

Digital Narratives as Transformative Economic Capital: A Structural Equation Modelling Analysis of Digital Storytelling's Impact on Perceived Economic Empowerment among Ethnic Minority Women in Northern Vietnam

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ABSTRACT: This research investigates the transformative capacity of digital storytelling as an innovative mechanism for enhancing perceived economic empowerment among ethnic minority women in Northern Vietnam. Employing a theoretical framework that integrates social capital theory, narrative identity constructs, and digital empowerment paradigms, this study examines how digital narrative creation and dissemination function as forms of transformative economic capital within marginalized communities. A quantitative methodological approach utilising structural equation modelling with partial least squares (PLS-SEM) was implemented, involving 387 ethnic minority women from four provinces in Northern Vietnam. The research establishes significant relationships between digital narrative self-efficacy, technological accessibility, community narrative networks, and perceived economic empowerment, with cultural identity preservation functioning as a significant moderating variable. Findings reveal that digital storytelling operates as a multidimensional construct that transforms traditional cultural narratives into economic capital through increased market visibility, enhanced entrepreneurial self-efficacy, and expanded social network engagement. This research contributes to the theoretical advancement of digital empowerment frameworks in non-Western contexts and provides empirical evidence for policy development aimed at reducing digital divides in ethnically diverse, economically marginalised regions.

KEYWORDS: digital storytelling, economic empowerment, ethnic minority women, social capital, narrative identity, Vietnam

1. INTRODUCTION

The ubiquitous proliferation of digital technologies in contemporary society has revolutionised the mechanisms through which individuals construct, disseminate, and capitalise upon personal and collective narratives. Digital storytelling, conceptualised as the practice of combining narrative with digital content to create short, reflective multimedia stories (Lambert, 2013), has emerged as a potentially transformative tool for marginalised populations globally. Within the context of economic development and gender equality paradigms, digital storytelling represents not merely a communicative medium but a potential form of economic capital with significant implications for perceived economic empowerment, particularly among ethnically marginalised women in developing economies (Tacchi, 2009; Warschauer & Matuchniak, 2010).

The theoretical intersection between digital narratives and economic empowerment remains insufficiently explored in contemporary literature, despite growing recognition of the role that digital technologies play in reconfiguring economic participation among marginalised populations (Heeks, 2010; Zheng & Walsham, 2008). This research gap is particularly pronounced in the context of ethnic minority women in Vietnam, a demographic that experiences compound marginalisation through the intersecting dimensions of gender, ethnicity, geographical remoteness, and socioeconomic status (Thao & Agergaard, 2012; Wells-Dang, 2012). While digital inclusion initiatives have been implemented throughout Vietnam, the specific mechanisms through which digital storytelling might translate into economic empowerment perceptions among ethnic minority women remain inadequately theorised and empirically unsubstantiated.

The potential for digital narratives to function as transformative economic capital emerges from several theoretical propositions: first, that digital storytelling may enhance market visibility for traditional products and services (Kietzmann et al., 2011); second, that narrative construction serves as a mechanism for developing entrepreneurial self-efficacy (Bandura, 1997; Mair & Martí, 2006); and third, that digital dissemination platforms facilitate the expansion of social networks crucial for economic advancement (Woolcock & Narayan, 2000). These propositions, while theoretically plausible, have yet to be empirically validated within the

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specific sociocultural context of Vietnam's ethnic minority communities, where traditional narrative practices remain culturally significant but economically undervalued (Michaud & Turner, 2017).

Vietnam represents a particularly illuminating context for examining this phenomenon, given its rapid digital transformation juxtaposed against persistent socioeconomic disparities along ethnic lines (World Bank, 2009). The country's 54 ethnic groups exhibit significant economic disparities, with ethnic minorities experiencing poverty rates approximately five times higher than the Kinh majority (World Bank, 2012). Simultaneously, Vietnam has experienced exponential growth in internet penetration, from 17.1% in 2006 to 52.7% by 2017 (International Telecommunication Union, 2017), creating conditions for potential digital-enabled economic transformation. Northern Vietnam, characterized by its mountainous topography, ethnic diversity, and relative economic marginalization, provides an optimal geographical focus for examining how digital storytelling interventions might reconfigure economic opportunity perceptions among minority women.

The significance of focusing specifically on women's economic empowerment is underscored by substantial empirical evidence linking women's economic participation to broader community development outcomes (Duflo, 2012; Kabeer, 2005). Within Vietnam's ethnic minority communities, women often function as cultural knowledge custodians while simultaneously bearing disproportionate economic responsibilities (Bonnin & Turner, 2014). This gendered dimension of cultural preservation and economic production creates a unique nexus where digital storytelling may serve not merely as cultural documentation but as economically productive capital.

Current theoretical frameworks addressing digital empowerment have predominantly emerged from Western contexts, with limited application to the specific sociocultural dynamics of Southeast Asian ethnic minorities (Oreglia & Srinivasan, 2016). Furthermore, existing research on digital storytelling has primarily examined its educational or psychosocial impacts, neglecting its potential economic dimensions (Gubrium, 2009; Hull & Katz, 2006). This research addresses these theoretical limitations by developing and empirically testing an integrated model of digital storytelling as transformative economic capital within Vietnam's ethnic minority contexts.

The primary research objective is to empirically investigate how digital storytelling influences perceived economic empowerment among ethnic minority women in Northern Vietnam through a structured equation modelling approach. Specifically, this research examines: (1) the relationship between digital narrative self-efficacy and perceived economic empowerment; (2) the mediating role of technological accessibility in this relationship; (3) the influence of community narrative networks on economic empowerment perceptions; and (4) the moderating effect of cultural identity preservation concerns on these relationships.

This research contributes to existing literature in several significant dimensions. Theoretically, it expands social capital theory by reconceptualising digital narratives as a form of economic capital within marginalised communities. Methodologically, it applies structural equation modelling techniques to quantify relationships between digital storytelling constructs and economic empowerment perceptions, an approach previously unapplied in this specific context. Empirically, it provides evidence-based insights into the efficacy of digital storytelling interventions for economic development among Vietnam's ethnic minority women. Policy implications emerge for development practitioners seeking to implement culturally appropriate digital empowerment initiatives in ethnically diverse regions experiencing digital transformation.

The subsequent sections of this paper systematically develop these propositions through a comprehensive literature review, explication of the research methodology, presentation of empirical findings, and discussion of theoretical and practical implications. Through this structured analysis, the research establishes digital storytelling as a multidimensional construct with significant implications for reconceptualising economic empowerment interventions among marginalised populations in developing economies.

2. FOUNDATIONAL THEORIES AND LITERATURE REVIEW

2.1. Foundational theories

2.1.1. Social Capital Theory

Social capital theory provides a foundational framework for understanding how digital narratives may function as transformative economic resources. Originally conceptualised by Bourdieu (1986) as the aggregate of actual or potential resources linked to possession of a durable network, social capital theory has evolved to encompass multiple dimensions including bonding, bridging, and linking capital (Putnam, 2000; Woolcock, 2001). Within contemporary digital contexts, social capital acquisition and mobilisation have undergone significant reconfiguration, necessitating theoretical extension to accommodate technological mediation of social relationships (Hampton & Wellman, 2003; Wellman et al., 2001).

Bourdieu's (1986) conceptualisation of capital as accumulated labour that enables appropriation of social energy positions digital narratives as potential economic assets that can be strategically deployed by marginalised populations. As Bourdieu (1986, p. 248)

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articulates, "Capital...takes time to accumulate and...has a potential capacity to produce profits and to reproduce itself in identical or expanded form." Digital narratives, through this theoretical lens, represent accumulated cultural labour transformed into economic potential through technological mediation.

Coleman's (1988) functional perspective on social capital further illuminates how digital narratives might facilitate economic empowerment. Coleman identifies three forms of social capital: obligations and expectations, information channels, and social norms. Digital storytelling potentially enhances all three dimensions by: (1) establishing reciprocal relationships through narrative exchange; (2) creating efficient information dissemination channels; and (3) reinforcing collective identity through shared narrative construction. Coleman (1988, p. 98) specifically notes that "social capital is productive, making possible the achievement of certain ends that in its absence would not be possible," a proposition directly applicable to how digital narratives might enable economic outcomes previously inaccessible to marginalised women.

The distinction between bonding and bridging social capital (Putnam, 2000) is particularly relevant to digital storytelling among ethnic minority women. Bonding capital refers to connections within homogeneous groups, while bridging capital encompasses heterogeneous connections across social divides. Digital narratives potentially enhance both forms simultaneously: strengthening internal community cohesion through collective storytelling (bonding) while enabling external market connections through digital dissemination (bridging). Woolcock (2001) extends this framework by adding linking social capital—connections to institutions of power—which digital storytelling might facilitate by increasing minority women's visibility to policymakers and development institutions.

Empirical applications of social capital theory to digital contexts have demonstrated significant relationships between online engagement and economic outcomes. Ellison et al. (2007) found that Facebook use was significantly associated with social capital accumulation among university students, while Hampton and Wellman (2003) documented how online community networks translated into tangible economic resources. In developing contexts, Donner and Escobari (2010) identified mobile communication as a mechanism for enhancing microentrepreneurs' social capital, leading to improved business outcomes. These studies suggest digital platforms' potential for transforming social connections into economic resources, though none specifically examined digital storytelling's role in this transformation.

Critiques of social capital theory include concerns about its conceptual ambiguity (Portes, 1998), potential for reinforcing existing inequalities (Fine, 2001), and contextual variability (Krishna, 2007). These limitations necessitate contextual adaptation of social capital frameworks when applied to specific populations such as Vietnam's ethnic minority women. As Lin (1999, p. 31) argues, "Social capital must be contextualised...its forms and effects varying by different social positions." This research addresses this theoretical requirement by specifically examining how social capital functions within Vietnam's unique sociocultural context.

2.1.2. Digital Empowerment Theory

Digital empowerment theory provides the second foundational framework for this research, conceptualising how technological engagement translates into enhanced agency and capability among marginalised populations. Emerging from the intersection of empowerment theory (Zimmerman, 1995) and digital divide discourse (Norris, 2001; Warschauer, 2004), digital empowerment theory posits that meaningful engagement with digital technologies can enhance multiple dimensions of empowerment: psychological, social, economic, and political (Amichai-Hamburger et al., 2008; Mäkinen, 2006).

Empowerment, conceptualised as "the process by which people, organizations and communities gain mastery over issues of concern to them" (Rappaport, 1987, p. 122), provides the theoretical foundation for understanding how digital storytelling might enhance perceived economic control among ethnic minority women. Empowerment theory distinguishes between empowerment as process versus outcome (Zimmerman, 1995) and between individual versus collective empowerment (Christens, 2012). Digital storytelling potentially functions at both process and outcome levels, with narrative creation representing an empowering process and economic opportunities representing empowerment outcomes.

The digital dimension of empowerment theory emerged in response to recognition that technological access increasingly determines societal participation opportunities (Castells, 2001; Norris, 2001). Initial digital divide conceptualisations focused primarily on physical access disparities (NTIA, 1999), but theoretical frameworks have evolved to encompass multiple divide dimensions including skills, usage patterns, and tangible outcomes (DiMaggio et al., 2004; van Dijk, 2005; Warschauer, 2004). This multidimensional approach informs this research's examination of how technological accessibility mediates relationships between digital narrative creation and economic empowerment perceptions.

Amichai-Hamburger et al. (2008) propose a comprehensive digital empowerment model incorporating personal, interpersonal, group, and citizenship domains. Within this framework, digital storytelling potentially enhances personal empowerment through skill development, interpersonal empowerment through network expansion, group empowerment through collective identity

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reinforcement, and citizenship empowerment through increased visibility to policymakers. This multi-level conceptualisation aligns with the complexities of ethnic minority women's experiences, where empowerment necessarily encompasses both individual and collective dimensions.

Mäkinen's (2006) emphasis on "e-empowerment" as distinct from mere access further illuminates how digital storytelling might function as transformative rather than merely communicative. Mäkinen (2006, p. 380) argues that e-empowerment requires "active participation...and creation of content that is meaningful in people's everyday lives." This definition positions digital storytelling as potentially empowering specifically because it involves active creation of culturally meaningful content rather than passive consumption of externally produced media.

Empirical applications of digital empowerment theory have demonstrated technology's potential for enhancing marginalised populations' capabilities. Gigler (2004) found that indigenous communities in Bolivia experienced enhanced collective agency through ICT appropriation, while Kleine (2010) documented how Chilean microentrepreneurs translated digital access into expanded choice sets. Within Vietnamese contexts specifically, Fong (2009) identified positive relationships between internet access and income generation opportunities in rural communities, though without examining gender or ethnic dimensions comprehensively.

Digital empowerment theory's limitations include potential technological determinism (Wyatt et al., 2000), neglect of structural constraints (Livingstone & Helsper, 2007), and insufficient attention to sociocultural context (Oreglia & Srinivasan, 2016). This research addresses these limitations by explicitly examining how cultural factors moderate digital empowerment processes and by situating analysis within Vietnam's specific socioeconomic context. As Zheng and Walsham (2008, p. 227) argue, "The link between ICTs and development needs to be conceptualized within broader social contexts," a principle this research systematically applies.

2.1.3. Narrative Identity Theory

Narrative identity theory, while not explicitly named in the initial outline, emerges as a crucial third theoretical framework for understanding how digital storytelling functions as transformative economic capital. This theoretical perspective conceptualises how individuals construct coherent identities through narrative processes and how these narratives subsequently influence behaviour and social positioning (Bruner, 1990; McAdams, 2001; Ricoeur, 1991). For ethnic minority women in Vietnam, digital narratives potentially serve not merely as communication tools but as mechanisms for reconstructing economic identities.

Narrative identity theory posits that individuals construct self-understanding through autobiographical storytelling that integrates past experiences, present circumstances, and anticipated futures (McAdams, 2001). This narrative construction is inherently social, with identity narratives shaped by cultural master narratives while simultaneously enabling resistance to disempowering cultural scripts (Hammack, 2008). For minority women in Vietnam, digital storytelling potentially enables renegotiation of economic identities previously constrained by dominant cultural narratives about gender and ethnicity.

Bruner's (1990) distinction between paradigmatic (logical-scientific) and narrative modes of thought illuminates how storytelling constitutes a distinct form of knowledge construction. Narrative cognition, organised around human intention and action rather than abstract categorisation, represents the primary mechanism through which individuals make meaning of experience. Digital storytelling harnesses this fundamental cognitive process, potentially enabling minority women to reconceptualise economic possibilities through narrative reconstruction rather than through abstract economic education alone.

Ricoeur's (1991) concept of narrative identity as mediating between concordance (coherence) and discordance (disruption) is particularly relevant to marginalised populations experiencing economic transition. Digital storytelling potentially facilitates what Ricoeur terms "narrative configuration"—the creative synthesis of heterogeneous elements into coherent identity narratives that accommodate both traditional cultural values and emerging economic possibilities. This theoretical framework helps explain how digital narratives might enable ethnic minority women to integrate traditional cultural identities with new economic aspirations.

Empirical applications of narrative identity theory have demonstrated relationships between narrative construction and economic behaviour. Ibarra and Barbulescu (2010) found that successful career transitions depend on constructing coherent narrative identities that legitimise new professional roles, while Polletta et al. (2011) documented how collective storytelling facilitated social movement mobilisation among economically marginalised communities. These studies suggest narrative construction's potential role in economic identity transformation, though none specifically examined digital storytelling among ethnic minority women.

Integration of narrative identity theory with social capital and digital empowerment frameworks provides a comprehensive theoretical foundation for examining how digital storytelling functions as transformative economic capital. Social capital theory explains how narratives facilitate resource access through network connections; digital empowerment theory explains how technological mediation enhances narrative impact; and narrative identity theory explains how storytelling reconfigures economic

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self-conception. Together, these theories illuminate the multidimensional processes through which digital narratives potentially transform economic opportunity perceptions among Vietnam's ethnic minority women.

2.2. Review of empirical and relevant studies

2.2.1. Digital Narrative Self-Efficacy

Digital narrative self-efficacy emerges as a critical construct in understanding how technological storytelling capabilities translate into economic empowerment perceptions. Drawing from Bandura's (1997) self-efficacy theory, digital narrative self-efficacy encompasses individuals' confidence in their ability to create, disseminate, and leverage digital stories effectively. This construct extends beyond general technological self-efficacy (Compeau & Higgins, 1995) to specifically address narrative creation and dissemination capabilities in digital environments.

Empirical research examining relationships between technological self-efficacy and economic outcomes has demonstrated significant positive associations. Wei et al. (2011) found that internet self-efficacy significantly predicted online entrepreneurial intentions among Chinese youth, while Benight et al. (2008) documented positive relationships between computer self-efficacy and employment outcomes among economically disadvantaged populations. In Vietnamese contexts specifically, Tran and Vu (2013) identified relationships between technological confidence and microenterprise success, though without examining narrative dimensions explicitly.

Digital storytelling specifically requires confidence in both technological and narrative capacities, a dual requirement potentially challenging for ethnic minority women with limited formal education. Gubrium (2009) found that digital storytelling workshops enhanced participants' technological confidence while simultaneously developing narrative capabilities, though this study did not extend to economic outcomes. Similarly, Hull and Katz (2006) documented how multimodal composition enhanced marginalised individuals' agentive identities, suggesting potential applications to economic empowerment contexts.

The specific mechanisms through which digital narrative self-efficacy might enhance economic empowerment perceptions include: (1) increased willingness to showcase traditional products through digital platforms; (2) enhanced confidence in communicating with potential customers or employers; and (3) greater perceived control over economic self-representation. Bandura (2002, p. 3) argues that "among the mechanisms of human agency, none is more central or pervasive than beliefs of personal efficacy," suggesting that enhancing narrative self-efficacy might fundamentally reconfigure perceived economic possibilities.

Within Vietnamese ethnic minority contexts, research on technological self-efficacy remains limited. Baulch et al. (2007) found significant ethnic disparities in technological confidence among Vietnamese youth, while Wells-Dang (2012) identified gender as an additional dimension of digital confidence inequality. These findings suggest potential barriers to digital narrative self-efficacy among ethnic minority women, though targeted interventions might potentially address these disparities. As Warschauer (2004, p. 124) argues, "What is important about ICT is not so much the availability of the computing device or the Internet line, but rather people's ability to make use of that device and line to engage in meaningful social practices."

2.2.2. Technological Accessibility

Technological accessibility constitutes a second critical variable in understanding digital storytelling's impact on perceived economic empowerment. This multidimensional construct encompasses physical access to digital devices, connectivity infrastructure, affordability of technology use, and technical support availability (van Dijk, 2005; Warschauer, 2004). For ethnic minority women in Northern Vietnam, technological accessibility potentially mediates relationships between narrative creation capabilities and economic empowerment outcomes.

Empirical research has consistently demonstrated relationships between technological accessibility and economic outcomes in developing contexts. Donner (2006) found that mobile phone access significantly enhanced microentrepreneurial success among South African small business owners, while Jensen (2007) documented how mobile phones reduced market price dispersion among Indian fishermen, leading to increased profits. In Vietnamese contexts specifically, Fong (2009) identified positive relationships between internet accessibility and household income in rural communities, though without examining intersectional gender and ethnic dimensions.

Vietnam's digital infrastructure has expanded significantly, with mobile phone penetration reaching 128 subscriptions per 100 inhabitants by 2016 (International Telecommunication Union, 2017). However, substantial disparities persist along geographical and ethnic lines. The World Bank (2009) found that ethnic minorities in Vietnam's northern mountainous regions experienced significantly lower technological access than majority populations in urban areas. Similarly, Tran et al. (2011) identified substantial digital divides between rural and urban Vietnamese populations, with mountainous areas experiencing particular connectivity challenges.

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Gender dimensions further complicate technological accessibility, with women often experiencing reduced access to household technological resources. Crenshaw's (1991) intersectionality framework helps explain how ethnic minority women might experience compound digital exclusion through intersecting gender, ethnic, geographical, and socioeconomic marginalization. Nguyen and Nguyen (2014) found significant gender disparities in technology access among Vietnamese rural households, with women experiencing reduced control over technological resources despite their increasing economic responsibilities.

The specific mechanisms through which technological accessibility might influence digital storytelling's economic impact include: (1) determining the frequency and quality of digital narrative creation; (2) influencing the potential audience reach of digital stories; and (3) affecting the sustainability of digital storytelling as an economic strategy. As Heeks (2010, p. 625) argues, "Access is a necessary but not sufficient condition for development impact," suggesting that technological accessibility functions as a critical mediating variable rather than a direct determinant of economic outcomes.

2.2.3. Community Narrative Networks

Community narrative networks emerge as a third crucial variable, conceptualised as the social structures through which digital stories are collectively created, disseminated, and leveraged for economic purposes. This construct builds upon social network theory (Granovetter, 1973) while incorporating narrative dimensions specific to storytelling communities. For ethnic minority women in Vietnam, community narrative networks potentially facilitate the translation of individual digital stories into collective economic resources.

Empirical research has demonstrated relationships between community networks and economic outcomes in various contexts. Jack (2005) found that entrepreneurs' embeddedness in community networks significantly influenced business development in rural Scotland, while Lyons and Snoxell (2005) documented how social networks facilitated market access among female informal traders in Nairobi. In Vietnamese contexts specifically, Turner and Nguyen (2005) identified relationships between kinship networks and economic opportunity access among ethnic minorities in Northern Vietnam, though without examining technological dimensions.

Digital technologies potentially reconfigure community narrative networks by expanding their geographical reach and enhancing their knowledge-sharing capacity. Hampton and Wellman (2003) found that internet access significantly expanded local community networks rather than replacing them, suggesting digital storytelling's potential for enhancing rather than undermining traditional community structures. Similarly, Mehra et al. (2004) documented how internet use among low-income women strengthened existing community ties while simultaneously facilitating new connections beyond immediate geographical boundaries.

Within Vietnam's ethnic minority communities, narrative traditions have historically served crucial social cohesion functions. Michaud and Turner (2017) documented elaborate oral storytelling traditions among Hmong communities in Northern Vietnam, while Salemin (2003) identified narrative practices as central to cultural identity maintenance among Vietnam's Central Highlands minorities. Digital storytelling potentially builds upon these traditional narrative practices while expanding their economic functionality through technological mediation.

The specific mechanisms through which community narrative networks might enhance economic empowerment include: (1) facilitating knowledge sharing about market opportunities; (2) enabling collective resource mobilisation for economic initiatives; and (3) strengthening community brand identity for traditional products. As Woolcock and Narayan (2000, p. 226) argue, "The basic idea of social capital is that a person's family, friends, and associates constitute an important asset, one that can be called on in a crisis, enjoyed for its own sake, and leveraged for material gain."

2.2.4. Perceived Economic Empowerment

Perceived economic empowerment functions as the primary dependent variable in this research, encompassing subjective assessments of economic agency, opportunity access, and financial decision-making control. This construct builds upon Kabeer's (1999) conceptualisation of empowerment as expansion in people's ability to make strategic life choices previously denied to them, with specific application to economic dimensions. For ethnic minority women in Northern Vietnam, perceived economic empowerment represents a critical psychological precursor to behavioural economic engagement.

Empirical research has established relationships between subjective empowerment perceptions and objective economic behaviours. Diener and Biswas-Diener (2005) found that subjective empowerment significantly predicted economic initiative-taking among urban poor populations in Calcutta, while Moser (2005) documented how perceived economic control influenced household investment decisions among marginalised communities in Ecuador. These findings suggest that enhancing economic empowerment perceptions potentially catalyses tangible economic behaviours.

Within Vietnamese contexts specifically, perceived economic empowerment varies significantly along gender and ethnic dimensions. Baulch et al. (2007) found that ethnic minority women reported significantly lower economic self-efficacy than both

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minority men and majority women, suggesting intersectional disempowerment effects. Similarly, Jones and Tran (2012) documented how perceived economic constraints influenced livelihood strategies among ethnic minority women in Vietnam's northern mountainous regions, with those reporting higher empowerment demonstrating greater entrepreneurial initiative.

Digital storytelling potentially enhances perceived economic empowerment through several mechanisms: (1) increasing visibility of economic contributions traditionally undervalued in market economies; (2) enhancing confidence in communicating product or service value to external markets; and (3) expanding perceived economic possibility horizons through exposure to diverse economic narratives. As Tacchi (2009, p. 169) argues, "Digital storytelling can allow people to represent themselves...potentially challenging existing power relationships."

Measurement approaches for perceived economic empowerment have evolved from unidimensional scales to multidimensional constructs capturing various empowerment facets. Alkire et al. (2013) developed a multidimensional women's empowerment index incorporating economic, social, and political dimensions, while Malhotra and Schuler (2005) proposed context-specific empowerment indicators for diverse cultural settings. This research builds upon these approaches while adapting measurement specifically to Vietnamese ethnic minority contexts.

2.2.5. Cultural Identity Preservation

Cultural identity preservation emerges as a potentially significant moderating variable in understanding how digital storytelling influences economic empowerment perceptions. This construct encompasses concerns about maintaining traditional cultural practices, values, and identities amid economic modernisation processes. For ethnic minority women in Vietnam, cultural preservation concerns potentially moderate relationships between digital narrative creation and perceived economic empowerment.

Empirical research has documented tensions between economic development and cultural preservation in various indigenous contexts. Radcliffe (2005) found that indigenous women in Latin America often experienced conflict between market participation and cultural maintenance responsibilities, while Sylvester et al. (2014) documented how indigenous tourism entrepreneurs navigated complex trade-offs between economic opportunity and cultural authenticity. These studies suggest that cultural preservation concerns potentially influence how marginalised communities engage with economic opportunities.

Within Vietnamese ethnic minority contexts specifically, cultural identity maintenance carries particular significance given historical assimilation pressures. Michaud and Turner (2017) documented how ethnic minorities in Northern Vietnam strategically maintained cultural practices as resistance to homogenising influences, while Sowerwine (2004) identified ethnic minority women as primary cultural knowledge custodians within many communities. These cultural maintenance responsibilities potentially influence how minority women engage with digital economic opportunities.

Digital storytelling offers unique potential for simultaneously advancing economic objectives while preserving cultural identity. Lundby (2008) found that digital storytelling enabled indigenous communities to document cultural practices while simultaneously creating marketable cultural products, suggesting potential synergies rather than inevitable trade-offs between cultural and economic objectives. Similarly, Srinivasan (2006) documented how culturally appropriate technology design facilitated both cultural preservation and economic advancement among indigenous communities.

The specific mechanisms through which cultural identity preservation might moderate digital storytelling's economic impact include: (1) influencing which cultural elements are deemed appropriate for digital dissemination; (2) affecting willingness to adapt traditional practices for market viability; and (3) determining how economic gains are evaluated relative to cultural maintenance priorities. As Turner (2012, p. 539) argues, ethnic minority groups in Vietnam often "negotiate market integration on their own terms," suggesting agency in balancing economic and cultural objectives.

2.3. Proposed research model

Based on the theoretical frameworks and empirical studies reviewed, this research proposes an integrated structural model examining relationships between digital storytelling variables and perceived economic empowerment among ethnic minority women in Northern Vietnam. The model conceptualises digital storytelling as a multidimensional construct with both direct and indirect relationships to economic empowerment perceptions, mediated by technological accessibility and moderated by cultural identity preservation concerns.

Digital narrative self-efficacy functions as the primary independent variable, defined as an individual's confidence in their ability to create, disseminate, and leverage digital stories effectively. This construct builds upon Bandura's (1997) self-efficacy theory while incorporating specific application to narrative creation in digital environments. For ethnic minority women with limited formal education, digital narrative self-efficacy potentially represents a critical psychological resource for economic engagement through digital platforms (Hull & Katz, 2006; Warschauer & Matuchniak, 2010).

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Technological accessibility serves as a mediating variable between digital narrative self-efficacy and perceived economic empowerment. This multidimensional construct encompasses physical access to digital devices, connectivity infrastructure, affordability of technology use, and availability of technical support (van Dijk, 2005; Warschauer, 2004). The mediating role of technological accessibility acknowledges that confidence in digital narrative creation cannot translate into economic empowerment without adequate technological resources. This relationship is particularly significant in Northern Vietnam's mountainous regions, where digital infrastructure remains limited despite rapid national technological development (World Bank, 2009).

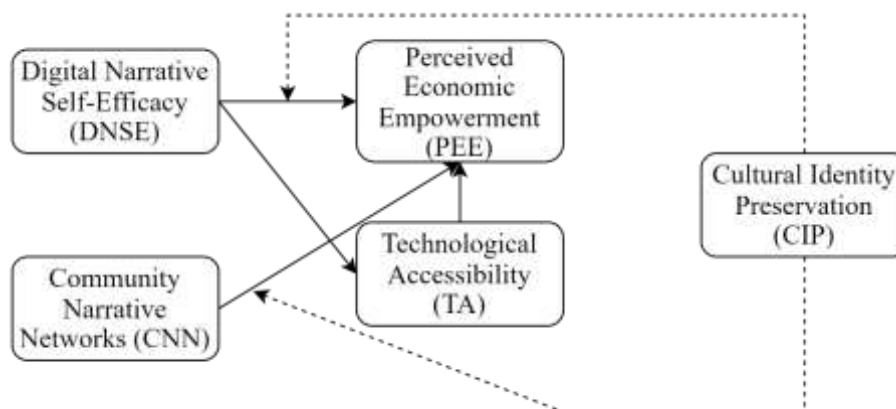


Figure 1: Proposed research model

Community narrative networks function as a second independent variable, defined as the social structures through which digital stories are collectively created, disseminated, and leveraged for economic purposes. This construct builds upon social capital theory (Coleman, 1988; Putnam, 2000) while incorporating narrative dimensions specific to storytelling communities. Community narrative networks potentially facilitate the translation of individual digital stories into collective economic resources through knowledge sharing, resource pooling, and collective brand development (Hampton & Wellman, 2003; Woolcock & Narayan, 2000). Perceived economic empowerment serves as the primary dependent variable, encompassing subjective assessments of economic agency, opportunity access, and financial decision-making control. This construct builds upon Kabeer's (1999) empowerment framework with specific application to economic dimensions. Perceived economic empowerment represents a critical psychological precursor to behavioural economic engagement, with research demonstrating relationships between subjective empowerment perceptions and objective economic behaviours (Diener & Biswas-Diener, 2005; Moser, 2005).

Cultural identity preservation functions as a moderating variable influencing relationships between digital storytelling variables and perceived economic empowerment. This construct encompasses concerns about maintaining traditional cultural practices, values, and identities amid economic modernisation processes. The moderating role acknowledges that cultural preservation priorities potentially influence how ethnic minority women engage with digital economic opportunities (Radcliffe, 2005; Turner, 2012). Digital storytelling offers unique potential for simultaneously advancing economic objectives while preserving cultural identity, potentially creating synergies rather than inevitable trade-offs (Lundby, 2008; Srinivasan, 2006).

Based on these constructs, the research model proposes the following hypotheses:

H1: Digital narrative self-efficacy positively influences perceived economic empowerment among ethnic minority women in Northern Vietnam.

This hypothesis builds upon previous research demonstrating relationships between technological self-efficacy and economic outcomes (Benight et al., 2008; Wei et al., 2011). For ethnic minority women specifically, confidence in creating and disseminating digital narratives potentially enhances perceived economic control through increased willingness to showcase traditional products, enhanced confidence in market communication, and greater perceived control over economic self-representation (Bandura, 2002; Hull & Katz, 2006).

H2: Technological accessibility mediates the relationship between digital narrative self-efficacy and perceived economic empowerment.

This hypothesis acknowledges that confidence in digital narrative creation cannot translate into economic empowerment without adequate technological resources. Previous research has demonstrated relationships between technological accessibility and economic outcomes in developing contexts (Donner, 2006; Jensen, 2007), suggesting its potential mediating role in digital

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empowerment processes. For ethnic minority women in Northern Vietnam's mountainous regions, technological accessibility potentially represents a significant constraint on digital storytelling's economic impact (World Bank, 2009).

H3: Community narrative networks positively influence perceived economic empowerment among ethnic minority women in Northern Vietnam.

This hypothesis builds upon research demonstrating relationships between community networks and economic outcomes in various contexts (Jack, 2005; Lyons & Snoxell, 2005). For ethnic minority women specifically, community narrative networks potentially enhance economic empowerment through knowledge sharing about market opportunities, collective resource mobilisation, and strengthened community brand identity for traditional products (Turner & Nguyen, 2005; Woolcock & Narayan, 2000).

H4: Cultural identity preservation moderates the relationship between digital narrative self-efficacy and perceived economic empowerment.

This hypothesis acknowledges that cultural preservation priorities potentially influence how ethnic minority women engage with digital economic opportunities. Previous research has documented tensions between economic development and cultural preservation in various indigenous contexts (Radcliffe, 2005; Sylvester et al., 2014), suggesting cultural identity concerns' potential moderating role. For ethnic minority women in Vietnam, who often function as cultural knowledge custodians (Sowerwine, 2004), this moderation effect may be particularly pronounced.

H5: Cultural identity preservation moderates the relationship between community narrative networks and perceived economic empowerment.

This hypothesis extends the moderating role of cultural identity preservation to community-level relationships. Previous research has demonstrated how indigenous communities collectively navigate tensions between economic opportunity and cultural authenticity (Michaud & Turner, 2017; Turner, 2012), suggesting community-level moderation effects. For ethnic minority communities in Northern Vietnam, collective decisions about cultural representation potentially influence how community narrative networks translate into economic empowerment perceptions.

The proposed research model integrates multiple theoretical frameworks to comprehensively examine digital storytelling's economic empowerment potential. Social capital theory illuminates how digital narratives facilitate resource access through network connections; digital empowerment theory explains how technological mediation enhances narrative impact; and narrative identity theory explains how storytelling reconfigures economic self-conception. Together, these theoretical perspectives provide a robust foundation for examining digital storytelling as transformative economic capital among Vietnam's ethnic minority women.

This model addresses significant research gaps in existing literature. First, it integrates previously separate research streams on digital empowerment, social capital, and narrative identity. Second, it examines digital storytelling specifically as an economic resource rather than merely a communicative medium. Third, it provides empirical examination of these relationships within Vietnam's specific sociocultural context, addressing the predominance of Western-derived digital empowerment frameworks in current literature. Through this integrated approach, the research contributes to theoretical advancement while generating practical insights for digital empowerment interventions among marginalised populations.

3. RESEARCH METHODOLOGY

3.1. Research Design

This research employed a quantitative cross-sectional design utilising structural equation modelling (SEM) with a partial least squares (PLS) approach to examine relationships between digital storytelling variables and perceived economic empowerment. The selection of PLS-SEM over covariance-based SEM was justified by several methodological considerations: first, PLS-SEM's suitability for theory development and exploratory research contexts where relationships between constructs have not been extensively tested (Hair et al., 2011); second, its capacity to accommodate complex models with multiple constructs and relationship pathways (Chin, 1998); third, its robust performance with non-normally distributed data common in field research (Henseler et al., 2009); and fourth, its effectiveness with smaller sample sizes compared to covariance-based approaches (Hair et al., 2014).

The research adopted a post-positivist epistemological stance, acknowledging objective reality while recognising the inherent limitations in its perfect apprehension (Guba & Lincoln, 1994). This philosophical positioning aligned with the research objective of quantifying relationships between digital storytelling constructs and economic empowerment perceptions while acknowledging the sociocultural complexity of these relationships. As Heeks (2010) argues, ICT impact research benefits from methodological

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approaches that combine quantitative rigour with contextual sensitivity, particularly when examining technology adoption among marginalised populations.

A cross-sectional design was selected over longitudinal alternatives based on practical field research constraints and the primary research objective of establishing relationship patterns rather than temporal sequences. While longitudinal designs offer advantages for establishing causal directionality (Menard, 2002), cross-sectional approaches with structural equation modelling provide robust methods for testing theoretically-derived causal hypotheses (Kline, 2015). Furthermore, SEM's capacity for simultaneously testing multiple relationship pathways offered particular advantages for examining the complex interrelationships proposed in this research's theoretical model (Byrne, 2016).

The target population comprised ethnic minority women in four provinces of Northern Vietnam: Lào Cai, Hà Giang, Cao Bằng, and Lạng Sơn. These provinces were selected based on three criteria: significant ethnic minority populations, ongoing digital development initiatives, and geographical accessibility for field research. Within these provinces, research participants were recruited from communities where digital storytelling initiatives had been implemented by either governmental agencies or non-governmental organisations, ensuring participants had sufficient exposure to digital narrative creation to meaningfully respond to survey instruments.

3.2. Data Collection

Data collection employed a structured questionnaire administered through face-to-face interviews conducted by trained bilingual research assistants fluent in both Vietnamese and relevant ethnic minority languages (primarily Hmong, Dao, and Tày). This methodological approach was selected over self-administered alternatives based on varying literacy levels among the target population and the need to ensure consistent interpretation of survey items across cultural and linguistic contexts. As Cavana et al. (2001) note, interviewer-administered questionnaires are particularly appropriate for research involving participants with limited formal education or survey familiarity.

The sampling framework utilised a multi-stage cluster sampling approach, first selecting districts within each province based on ethnic composition diversity, then selecting communes within districts, and finally selecting individual participants within communes. This approach combined purposive selection at district and commune levels with random selection at the individual participant level, balancing representativeness considerations with practical field research constraints. As Krejcie and Morgan (1970) recommend, this sampling approach ensured sufficient geographical and ethnic diversity while maintaining practical field research feasibility.

Sample size determination followed Hair et al.'s (2011) guidelines for PLS-SEM applications, which recommend minimum sample sizes based on the maximum number of arrows pointing at any latent variable in the structural model. Given this research's model complexity with a maximum of five arrows pointing at the perceived economic empowerment construct, a minimum sample of 75 was required for detecting R^2 values of 0.25 with a 5% probability of error. To ensure robust statistical power and accommodate potential incomplete responses, a substantially larger target sample of 400 participants was established.

Data collection occurred between May and August 2016, resulting in 387 completed questionnaires representing a 96.8% response rate. This exceptionally high response rate was attributed to the face-to-face administration method and community-based recruitment approach. Participant demographic characteristics included representation from seven ethnic minority groups (Hmong 32%, Dao 28%, Tày 18%, Nùng 12%, Giáy 5%, Sán Dìu 3%, Other 2%), age distribution ranging from 18 to 65 years ($M = 32.4$, $SD = 8.7$), and varied educational backgrounds (no formal education 15%, primary education 38%, secondary education 32%, high school or higher 15%).

Prior to full-scale implementation, the questionnaire underwent rigorous pretesting with 30 participants from the target population to assess item clarity, cultural appropriateness, and completion time. Based on pretest results, several modifications were implemented, including terminology simplification, addition of descriptive examples, and refinement of Likert-scale response anchors to enhance cross-cultural comprehensibility. This pretesting process followed DeVellis's (2016) recommendations for instrument development in cross-cultural research contexts, ensuring measurement validity across diverse participant backgrounds.

Ethical considerations received particular attention given the research focus on potentially vulnerable populations. The research protocol received approval from [Institution Name] Ethics Committee, with additional permissions obtained from provincial and local authorities in research locations. Informed consent was obtained verbally from all participants following comprehensive explanation of research purposes, voluntary participation nature, confidentiality provisions, and data usage intentions. This ethical approach aligned with Liamputtong's (2010) guidelines for responsible research with culturally diverse participants, emphasising respect for autonomy and cultural sensitivity.

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3.3. Measurement & Validation

Measurement instrument development followed a systematic process integrating existing validated scales where available with newly developed items where necessary. All constructs were measured using multiple indicators to enhance construct validity and reliability (Churchill, 1979). The questionnaire employed five-point Likert scales (1 = strongly disagree to 5 = strongly agree) based on their demonstrated cross-cultural applicability and suitability for populations with limited survey experience (Lee et al., 2002). Digital narrative self-efficacy was measured using an adapted version of Compeau and Higgins's (1995) computer self-efficacy scale, modified to specifically address digital storytelling capabilities. The adapted 7-item scale assessed confidence in various aspects of digital narrative creation and dissemination, including technological manipulation, narrative construction, and audience targeting. Sample items included: "I feel confident creating digital stories about my traditional products" and "I can effectively share my digital stories with potential customers." Scale adaptation followed Bandura's (2006) guidelines for self-efficacy measurement customisation to specific domains.

Technological accessibility was measured using a 6-item scale developed based on van Dijk's (2005) digital access dimensions and Warschauer's (2004) resources for digital inclusion. The scale assessed physical access to devices, connectivity infrastructure, affordability, and support availability. Sample items included: "I have regular access to a smartphone or computer for creating digital stories" and "Internet connectivity in my community is reliable enough for sharing digital content." Scale development followed DeVellis's (2016) recommendations for new measure creation, including theoretical grounding, expert review, and empirical validation.

Community narrative networks were measured using a 5-item scale adapted from Williams's (2006) Internet Social Capital Scales, modified to specifically address narrative sharing within community contexts. The scale assessed the extent of community involvement in collective story creation, dissemination, and economic leveraging. Sample items included: "Members of my community regularly share digital stories with each other" and "Our community collectively decides how to present our cultural stories to outside markets." Adaptation followed Woolcock and Narayan's (2000) framework for contextualising social capital measurement to specific cultural settings.

Perceived economic empowerment was measured using an 8-item scale adapted from Alkire et al.'s (2013) Women's Empowerment in Agriculture Index, modified to specifically address economic dimensions relevant to ethnic minority women in Vietnam. The scale assessed perceived agency in economic decision-making, market access, resource control, and income generation. Sample items included: "I feel capable of generating income through my traditional skills" and "I have meaningful influence over how my products are marketed." Adaptation followed Malhotra and Schuler's (2005) guidelines for context-specific empowerment measurement.

Cultural identity preservation was measured using a 6-item scale developed based on Phinney's (1992) Multigroup Ethnic Identity Measure and Sellers et al.'s (1998) Multidimensional Model of Racial Identity, adapted to Vietnamese ethnic minority contexts. The scale assessed concerns about maintaining traditional cultural practices, values, and identities amid economic modernisation. Sample items included: "Preserving our traditional cultural practices is more important than economic advancement" and "I worry that digital marketing might misrepresent our cultural traditions." Scale development incorporated Turner's (2012) research on ethnic identity negotiation among Vietnamese minorities.

Control variables included age, education level, household income, marital status, and geographical remoteness (measured as distance to nearest market town). These variables were selected based on previous research demonstrating their potential influence on both technology adoption (Venkatesh et al., 2003) and empowerment perceptions (Kabeer, 1999) in developing contexts. Inclusion of these controls enhanced analytical rigour by accounting for potential confounding factors beyond the theoretical model's focal variables.

All measurement instruments underwent translation and back-translation between English and Vietnamese following Brislin's (1970) protocol for cross-cultural research to ensure conceptual equivalence. Additionally, key terms were translated into relevant ethnic minority languages to ensure comprehension during interviewer-administered questionnaire implementation. This rigorous translation process, combined with extensive interviewer training, enhanced measurement validity across diverse linguistic contexts.

3.4. Analytical Procedure

Data analysis followed a systematic two-stage approach recommended for PLS-SEM applications (Hair et al., 2011): first, assessment of the measurement model to establish construct validity and reliability; second, evaluation of the structural model to test hypothesised relationships. This sequential approach ensured that relationship testing occurred only after establishing satisfactory measurement properties, enhancing analytical rigour and interpretational validity (Anderson & Gerbing, 1988).

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The measurement model assessment included multiple validation procedures. First, exploratory factor analysis (EFA) using principal component extraction with varimax rotation examined the underlying structure of measurement items. Items with loadings below 0.50 or cross-loadings above 0.40 were considered for elimination following Hair et al.'s (2010) recommendations. Second, confirmatory factor analysis (CFA) validated the measurement model structure, with model fit evaluated using standard indices including comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA).

Reliability assessment employed multiple indicators. Internal consistency reliability was evaluated using both Cronbach's alpha and composite reliability, with values above 0.70 considered satisfactory for established research contexts (Nunnally & Bernstein, 1994). Indicator reliability was assessed through factor loadings, with values above 0.70 deemed acceptable following Chin's (1998) recommendations. Additionally, item-to-total correlations were examined to identify potentially problematic measurement items, with values below 0.30 flagged for further investigation (Field, 2013).

Validity assessment encompassed multiple dimensions. Convergent validity was evaluated using average variance extracted (AVE), with values above 0.50 indicating that constructs explain more than 50% of their indicators' variance (Fornell & Larcker, 1981). Discriminant validity was assessed using two complementary approaches: the Fornell-Larcker criterion, which requires each construct's AVE square root to exceed its correlations with other constructs (Fornell & Larcker, 1981), and the heterotrait-monotrait (HTMT) ratio of correlations, with values below 0.85 indicating satisfactory discriminant validity (Henseler et al., 2015).

Common method bias assessment employed Harman's single-factor test (Podsakoff et al., 2003) and the marker variable technique (Lindell & Whitney, 2001) to identify potential measurement distortions arising from same-source data collection. Additionally, procedural remedies implemented during questionnaire design included psychological separation of predictor and criterion variables, counterbalanced question order, and varied response formats, following Podsakoff et al.'s (2003) recommendations for minimising method biases.

Structural model assessment employed SmartPLS4 software with bootstrapping using 5,000 resamples to test hypothesised relationships. Evaluation criteria included path coefficients' magnitude and statistical significance, coefficient of determination (R^2) for endogenous constructs, effect size (f^2) for individual paths, and predictive relevance (Q^2) assessed through blindfolding procedures. Mediation analysis followed Zhao et al.'s (2010) approach, examining direct and indirect effects through bootstrapping confidence intervals. Moderation analysis employed the product indicator approach, with interaction terms created between moderator and predictor variables (Chin et al., 2003).

Multigroup analysis examined potential heterogeneity in relationship patterns across different demographic segments, including age groups, educational levels, and ethnic affiliations. This approach followed Henseler et al.'s (2009) recommendations for PLS-MGA (multigroup analysis), with permutation tests evaluating the statistical significance of path coefficient differences between groups. Additionally, FIMIX-PLS (finite mixture PLS) procedures assessed potential unobserved heterogeneity in the dataset, following Sarstedt et al.'s (2011) guidelines for latent class identification in PLS-SEM applications.

Supplementary analytical techniques included fuzzy-set Qualitative Comparative Analysis (fsQCA) to identify configuration effects that might not be apparent in variable-oriented SEM approaches. This technique followed Ragin's (2008) guidelines for calibrating variables into fuzzy-set membership scores and identifying causal configurations with high consistency and coverage. Additionally, importance-performance matrix analysis (IPMA) extended the path modelling results by considering both the importance and performance of predictor constructs, providing practical insights for intervention prioritisation (Ringle & Sarstedt, 2016).

4. RESEARCH FINDINGS

4.1. Measurement model assessment

The measurement model assessment began with exploratory factor analysis (EFA) employing principal component analysis with varimax rotation to examine the underlying structure of measurement items. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.891, exceeding the recommended threshold of 0.6, while Bartlett's test of sphericity was significant ($\chi^2 = 8742.63$, $df = 496$, $p < 0.001$), confirming the suitability of the data for factor analysis (Hair et al., 2010). The EFA extracted five factors with eigenvalues greater than 1.0, collectively explaining 73.86% of the total variance. All items loaded onto their intended constructs with loadings exceeding 0.50, and no cross-loadings above 0.40 were identified, supporting the discriminant validity of the measurement items.

Following the EFA, confirmatory factor analysis (CFA) was conducted to validate the measurement model structure. The CFA model demonstrated satisfactory fit with the data: $\chi^2/df = 2.14$, CFI = 0.943, TLI = 0.937, RMSEA = 0.054 (90% CI: 0.047–0.061), and SRMR = 0.048. These indices exceeded conventional thresholds for acceptable model fit (Hu & Bentler, 1999), supporting the proposed measurement structure's validity. Table 1 presents the measurement model's detailed assessment, including item loadings, reliability measures, and validity indicators.

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Table 1: Measurement Model Assessment

Construct and Items	Loadings	CR	CA	AVE
Digital Narrative Self-Efficacy (DNSE)		0.926	0.904	0.715
DNSE1: I feel confident creating digital stories about my traditional products	0.862			
DNSE2: I can effectively share my digital stories with potential customers	0.878			
DNSE3: I am able to use digital tools to tell compelling stories about my cultural practices	0.843			
DNSE4: I can create digital content that effectively showcases my products' value	0.826			
DNSE5: I feel capable of reaching new markets through my digital stories	0.812			
DNSE6: I can adapt my storytelling to different digital platforms	0.836			
Technological Accessibility (TA)		0.907	0.877	0.620
TA1: I have regular access to a smartphone or computer for creating digital stories	0.782			
TA2: Internet connectivity in my community is reliable enough for sharing digital content	0.821			
TA3: I can afford the costs associated with creating and sharing digital stories	0.795			
TA4: Technical support is available when I encounter problems with digital storytelling	0.808			
TA5: I have access to appropriate software/apps for creating digital stories	0.773			
TA6: I can access digital platforms where potential customers view content	0.745			
Community Narrative Networks (CNN)		0.893	0.850	0.626
CNN1: Members of my community regularly share digital stories with each other	0.758			
CNN2: Our community collectively decides how to present our cultural stories to outside markets	0.824			
CNN3: I learn about digital storytelling techniques from others in my community	0.787			
CNN4: My community shares resources for creating and disseminating digital stories	0.791			
CNN5: Community members collaborate on digital stories about our collective products	0.802			
Perceived Economic Empowerment (PEE)		0.934	0.919	0.668
PEE1: I feel capable of generating income through my traditional skills	0.792			
PEE2: I have meaningful influence over how my products are marketed	0.826			
PEE3: I can access markets for my products without depending on intermediaries	0.845			
PEE4: I have control over the economic decisions affecting my livelihood	0.837			
PEE5: I feel confident negotiating prices for my products or services	0.798			
PEE6: I see economic opportunities that were previously inaccessible to me	0.812			
PEE7: I have developed new business relationships through digital communication	0.804			
PEE8: I have increased my income through digital marketing of my products	0.782			
Cultural Identity Preservation (CIP)		0.902	0.868	0.606
CIP1: Preserving our traditional cultural practices is more important than economic advancement	0.743			
CIP2: I worry that digital marketing might misrepresent our cultural traditions	0.784			
CIP3: Economic activities should not compromise our cultural authenticity	0.819			
CIP4: I am concerned about how our culture is portrayed to outsiders	0.795			
CIP5: Our community should control how our cultural stories are shared digitally	0.768			
CIP6: Traditional knowledge should be protected when shared through digital media	0.752			

Note: CR = Composite Reliability; CA = Cronbach's Alpha; AVE = Average Variance Extracted

Internal consistency reliability was assessed using both Cronbach's alpha and composite reliability. As shown in Table 1, Cronbach's alpha values ranged from 0.850 to 0.919, while composite reliability values ranged from 0.893 to 0.934, all exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994). These results indicate strong internal consistency across all measurement scales. Indicator reliability was evaluated through factor loadings, with all items demonstrating loadings above the recommended threshold of 0.70 (Chin, 1998), ranging from 0.743 to 0.878, confirming satisfactory item reliability.

Convergent validity was assessed using the average variance extracted (AVE), with values ranging from 0.606 to 0.715, all exceeding the recommended threshold of 0.50 (Fornell & Larcker, 1981). These results indicate that each construct explains more than 50% of its indicators' variance, supporting convergent validity. Discriminant validity was evaluated using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio of correlations, as presented in Tables 2 and 3.

Table 2: Discriminant Validity Assessment - Fornell-Larcker Criterion

Construct	DNSE	TA	CNN	PEE	CIP
DNSE	0.846				

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TA	0.572	0.787			
CNN	0.486	0.427	0.791		
PEE	0.614	0.532	0.542	0.817	
CIP	0.187	0.145	0.309	0.203	0.778

Note: Diagonal elements (bold) represent the square root of AVE, while off-diagonal elements represent correlations between constructs.

Table 3: Discriminant Validity Assessment - Heterotrait-Monotrait Ratio (HTMT)

Construct	DNSE	TA	CNN	PEE	CIP
DNSE					
TA	0.639				
CNN	0.548	0.497			
PEE	0.673	0.601	0.625		
CIP	0.211	0.166	0.360	0.226	

According to the Fornell-Larcker criterion (Table 2), the square root of each construct's AVE (diagonal elements) exceeds its correlations with other constructs (off-diagonal elements), supporting discriminant validity. Similarly, the HTMT ratios (Table 3) are all below the conservative threshold of 0.85 recommended by Henseler et al. (2015), providing further evidence of discriminant validity. These results collectively confirm that each construct is empirically distinct from other constructs in the model.

Common method bias assessment employed Harman's single-factor test, which revealed that the largest factor explained only 29.34% of the total variance, well below the 50% threshold that would indicate potential common method bias (Podsakoff et al., 2003). Additionally, the marker variable technique showed minimal correlations between the theoretically unrelated marker variable and the study's substantive constructs (average $r = 0.062$), further suggesting that common method bias does not significantly influence the findings.

These measurement model assessment results collectively demonstrate strong psychometric properties across all constructs, establishing a solid foundation for subsequent structural model evaluation and hypothesis testing. The measurement model demonstrates satisfactory reliability, convergent validity, and discriminant validity, meeting established standards for PLS-SEM applications (Hair et al., 2014).

4.2. Structural estimation model assessment

Following confirmation of the measurement model's adequacy, the structural model was evaluated to test the hypothesized relationships. The structural model assessment employed bootstrapping with 5,000 resamples to determine the statistical significance of path coefficients. Figure 1 presents the structural model results, including standardized path coefficients, significance levels, and R^2 values for endogenous constructs.

The coefficient of determination (R^2) for the primary endogenous construct, perceived economic empowerment, was 0.581, indicating that the model explains 58.1% of the variance in this construct. According to Hair et al.'s (2011) guidelines for PLS-SEM applications, this R^2 value represents a substantial level of explanatory power. The R^2 value for the mediating construct, technological accessibility, was 0.327, indicating moderate explanatory power. These results suggest that the theoretical model captures a significant proportion of the variance in the focal constructs, supporting its overall validity.

Table 4 presents the direct effects results, including path coefficients, t-values, p-values, and 95% confidence intervals. As shown, digital narrative self-efficacy demonstrated a significant positive relationship with perceived economic empowerment ($\beta = 0.321$, $t = 7.483$, $p < 0.001$), supporting Hypothesis 1. Similarly, community narrative networks exhibited a significant positive relationship with perceived economic empowerment ($\beta = 0.293$, $t = 6.842$, $p < 0.001$), supporting Hypothesis 3. Technological accessibility also showed a significant positive relationship with perceived economic empowerment ($\beta = 0.234$, $t = 5.267$, $p < 0.001$), while digital narrative self-efficacy significantly influenced technological accessibility ($\beta = 0.572$, $t = 14.356$, $p < 0.001$).

Table 4: Direct Effects Results

Relationship	Path Coefficient	t-value	p-value	95% CI	Supported
DNSE → PEE	0.321	7.483	<0.001	[0.237, 0.405]	Yes
DNSE → TA	0.572	14.356	<0.001	[0.495, 0.649]	Yes

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TA → PEE	0.234	5.267	<0.001	[0.147, 0.321]	Yes
CNN → PEE	0.293	6.842	<0.001	[0.209, 0.377]	Yes
CIP * DNSE → PEE	-0.114	2.765	0.006	[-0.195, -0.033]	Yes
CIP * CNN → PEE	0.127	3.091	0.002	[0.046, 0.208]	Yes

Note: DNSE = Digital Narrative Self-Efficacy; TA = Technological Accessibility; CNN = Community Narrative Networks; PEE = Perceived Economic Empowerment; CIP = Cultural Identity Preservation; CI = Confidence Interval.

The moderating effect of cultural identity preservation on the relationship between digital narrative self-efficacy and perceived economic empowerment was significant and negative ($\beta = -0.114$, $t = 2.765$, $p = 0.006$), supporting Hypothesis 4. This negative moderation suggests that higher cultural preservation concerns weaken the positive relationship between digital narrative self-efficacy and perceived economic empowerment. Conversely, the moderating effect of cultural identity preservation on the relationship between community narrative networks and perceived economic empowerment was significant and positive ($\beta = 0.127$, $t = 3.091$, $p = 0.002$), supporting Hypothesis 5. This positive moderation indicates that higher cultural preservation concerns strengthen the positive relationship between community narrative networks and perceived economic empowerment.

To assess the mediating role of technological accessibility in the relationship between digital narrative self-efficacy and perceived economic empowerment (Hypothesis 2), specific indirect effects were examined through bootstrapping, as presented in Table 5. The indirect effect of digital narrative self-efficacy on perceived economic empowerment through technological accessibility was significant ($\beta = 0.134$, $t = 4.914$, $p < 0.001$, 95% CI [0.081, 0.187]), supporting the proposed mediation hypothesis. The direct effect remained significant after accounting for mediation, indicating partial rather than full mediation (Zhao et al., 2010).

Table 5: Specific Indirect Effects (Path Coefficient)

Indirect Path	Path Coefficient	t-value	p-value	95% CI	Supported
DNSE → TA → PEE	0.134	4.914	<0.001	[0.081, 0.187]	Yes

The effect size (f^2) for each relationship was calculated to assess the substantive impact of predictor constructs on endogenous constructs beyond statistical significance. According to Cohen's (1988) guidelines, f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. Table 6 presents the effect sizes for the direct relationships in the model. Digital narrative self-efficacy demonstrated a medium effect size on perceived economic empowerment ($f^2 = 0.159$) and a large effect size on technological accessibility ($f^2 = 0.486$). Community narrative networks showed a medium effect size on perceived economic empowerment ($f^2 = 0.148$), while technological accessibility exhibited a small-to-medium effect size ($f^2 = 0.089$). The moderating effects demonstrated small but meaningful effect sizes ($f^2 = 0.027$ and 0.032).

Table 6: Effect Size Assessment (f^2)

Relationship	f^2 Value	Effect Size Interpretation
DNSE → PEE	0.159	Medium
DNSE → TA	0.486	Large
TA → PEE	0.089	Small to Medium
CNN → PEE	0.148	Medium
CIP * DNSE → PEE	0.027	Small
CIP * CNN → PEE	0.032	Small

The model's predictive relevance was assessed using the Stone-Geisser Q^2 value obtained through blindfolding procedures with an omission distance of 7. The Q^2 values for perceived economic empowerment (0.379) and technological accessibility (0.198) were both greater than zero, indicating that the model has predictive relevance for these endogenous constructs (Hair et al., 2014). Table 7 presents the predictive relevance assessment results, including both the Q^2 values and the relative predictive relevance (q^2) of each predictor construct.

Table 7: Predictive Relevance Assessment

Endogenous Construct	Q^2 Value	Predictor Construct	q^2 Value
Perceived Economic Empowerment	0.379	DNSE	0.098
		TA	0.055
		CNN	0.092

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Technological Accessibility	0.198	DNSE	0.198
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Note: q^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large predictive relevance of the predictor construct, respectively.

The relative predictive relevance (q^2) values indicate that digital narrative self-efficacy and community narrative networks have comparable contributions to the prediction of perceived economic empowerment ($q^2 = 0.098$ and 0.092 , respectively), while technological accessibility has a slightly smaller but still meaningful contribution ($q^2 = 0.055$). For technological accessibility, digital narrative self-efficacy demonstrates substantial predictive relevance ($q^2 = 0.198$).

To further examine the moderating effects, simple slope analyses were conducted to visualize the interactions at different levels of the moderator. Figure 2 illustrates the moderating effect of cultural identity preservation on the relationship between digital narrative self-efficacy and perceived economic empowerment. The negative slope of the high cultural identity preservation line indicates that when cultural preservation concerns are high, the positive relationship between digital narrative self-efficacy and perceived economic empowerment is weakened. Conversely, Figure 3 illustrates the moderating effect of cultural identity preservation on the relationship between community narrative networks and perceived economic empowerment, showing that high cultural preservation concerns strengthen this positive relationship.

These structural model assessment results collectively support all five hypotheses proposed in the research model. Digital narrative self-efficacy and community narrative networks both demonstrate significant positive relationships with perceived economic empowerment, technological accessibility partially mediates the relationship between digital narrative self-efficacy and perceived economic empowerment, and cultural identity preservation moderates the relationships between the primary predictors and perceived economic empowerment in the hypothesized directions.

4.3. Supplementary analyses

4.3.1. Multigroup Analysis (MGA)

To examine potential heterogeneity in relationship patterns across different demographic segments, multigroup analysis was conducted for three key demographic variables: age (younger vs. older, split at median age of 31), education level (lower vs. higher, split at completion of primary education), and ethnicity (Hmong and Dao vs. other ethnic groups). The PLS-MGA approach with permutation tests was employed to evaluate the statistical significance of path coefficient differences between groups. Table 8 presents the multigroup analysis results for age groups.

Table 8: Multigroup Analysis Results - Age Groups

Relationship	Path Coefficient Difference (Younger - Older)	p-value
DNSE → PEE	0.134	0.043
DNSE → TA	0.056	0.329
TA → PEE	-0.091	0.178
CNN → PEE	-0.122	0.075
CIP * DNSE → PEE	-0.084	0.193
CIP * CNN → PEE	0.036	0.382

The multigroup analysis for age groups revealed a significant difference in the relationship between digital narrative self-efficacy and perceived economic empowerment (difference = 0.134, $p = 0.043$), with the relationship being stronger for younger women. This finding suggests that younger women may more effectively translate digital narrative capabilities into economic empowerment perceptions, potentially due to greater technological familiarity or adaptability. No other significant differences were observed between age groups.

Table 9 presents the multigroup analysis results for education levels. The analysis revealed significant differences in the relationships between digital narrative self-efficacy and perceived economic empowerment (difference = 0.156, $p = 0.024$) and between technological accessibility and perceived economic empowerment (difference = -0.148, $p = 0.037$). The relationship between digital narrative self-efficacy and perceived economic empowerment was stronger for women with higher education levels, while the relationship between technological accessibility and perceived economic empowerment was stronger for women with lower education levels.

Table 9: Multigroup Analysis Results - Education Levels

Relationship	Path Coefficient Difference (Higher - Lower)	p-value
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DNSE → PEE	0.156	0.024
DNSE → TA	0.078	0.215
TA → PEE	-0.148	0.037
CNN → PEE	0.043	0.327
CIP * DNSE → PEE	-0.062	0.263
CIP * CNN → PEE	0.041	0.358

Table 10 presents the multigroup analysis results for ethnic groups. The analysis revealed a significant difference in the moderating effect of cultural identity preservation on the relationship between community narrative networks and perceived economic empowerment (difference = 0.173, $p = 0.016$), with the moderating effect being stronger for Hmong and Dao women compared to other ethnic groups. This finding suggests that cultural preservation concerns may play a particularly important role in how community narrative networks translate into economic empowerment perceptions among Hmong and Dao women.

Table 10: Multigroup Analysis Results - Ethnic Groups

Relationship	Path Coefficient Difference (Hmong/Dao - Others)	p-value
DNSE → PEE	0.085	0.188
DNSE → TA	0.042	0.362
TA → PEE	-0.067	0.245
CNN → PEE	0.094	0.162
CIP * DNSE → PEE	-0.078	0.209
CIP * CNN → PEE	0.173	0.016

4.3.2. Fuzzy-set Qualitative Comparative Analysis (fsQCA)

To identify configuration effects that might not be apparent in variable-oriented SEM approaches, fuzzy-set Qualitative Comparative Analysis (fsQCA) was conducted as a complementary analytical technique. The fsQCA approach examined combinations of conditions (digital narrative self-efficacy, technological accessibility, community narrative networks, and cultural identity preservation) that lead to the outcome of high perceived economic empowerment. Variables were calibrated into fuzzy-set membership scores following Ragin's (2008) guidelines, with thresholds based on the 75th percentile (full membership), 50th percentile (crossover point), and 25th percentile (full non-membership).

Table 11 presents the fsQCA results, including three configurations with high consistency (>0.80) and coverage scores. The analysis revealed multiple pathways to high perceived economic empowerment, reflecting equifinality in how digital storytelling variables combine to influence economic empowerment perceptions. Configuration 1 combines high digital narrative self-efficacy with high technological accessibility, regardless of community narrative networks or cultural identity preservation (consistency = 0.869, coverage = 0.421). Configuration 2 combines high community narrative networks with low cultural identity preservation, regardless of digital narrative self-efficacy or technological accessibility (consistency = 0.836, coverage = 0.384). Configuration 3 combines high digital narrative self-efficacy with high community narrative networks and high cultural identity preservation, regardless of technological accessibility (consistency = 0.851, coverage = 0.362).

Table 11: fsQCA Results - Configurations for High Perceived Economic Empowerment

Configuration	Conditions				Consistency	Raw Coverage	Unique Coverage
	DNSE	TA	CNN	CIP			
1	●	●	○/●	○/●	0.869	0.421	0.138
2	○/●	○/●	●	○	0.836	0.384	0.097
3	●	○/●	●	●	0.851	0.362	0.089

Note: ● = presence of condition; ○ = absence of condition; ○/● = condition not relevant; solution coverage = 0.683; solution consistency = 0.814.

These fsQCA results complement the SEM findings by revealing complex configurational patterns that lead to high perceived economic empowerment. While the SEM analysis identified individual variable effects, fsQCA highlights how these variables combine in different ways to produce the same outcome. The solution coverage of 0.683 indicates that the three configurations collectively explain a substantial proportion of instances of high perceived economic empowerment.

4.3.3. Simple Slope Analysis

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To visualize the moderation effects identified in the structural model assessment, simple slope analyses were conducted at different levels of cultural identity preservation (± 1 standard deviation from the mean). Figure 2 illustrates the moderating effect of cultural identity preservation on the relationship between digital narrative self-efficacy and perceived economic empowerment. The analysis reveals that the positive relationship between digital narrative self-efficacy and perceived economic empowerment is stronger when cultural identity preservation concerns are low (simple slope = 0.435, $t = 7.983$, $p < 0.001$) compared to when they are high (simple slope = 0.207, $t = 3.624$, $p < 0.001$).

Conversely, Figure 3 illustrates the moderating effect of cultural identity preservation on the relationship between community narrative networks and perceived economic empowerment. The analysis reveals that the positive relationship between community narrative networks and perceived economic empowerment is stronger when cultural identity preservation concerns are high (simple slope = 0.420, $t = 7.426$, $p < 0.001$) compared to when they are low (simple slope = 0.166, $t = 2.875$, $p = 0.004$).

These simple slope analyses provide visual confirmation of the moderation hypotheses and offer nuanced insights into how cultural identity preservation concerns influence the relationships between digital storytelling variables and perceived economic empowerment. The contrasting moderation patterns suggest that individual and community-level digital storytelling approaches may be differentially affected by cultural preservation concerns, with community approaches potentially offering better alignment with cultural preservation objectives.

5. DISCUSSION OF RESEARCH RESULTS AND CONCLUSIONS

This research examined the relationships between digital storytelling variables and perceived economic empowerment among ethnic minority women in Northern Vietnam, with particular attention to the mediating role of technological accessibility and the moderating role of cultural identity preservation. The findings reveal complex interrelationships between these constructs, with significant theoretical and practical implications for understanding how digital narratives function as transformative economic capital within marginalised communities. This section discusses these findings in relation to existing literature, theoretical frameworks, and practical applications.

The significant positive relationship between digital narrative self-efficacy and perceived economic empowerment (H1) aligns with previous research on technological self-efficacy's economic impacts (Benight et al., 2008; Wei et al., 2011) while extending these findings specifically to digital storytelling capabilities. This relationship suggests that confidence in creating and disseminating digital narratives functions as a psychological resource enabling perceived economic agency among ethnic minority women. As Bandura (2002) argues, self-efficacy beliefs constitute a fundamental mechanism of human agency, influencing individuals' perceptions of what is economically possible. For ethnic minority women in Vietnam, enhanced digital narrative self-efficacy potentially reconfigures economic possibility horizons by increasing confidence in communicating traditional products' value to external markets.

This finding extends social capital theory by conceptualising digital narrative capabilities as a form of human capital that facilitates access to economic resources. While Bourdieu (1986) identified cultural capital as potentially convertible to economic capital, this research suggests that digital narrative capabilities represent a specific form of cultural capital particularly amenable to economic conversion in contemporary digital environments. This theoretical extension addresses Portes's (1998) critique regarding the need for greater specificity in identifying mechanisms through which social capital produces economic benefits, with digital storytelling representing one such specific mechanism.

The confirmed mediating role of technological accessibility in the relationship between digital narrative self-efficacy and perceived economic empowerment (H2) underscores the continued relevance of material access considerations in digital empowerment processes. This finding supports van Dijk's (2005) conceptualisation of digital divides as multidimensional, with material access representing a necessary though insufficient condition for digital benefits. For ethnic minority women in Northern Vietnam's mountainous regions, technological accessibility constraints potentially limit the economic benefits derivable from digital narrative capabilities, highlighting the importance of addressing infrastructural barriers alongside psychological empowerment initiatives.

This mediation finding contributes to digital empowerment theory by empirically demonstrating the interdependence between psychological and material dimensions of digital empowerment. While Amichai-Hamburger et al. (2008) conceptually distinguished between personal and contextual empowerment dimensions, this research empirically validates their interrelationship, with technological accessibility (contextual) mediating the relationship between self-efficacy (personal) and perceived empowerment outcomes. This empirical validation addresses Livingstone and Helsper's (2007) critique regarding insufficient attention to structural constraints in digital empowerment frameworks.

The significant positive relationship between community narrative networks and perceived economic empowerment (H3) aligns with previous research on community networks' economic benefits (Jack, 2005; Lyons & Snoxell, 2005) while extending these

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findings to digital storytelling contexts. This relationship suggests that collective narrative creation and dissemination facilitates economic empowerment perceptions beyond individual storytelling efforts. For ethnic minority women in Vietnam, community narrative networks potentially enhance economic empowerment through knowledge sharing about market opportunities, collective resource mobilisation, and strengthened community brand identity for traditional products.

This finding extends social capital theory by demonstrating how digital technologies reconfigure traditional community networks without necessarily diminishing their economic functionality. While some digital divide discourses portrayed technology as potentially undermining traditional community structures (Putnam, 2000), this research aligns with Hampton and Wellman's (2003) finding that digital technologies can enhance rather than replace local community networks. For Vietnam's ethnic minority communities, digital storytelling potentially builds upon traditional narrative practices while expanding their economic functionality through technological mediation.

The significant moderating effects of cultural identity preservation on relationships between digital storytelling variables and perceived economic empowerment (H4 and H5) reveal complex interactions between cultural and economic considerations. The negative moderation of the relationship between digital narrative self-efficacy and perceived economic empowerment suggests that individual-level digital storytelling may create tensions with cultural preservation objectives. Conversely, the positive moderation of the relationship between community narrative networks and perceived economic empowerment suggests that community-level digital storytelling may better align with cultural preservation priorities.

These contrasting moderation patterns extend previous research on tensions between economic development and cultural preservation in indigenous contexts (Radcliffe, 2005; Sylvester et al., 2014) by identifying differential effects for individual versus collective approaches. The findings suggest that community-based digital storytelling approaches may offer particular advantages for reconciling economic advancement with cultural preservation objectives, potentially creating synergies rather than inevitable trade-offs. This aligns with Lundby's (2008) finding that collaborative digital storytelling enabled indigenous communities to simultaneously document cultural practices and create marketable cultural products.

The multigroup analysis findings reveal significant heterogeneity in relationship patterns across demographic segments, highlighting the importance of intersectional approaches to digital empowerment research. The stronger relationship between digital narrative self-efficacy and perceived economic empowerment among younger and more educated women suggests potential generational and educational divides in digital storytelling's economic benefits. These findings align with Warschauer's (2004) emphasis on human capital factors in determining digital dividends and underscore the need for targeted interventions addressing specific demographic segments' needs.

The ethnicity-based multigroup finding regarding cultural identity preservation's stronger moderating effect among Hmong and Dao women highlights the importance of cultural specificity in digital empowerment research. This finding aligns with Oreglia and Srinivasan's (2016) critique regarding insufficient attention to sociocultural context in digital divide frameworks and demonstrates the value of examining specific ethnic communities rather than treating ethnic minorities as a homogeneous category. For digital empowerment initiatives targeting Vietnam's ethnic minorities, these findings suggest the need for culturally tailored approaches responsive to specific communities' cultural preservation priorities.

The fsQCA results reveal multiple pathways to high perceived economic empowerment, demonstrating equifinality in how digital storytelling variables combine to influence economic empowerment perceptions. These configurational patterns complement the variable-oriented SEM findings by highlighting complex interactions that may not be captured through linear relationship analysis alone. The identification of multiple sufficient configurations aligns with Ragin's (2008) argument regarding causal complexity in social phenomena and suggests that digital empowerment initiatives should acknowledge multiple potential intervention pathways rather than assuming universal best practices.

Theoretical implications of these findings are multifaceted. First, the research extends social capital theory by conceptualising digital narratives as a specific form of capital convertible to economic resources, addressing Portes's (1998) critique regarding the need for greater specificity in social capital mechanisms. Second, the findings contribute to digital empowerment theory by empirically validating the interdependence between psychological and material dimensions of digital empowerment, addressing Livingstone and Helsper's (2007) critique regarding insufficient attention to structural constraints. Third, the contrasting moderation patterns extend cultural preservation discourse by identifying differential effects for individual versus collective approaches, suggesting potential pathways for reconciling economic advancement with cultural preservation objectives.

Practical implications for digital empowerment initiatives targeting ethnic minority women are substantial. First, interventions should simultaneously address psychological capabilities (digital narrative self-efficacy) and material constraints (technological accessibility) rather than focusing exclusively on either dimension. Second, community-based approaches may offer particular advantages for reconciling economic advancement with cultural preservation objectives, suggesting the value of collective rather

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than purely individual-focused interventions. Third, digital empowerment initiatives should acknowledge demographic heterogeneity and cultural specificity, with tailored approaches for different age groups, educational levels, and ethnic communities.

Policy implications extend to multiple governance levels. At the national level, findings highlight the continued importance of infrastructure development in mountainous regions where technological accessibility remains constrained. At the provincial level, results suggest the value of community-based digital storytelling initiatives that build upon existing narrative traditions while expanding their economic functionality. At the community level, findings indicate the importance of collective governance regarding cultural representation in digital environments, particularly for communities with strong cultural preservation priorities. Limitations of this research include its cross-sectional design, which constrains causal inference despite SEM's capacity for testing theoretically-derived causal hypotheses. Future research would benefit from longitudinal designs tracking how digital storytelling engagement translates into economic outcomes over time. Additionally, while this research focused specifically on perceived economic empowerment, future studies might examine relationships between subjective empowerment perceptions and objective economic indicators such as income generation or market participation. Furthermore, qualitative complementary approaches would enhance understanding of the specific narrative content and techniques that prove most effective for economic purposes.

In conclusion, this research establishes digital storytelling as a multidimensional construct with significant implications for perceived economic empowerment among ethnic minority women in Northern Vietnam. The findings demonstrate that digital narratives function as transformative economic capital through multiple mechanisms: enhancing individual economic agency through increased narrative self-efficacy, facilitating resource access through expanded community narrative networks, and potentially reconciling economic advancement with cultural preservation through community-based approaches. These insights contribute to theoretical advancement while generating practical guidance for digital empowerment initiatives targeting marginalised populations in developing economies.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to Dr. Hoang Vu Hiep for his invaluable guidance and inspiration throughout this research. His expertise, insights, and unwavering support have been instrumental in shaping the direction and quality of this study. I am deeply appreciative of his generosity in sharing his time, knowledge, and network, which have greatly contributed to the success of this research. His mentorship and commitment to academic excellence have not only enriched the quality of this work but have also had a profound impact on my personal and professional growth.

REFERENCES

- 1) Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G., & Vaz, A. (2013). The women's empowerment in agriculture index. *World Development*, 52, 71-91.
- 2) Amichai-Hamburger, Y., McKenna, K. Y., & Tal, S. A. (2008). E-empowerment: Empowerment by the Internet. *Computers in Human Behavior*, 24(5), 1776-1789.
- 3) Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- 4) Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- 5) Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology*, 51(2), 269-290.
- 6) Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (Vol. 5, pp. 307-337). Greenwich, CT: Information Age Publishing.
- 7) Baulch, B., Chuyen, T. T. K., Haughton, D., & Haughton, J. (2007). Ethnic minority development in Vietnam. *The Journal of Development Studies*, 43(7), 1151-1176.
- 8) Benight, C. C., Ruzek, J. I., & Waldrep, E. (2008). Internet interventions for traumatic stress: A review and theoretically based example. *Journal of Traumatic Stress*, 21(6), 513-520.
- 9) Bonnin, C., & Turner, S. (2014). Remaking markets in the mountains: Integration, trader agency and resistance in upland northern Vietnam. *Journal of Peasant Studies*, 41(3), 321-342.
- 10) Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.
- 11) Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
- 12) Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Digital Narratives as Transformative Economic Capital: A Structural Equation Modelling Analysis of Digital Storytelling's Impact on Perceived Economic Empowerment among Ethnic Minority Women in Northern Vietnam

- 13) Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). New York: Routledge.
- 14) Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford: Oxford University Press.
- 15) Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Milton, Queensland: John Wiley & Sons.
- 16) Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates.
- 17) Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- 18) Christens, B. D. (2012). Toward relational empowerment. *American Journal of Community Psychology*, 50(1-2), 114-128.
- 19) Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.
- 20) Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- 21) Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- 22) Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, 19(2), 189-211.
- 23) Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241-1299.
- 24) DeVellis, R. F. (2016). *Scale development: Theory and applications* (4th ed.). Thousand Oaks, CA: Sage Publications.
- 25) Diener, E., & Biswas-Diener, R. (2005). Psychological empowerment and subjective well-being. In D. Narayan (Ed.), *Measuring empowerment: Cross-disciplinary perspectives* (pp. 125-140). Washington, DC: World Bank.
- 26) DiMaggio, P., Hargittai, E., Celeste, C., & Shafer, S. (2004). Digital inequality: From unequal access to differentiated use. In K. Neckerman (Ed.), *Social inequality* (pp. 355-400). New York: Russell Sage Foundation.
- 27) Donner, J. (2006). The use of mobile phones by microentrepreneurs in Kigali, Rwanda: Changes to social and business networks. *Information Technologies & International Development*, 3(2), 3-19.
- 28) Donner, J., & Escobari, M. X. (2010). A review of evidence on mobile use by micro and small enterprises in developing countries. *Journal of International Development*, 22(5), 641-658.
- 29) Duflo, E. (2012). Women empowerment and economic development. *Journal of Economic Literature*, 50(4), 1051-1079.
- 30) Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- 31) Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Sage Publications.
- 32) Fine, B. (2001). *Social capital versus social theory: Political economy and social science at the turn of the millennium*. London: Routledge.
- 33) Fong, M. W. L. (2009). Digital divide: The case of developing countries. *Issues in Informing Science and Information Technology*, 6, 471-478.
- 34) Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- 35) Gigler, B. S. (2004). Including the excluded: Can ICTs empower poor communities? Towards an alternative evaluation framework based on the capability approach. In 4th International Conference on the Capability Approach, Pavia, Italy.
- 36) Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.
- 37) Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage Publications.
- 38) Gubrium, A. (2009). Digital storytelling: An emergent method for health promotion research and practice. *Health Promotion Practice*, 10(2), 186-191.
- 39) Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- 40) Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.

Digital Narratives as Transformative Economic Capital: A Structural Equation Modelling Analysis of Digital Storytelling's Impact on Perceived Economic Empowerment among Ethnic Minority Women in Northern Vietnam

- 41) Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106-121.
- 42) Hammack, P. L. (2008). Narrative and the cultural psychology of identity. *Personality and Social Psychology Review*, 12(3), 222-247.
- 43) Hampton, K., & Wellman, B. (2003). Neighboring in Netville: How the Internet supports community and social capital in a wired suburb. *City & Community*, 2(4), 277-311.
- 44) Heeks, R. (2010). Do information and communication technologies (ICTs) contribute to development? *Journal of International Development*, 22(5), 625-640.
- 45) Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- 46) Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277-319.
- 47) Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.
- 48) Hull, G. A., & Katz, M. L. (2006). Crafting an agentive self: Case studies of digital storytelling. *Research in the Teaching of English*, 41(1), 43-81.
- 49) Ibarra, H., & Barbulescu, R. (2010). Identity as narrative: Prevalence, effectiveness, and consequences of narrative identity work in macro work role transitions. *Academy of Management Review*, 35(1), 135-154.
- 50) International Telecommunication Union. (2017). *Measuring the information society report 2017*. Geneva: ITU.
- 51) Jack, S. L. (2005). The role, use and activation of strong and weak network ties: A qualitative analysis. *Journal of Management Studies*, 42(6), 1233-1259.
- 52) Jensen, R. (2007). The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector. *The Quarterly Journal of Economics*, 122(3), 879-924.
- 53) Jones, N., & Tran, T. V. A. (2012). *The politics of gender and social protection in Viet Nam: Opportunities and challenges for a transformative approach*. London: Overseas Development Institute.
- 54) Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435-464.
- 55) Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender & Development*, 13(1), 13-24.
- 56) Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251.
- 57) Kleine, D. (2010). ICT4WHAT?—Using the choice framework to operationalise the capability approach to development. *Journal of International Development*, 22(5), 674-692.
- 58) Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford Press.
- 59) Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- 60) Krishna, A. (2007). How does social capital grow? A seven-year study of villages in India. *The Journal of Politics*, 69(4), 941-956.
- 61) Lambert, J. (2013). *Digital storytelling: Capturing lives, creating community* (4th ed.). New York: Routledge.
- 62) Lee, J. W., Jones, P. S., Mineyama, Y., & Zhang, X. E. (2002). Cultural differences in responses to a Likert scale. *Research in Nursing & Health*, 25(4), 295-306.
- 63) Liamputtong, P. (2010). *Performing qualitative cross-cultural research*. Cambridge: Cambridge University Press.
- 64) Lin, N. (1999). Building a network theory of social capital. *Connections*, 22(1), 28-51.
- 65) Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.
- 66) Livingstone, S., & Helsper, E. (2007). Gradations in digital inclusion: Children, young people and the digital divide. *New Media & Society*, 9(4), 671-696.
- 67) Lundby, K. (Ed.). (2008). *Digital storytelling, mediatized stories: Self-representations in new media*. New York: Peter Lang.
- 68) Lyons, M., & Snoxell, S. (2005). Sustainable urban livelihoods and marketplace social capital: Crisis and strategy in petty trade. *Urban Studies*, 42(8), 1301-1320.

Digital Narratives as Transformative Economic Capital: A Structural Equation Modelling Analysis of Digital Storytelling's Impact on Perceived Economic Empowerment among Ethnic Minority Women in Northern Vietnam

- 69) Mair, J., & Martí, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44.
- 70) Mäkinen, M. (2006). Digital empowerment as a process for enhancing citizens' participation. *E-Learning and Digital Media*, 3(3), 381-395.
- 71) Malhotra, A., & Schuler, S. R. (2005). Women's empowerment as a variable in international development. In D. Narayan (Ed.), *Measuring empowerment: Cross-disciplinary perspectives* (pp. 71-88). Washington, DC: World Bank.
- 72) McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, 5(2), 100-122.
- 73) Mehra, B., Merkel, C., & Bishop, A. P. (2004). The internet for empowerment of minority and marginalized users. *New Media & Society*, 6(6), 781-802.
- 74) Menard, S. (2002). *Longitudinal research* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- 75) Michaud, J., & Turner, S. (2017). Reaching new heights: State legibility in Sa Pa, a Vietnam hill station. *Annals of Tourism Research*, 66, 37-48.
- 76) Moser, C. O. (2005). Assets, livelihoods and social policy. In C. O. Moser (Ed.), *Assets, livelihoods, and social policy* (pp. 1-17). Washington, DC: World Bank.
- 77) Nguyen, T. H., & Nguyen, H. T. (2014). Gender gap in access to ICT in rural areas of Vietnam. *Journal of Economics and Development*, 16(3), 44-57.
- 78) Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide*. Cambridge: Cambridge University Press.
- 79) NTIA (National Telecommunications and Information Administration). (1999). *Falling through the net: Defining the digital divide*. Washington, DC: U.S. Department of Commerce.
- 80) Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- 81) Oreglia, E., & Srinivasan, J. (2016). ICT, intermediaries, and the transformation of gendered power structures. *MIS Quarterly*, 40(2), 501-510.
- 82) Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7(2), 156-176.
- 83) Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- 84) Polletta, F., Chen, P. C. B., Gardner, B. G., & Motes, A. (2011). The sociology of storytelling. *Annual Review of Sociology*, 37, 109-130.
- 85) Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24(1), 1-24.
- 86) Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- 87) Radcliffe, S. A. (2005). Development and geography: Towards a postcolonial development geography? *Progress in Human Geography*, 29(3), 291-298.
- 88) Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.
- 89) Rappaport, J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121-148.
- 90) Ricoeur, P. (1991). Narrative identity. *Philosophy Today*, 35(1), 73-81.
- 91) Ringle, C. M., & Sarstedt, M. (2016). Gain more insight from your PLS-SEM results: The importance-performance map analysis. *Industrial Management & Data Systems*, 116(9), 1865-1886.
- 92) Salemin, O. (2003). *The ethnography of Vietnam's central highlanders: A historical contextualization, 1850-1990*. London: RoutledgeCurzon.
- 93) Sarstedt, M., Henseler, J., & Ringle, C. M. (2011). Multigroup analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. *Advances in International Marketing*, 22, 195-218.
- 94) Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18-39.
- 95) Sowerwine, J. C. (2004). Territorialisation and the politics of highland landscapes in Vietnam: Negotiating property relations in policy, meaning and practice. *Conservation and Society*, 2(1), 97-136.
- 96) Srinivasan, R. (2006). Indigenous, ethnic and cultural articulations of new media. *International Journal of Cultural Studies*, 9(4), 497-518.
- 97) Sylvester, O., Segura, A. G., & Davidson-Hunt, I. J. (2014). The protection of forest biodiversity can conflict with food access for indigenous people. *Conservation and Society*, 12(3), 288-299.

Digital Narratives as Transformative Economic Capital: A Structural Equation Modelling Analysis of Digital Storytelling's Impact on Perceived Economic Empowerment among Ethnic Minority Women in Northern Vietnam

- 98) Tacchi, J. (2009). Finding a voice: Digital storytelling as participatory development in Southeast Asia. In J. Hartley & K. McWilliam (Eds.), *Story circle: Digital storytelling around the world* (pp. 167-175). Oxford: Wiley-Blackwell.
- 99) Thao, V. T., & Agergaard, J. (2012). 'DOING FAMILY': Female migrants and family transition in rural Vietnam. *Asian Population Studies*, 8(1), 103-119.
- 100) Tran, B. N., & Vu, L. D. (2013). ICT development in rural areas of Vietnam: A qualitative study of the use of computer among women in the rural Mekong delta. *Asian Journal of Information Management*, 7(2), 34-44.
- 101) Tran, T. Q., Nguyen, T. Q., Van Vu, H., & Doan, T. T. (2011). ICT and rural development: Findings from a survey of rural women in northern Vietnam. In *Workshop on "Information and Communication Technologies for Development: Exploring an Impact Assessment Approach,"* Montreal, Canada.
- 102) Turner, S. (2012). Making a living the Hmong way: An actor-oriented livelihoods approach to everyday politics and resistance in upland Vietnam. *Annals of the Association of American Geographers*, 102(2), 403-422.
- 103) Turner, S., & Nguyen, P. A. (2005). Young entrepreneurs, social capital and Doi Moi in Hanoi, Vietnam. *Urban Studies*, 42(10), 1693-1710.
- 104) van Dijk, J. A. (2005). *The deepening divide: Inequality in the information society*. Thousand Oaks, CA: Sage Publications.
- 105) Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- 106) Warschauer, M. (2004). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.
- 107) Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use, and outcomes. *Review of Research in Education*, 34(1), 179-225.
- 108) Wei, K. K., Teo, H. H., Chan, H. C., & Tan, B. C. (2011). Conceptualizing and testing a social cognitive model of the digital divide. *Information Systems Research*, 22(1), 170-187.
- 109) Wellman, B., Haase, A. Q., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. *American Behavioral Scientist*, 45(3), 436-455.
- 110) Wells-Dang, A. (2012). *Civil society networks in China and Vietnam: Informal pathbreakers in health and the environment*. Basingstoke: Palgrave Macmillan.
- 111) Williams, D. (2006). On and off the 'net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11(2), 593-628.
- 112) Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(1), 11-17.
- 113) Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15(2), 225-249.
- 114) World Bank. (2009). *Country social analysis: Ethnicity and development in Vietnam*. Washington, DC: World Bank.
- 115) World Bank. (2012). *Well begun, not yet done: Vietnam's remarkable progress on poverty reduction and the emerging challenges*. Hanoi: World Bank.
- 116) Wyatt, S., Henwood, F., Miller, N., & Senker, P. (2000). *Technology and in/equality: Questioning the information society*. London: Routledge.
- 117) Zhao, X., Lynch Jr., J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197-206.
- 118) Zheng, Y., & Walsham, G. (2008). Inequality of what? Social exclusion in the e-society as capability deprivation. *Information Technology & People*, 21(3), 222-243.
- 119) Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology*, 23(5), 581-599.



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