk of unemployment in the era of artificial intelligence and automation. Guided by Template Analysis, the research examined twenty in-depth interviews triangulated with digital discourse from TikTok, Facebook, VOZ, and Threads, focusing on four analytical anchors: Human Capital Deficiency (HCD), Perceived Social Inequity (PSI), Career-Related Outcome Perceptions (CROP: Low Employability Perception - LEMP, Low Career Adaptability Perception - LCAP, Unemployment Risk Perception - URP), and the moderating role of Vulnerable Personality Traits (VPT).

The findings provide clear answers to the three research questions. First, workers aged forty and above narrate unemployment not as an abstract risk but as an embodied experience of “*skills losing value*,” “*doors closing in recruitment*,” and “*sleepless nights over family obligations*.” Their stories confirm that unemployment risk is both structural and emotional, embedded in the erosion of technical relevance and amplified by cultural stigma against older job seekers. Second, perceptions of HCD, PSI, and CROP are tightly interconnected. Skills gaps translate into diminished employability, procedural unfairness undermines adaptability, and family-financial constraints magnify perceived unemployment risk. Together, these dimensions form a cascading chain: LEMP narrows opportunities, low LCAP blocks transitions, and URP crystallizes into heightened anxiety. Third, the study confirms that VPT differentiates how these dynamics unfold. Workers with high neuroticism interpret risks more catastrophically, while those low in openness or conscientiousness resist career change. In contrast, protective profiles marked by optimism and proactivity buffer the negative effects, as captured in statements such as “*I retrained in digital accounting and accepted starting small*” (P16).

The contributions of this study are threefold. At the empirical level, it centers the voices of workers

over forty in Vietnam, offering qualitative depth that complements survey-based evidence. At the conceptual level, it proposes a localized thematic map that integrates HCD, PSI, CROP, and VPT into a coherent interpretive framework, sensitive to cultural norms of family responsibility and occupational pride. At the theoretical level, it introduces the Midlife AI-Employment Vulnerability (MAIEV) Model, which conceptualizes CROP as a second-order construct shaped positively by HCD and PSI, and moderated by VPT. This model offers a pathway for future quantitative validation through PLS-SEM, extending Human Capital Theory, Social Exchange Theory, and the Big Five framework to a Vietnam-specific context.

Policy Implications. The findings highlight urgent needs for public policy interventions. First, targeted reskilling and upskilling programs for workers aged forty and above should be prioritized. Such programs must go beyond short-term certificates to include applied practice and mentoring, addressing the “*gap between credentials and experience*” that participants repeatedly emphasized. Second, labor policies and HR practices must actively counteract PSI, especially ageism in recruitment and training allocation. Policies aligned with Perceived Organizational Support (POS) theory, emphasizing fairness, transparency, and investment in older employees, can restore reciprocity in the employment relationship. Third, psychological and career counseling should be integrated into reskilling initiatives, recognizing that high-VPT profiles require additional support to manage anxiety, rebuild confidence, and sustain adaptability.

Implications for Organizations and Individuals. For employers, the evidence suggests that rigid age filters waste valuable human capital and exacerbate perceptions of injustice. Designing flexible job arrangements and phased career pathways for older employees can improve retention and motivation. Equal access to training and transparent criteria for promotion can mitigate PSI and strengthen organizational commitment. For individuals, the findings underscore the necessity of lifelong learning and proactive career planning. Workers who embrace continuous learning and are willing to transition into new occupational domains, sometimes starting at lower levels, demonstrate stronger resilience in the face of automation. Encouraging a mindset of adaptability and cultivating protective personality traits such as optimism and openness are therefore essential strategies for sustaining employability in midlife.

Limitations and Future Research. This study has several limitations. The interview sample, while diverse in gender, sector, and region, is relatively small and self-selected, limiting generalizability. Internet discourse, though useful for triangulation, cannot substitute for systematic survey data and may overrepresent extreme views. Future research should expand coverage to include rural areas, state-owned enterprises, and sectors such as agriculture and education, where AI penetration is uneven. Comparative analysis by gender and urban-rural context would enrich understanding of intersectional vulnerabilities. Finally, the MAIEV Model should be tested quantitatively through PLS-SEM, enabling assessment of the strength and significance of pathways from HCD and PSI to CROP, and the moderating effects of VPT across different occupational and cultural settings.

In conclusion, unemployment in the AI revolution is not merely a matter of missing skills. For Vietnam’s midlife workforce, it is the outcome of intertwined deficits in human capital, perceived injustice in organizational and labor market processes, and individual differences in personality-based vulnerability. By situating workers’ voices within broader digital discourses, this study demonstrates how structural barriers and subjective experiences converge to shape employability, adaptability, and risk perceptions. The proposed MAIEV Model provides a conceptual lens for both scholars and policymakers to understand and respond to these challenges. Ultimately,

sustaining the employability of workers over forty in Vietnam requires integrated action: skill renewal that is practical and supported, HR practices that are inclusive and fair, and psychological resources that empower individuals to navigate uncertainty with resilience.

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