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## ORIGINAL ARTICLE OPEN ACCESS

Entrepreneurship Beyond Ideologies: Decolonisation of Entrepreneurship for Sustainable Digital Transformation in the Emerging Economies - A Gendered Perspective

# How Do Unexpected Networks Help Female Entrepreneurs in the Global South Survive in Adverse Contexts? A Case Study of Bangladesh

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## ABSTRACT

This study investigates the role of various unexpected networks in supporting the survival of female-owned SMEs in the Global South. The research focuses upon Bangladesh, which is a context marked by institutional adversity and postcolonial legacies. Grounded in Social Network Theory and informed by a decolonial perspective, the research examines personal, professional, and virtual networks to identify how these relational resources are able to empower women entrepreneurs, in an area where formal systems tend not to be inclusive. Using a sample of 156 female entrepreneurs, hierarchical regression analysis reveals that personal and virtual networks significantly enhance business survival, while professional networks do not show a significant effect. The interaction of personal and virtual networks with adverse contexts further strengthens their impact, highlighting their role as adaptive infrastructures in constrained environments. In contrast, professional networks remain limited in their influence. These findings challenge Western-centric assumptions about entrepreneurial networking and underscore the importance of inclusive context-sensitive strategies for supporting female entrepreneurship in the Global South.

## 1 | Introduction

Despite the critical role that female entrepreneurs play in economic growth and societal development, they continue to face persistent and multi-layered challenges. This is particularly the case in the Global South,<sup>1</sup> where institutional support is often weak and societal barriers remain deeply entrenched (Darnihamedani and Terjesen 2022; Franzke et al. 2022; Ogundana et al. 2021; Sobhan and Hassan 2024). Bangladesh<sup>2</sup> is a country which offers an illustrative case of structural, socio-cultural, and institutional adversity in the Global South, and exemplifies severe resource scarcity, deep-rooted patriarchy, and the lingering

impacts of colonial governance structures that continue to concentrate infrastructure, finance, and policy support in male-dominated urban centers (S. Ahmed and Eklund 2024; Q. A. Rahman 2024; Sobhan and Hassan 2024). Numerous interventions such as microfinance, vocational training, and entrepreneurship programs were introduced in recent decades to promote female entrepreneurship in Bangladesh. However, these initiatives often focus narrowly on business start-up support while neglecting the deeper structural barriers that women face, including socially and culturally expected gender norms, limited mobility, and exclusion from formal networks (Dhaka Tribune 2023; Q. A. Rahman 2024). As a result, such interventions

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fail to address the conditions necessary for long-term survival and sustainability of women-owned businesses in adverse institutional contexts (Anjum et al. 2024; Desai et al. 2022). This raises a pressing question: what enables women to sustain their businesses in low-resource, exclusionary, and volatile institutional environments?

One increasingly recognized factor is the role of networks in enabling access to knowledge, legitimacy, capital, and emotional support (Hafiz et al. 2023; Jack 2010). Yet, mainstream entrepreneurship research often draws on assumptions from Global North contexts, where networks are treated as universally accessible, functionally equivalent, and professionally structured (Halilem et al. 2022; Klofsten et al. 2020). However, in settings such as Bangladesh, such assumptions on gender inclusion cannot be relied upon (S. Ahmed and Eklund 2024; Anjum et al. 2024). Formal entrepreneurial ecosystems, such as trade associations, incubators, and chambers of commerce, are typically urban-centric, male-dominated, and often inaccessible to females, especially women those from rural or lower-income backgrounds (Roomi and Parrott 2008; Lall et al. 2023). These exclusions are not merely logistical but deeply structural and rooted in the country's colonial past (Calás et al. 2007; Mujeri and Mujeri 2021). Whereas earlier Muslim empires such as the Mughals governed through decentralized systems that accommodated local customs, British colonialism introduced a centralized, extractive, and racially stratified administrative regime that restructured economic and institutional life around urban, male elites (Calás et al. 2007; M. M. Rahman 2017). These exclusionary logics prioritized elite access to education, commerce, and public life, and were institutionalized and inherited by postcolonial governance systems (Lange 2004; Mujeri and Mujeri 2021). Today's entrepreneurship infrastructure reflects that legacy: opportunity is concentrated in cities, resources are channeled through closed elite circles, and female entrepreneurs are systematically pushed to the margins (Calás et al. 2007; Lata and Khan 2021). In response, many women turn to overlooked forms of support, such as kinship-based relationships, informal community ties, and digital platforms. This helps them navigate adversity and exclusion (Hudson 2024). We refer to these as “unexpected networks”: adaptive, trust-based, or digitally influenced relationships that substitute for formal institutional backing and become essential for sustaining businesses under adverse conditions (Delvenne and Parotte 2019; Ghezzi 2020).

One critical area of the above-mentioned support is the network of relationships and resources available to these entrepreneurs (Ojong et al. 2021). Current research tends to focus on the general benefits of networks, often neglecting the distinct and unexpected impacts various networks have on the survival and success of female entrepreneurs in the Global South (Arshed et al. 2022; Gloor et al. 2020). Furthermore, these networks are usually shaped by transactional norms that reinforce patriarchal structures—particularly in the realm of technology entrepreneurship—and thereby limiting opportunities available to women (Wheadon and Duval-Couetil 2021). Exploring the roles of personal, professional, and virtual networks is particularly worthwhile because each provides unique resources and support mechanisms crucial for overcoming diverse challenges (Darnihamedani and Terjesen 2022; Jafari-Sadeghi et al. 2021). Personal networks—

typically family and friends—offer essential emotional and financial support during the early stages of a business and in times of crisis, helping to build resilience and trust (Mitra and Basit 2021; Ojong et al. 2021). Professional networks, such as industry associations and business clubs, provide opportunities for mentorship, partnerships, and market access, which are vital for business growth and sustainability (Darnihamedani and Terjesen 2022; Lall et al. 2023). However, these professional networks often perpetuate gender disparities by privileging male-dominated social capital, thereby limiting women's access to critical resources and opportunities (Bridges et al. 2022; McDonald 2011). Virtual networks are facilitated by digital platforms and social media, and provide cost-effective marketing solutions and broader market reach. This is all essential for business survival and success in resource-constrained environments (Cavallo et al. 2019; Jafari-Sadeghi et al. 2021).<sup>3</sup>

In theorizing this dynamic, we draw on feminist and post-colonial critiques that challenge the universalism embedded in dominant network theories (X. Liu et al. 2017; Venkatesh et al. 2017). These perspectives prompt a rethinking of assumptions that networks are neutral, equally accessible, or function similarly across settings. In Bangladesh, access to networks is deeply shaped by structural inequality, colonial-era exclusions, and gendered institutional norms (S. Ahmed and Eklund 2024; Q. A. Rahman 2024). Entrepreneurial ecosystems often reproduce elite power through male-dominated, urban, formalized channels (Guéneau et al. 2023). These exclusions render many of the assumptions in mainstream Social Network Theory (SNT) problematic when applied to structurally marginalized or gendered contexts (Santos et al. 2023). Feminist scholars have long highlighted that entrepreneurial ecosystems are not neutral terrains, but rather they are gendered and racialized fields of power and access (Calás et al. 2007; Imas and Garcia-Lorenzo 2023; Pascual-Fuster et al. 2025).<sup>4</sup> Thus, although our study draws from SNT, it does so through a gendered and decolonial lens—acknowledging that the structure, accessibility, and function of networks are historically conditioned and institutionally bound (McAdam, Harrison, and Leitch 2019). This framing leads us to interrogate not just whether or not networks matter, but which networks matter—for whom—and under what conditions. In particular, we extend SNT by examining how personal, professional, and virtual networks operate under adversity, which is a reality often overlooked in stable Global North settings. What remains a gap in knowledge in the current literature is a situated understanding of how women entrepreneurs in structurally adverse environments use informal and unexpected ties not merely to grow but to survive (McAdam, Harrison, and Leitch 2019; Nyame-Asiamah et al. 2020; Webb et al. 2020).

Against this backdrop, the present study investigates how different types of networks—personal, professional, and virtual—function as mechanisms of business continuity for female entrepreneurs operating in structurally adverse environments. We focus specifically on Bangladesh, a context marked by institutional asymmetries, gendered exclusion, and socio-political volatility. Rather than assuming that networks are uniformly beneficial, we examine how their functionality is shaped by structural adversity and exclusionary ecosystem dynamics. In doing so, we shift attention from static typologies to a

more relational and context-sensitive view of network mobilization. This leads us to two central research questions:

1. To what extent do different types of networks (personal, professional, or virtual) contribute to the business survival of female entrepreneurs in Bangladesh?
2. How does the relationship between these networks and business survival change under adverse contextual conditions?

These questions are motivated by persistent gaps in entrepreneurship scholarship that often take for granted the functionality and accessibility of networks (Jafari-Sadeghi et al. 2021; Ver-shinina et al. 2020). Whereas much of the literature assumes that business networks are uniformly beneficial, our study problematizes this assumption in the context of institutional fragility, gender exclusion, and infrastructural inequality (McAdam, Crowley, and Harrison 2019; Santoro et al. 2020; Shams et al. 2020). In environments such as Bangladesh where formal systems are often inaccessible or unreliable, the practical value of networks depends less on their formal classification (e.g., professional vs. personal) and more on their embeddedness in lived experience, trust-based interactions, and everyday socio-economic realities (Bai et al. 2021; Webb et al. 2020). Personal networks, for example, may act as informal welfare systems by offering emotional support, unpaid labor, or emergency capital (Wang et al. 2020). Virtual networks may enable market entry, visibility, and real-time problem-solving, particularly when traditional gatekeeping mechanisms exclude women from formal ecosystems (McAdam, Crowley, and Harrison 2019). In contrast, professional networks may appear prestigious but remain functionally irrelevant if access is influenced by elite ties or institutional bias (Calvo et al. 2022). Understanding how these network types function differentially under adverse conditions is therefore critical to theorizing business survival in the Global South (Bai et al. 2021; Ferrary 2019).

Although prior studies have explored the relevance of networks for entrepreneurial performance, few have examined their differentiated effects across network types in volatile Global South contexts (Faroque et al. 2022; Yu et al. 2023; Zhang et al. 2024). What sets this study apart is not merely its geographic focus on Bangladesh but rather its conceptual approach of interrogating “network functionality” under adversity—a condition rarely centralized in mainstream entrepreneurship research (Audretsch et al. 2022; Yami et al. 2021). This present contribution, however, focuses on revealing that network efficacy is not uniform but rather conditioned by both structure and context—particularly within environments characterized by gendered exclusion, institutional decay, and infrastructural fragmentation. By doing so, the study advances a contextually embedded understanding of social capital that acknowledges how history, gender, and informality intersect to shape entrepreneurial trajectories. Rather than importing existing theories into new contexts, we propose a reconfiguration of network theorizing that begins with lived constraints and adaptive practices in the Global South.

Following this introduction, the paper reviews the relevant literature on networks and female entrepreneurship, outlining

the theoretical framework and hypotheses. The methodology section details the survey design, sample selection, and data analysis techniques. The results section presents the findings from the quantitative analysis, highlighting the significant impacts of different network types on business survival. Next, the discussion section interprets these findings, considering their implications for theory and practice. Finally, the conclusion summarizes the key contributions of the study and suggests directions for future research.

## 2 | Literature Review

### 2.1 | Theoretical Framework: Social Network Theory

Social Network Theory (SNT) emphasizes the role of social relationships in shaping entrepreneurial opportunities, access to resources, and business outcomes (Burt 2000; Borgatti and Halgin 2011). At the core of SNT lies the distinction between bonding, bridging, and linking social capital (Harima et al. 2024). This distinction corresponds respectively to strong internal ties such as family and close friends, horizontal connections across social groups through professional associations, and vertical relationships with institutions or power structures—including those facilitated by digital platforms (Delvenne and Parotte 2019; Ghezzi 2020). These three dimensions align with the key network types examined in this study: personal, professional, and virtual networks (Darnihamedani and Terjesen 2022; Jafari-Sadeghi et al. 2021; Mitra and Basit 2021). Although widely applied, conventional SNT has been criticized for assuming that network access and benefits are universally distributed and structurally neutral (Bai et al. 2021; Webb et al. 2020). Feminist and postcolonial scholars have highlighted how these assumptions reflect Eurocentric biases that privilege formal, male-dominated, and institutionally embedded ties often inaccessible to women in the Global South (Calás et al. 2007; Imas and Garcia-Lorenzo 2023; Pascual-Fuster et al. 2025). In Bangladesh for instance, access to professional networks is often shaped by spatial immobility, patriarchal norms, and the requirement of elite credentials—barriers that systematically exclude many women entrepreneurs from key institutional platforms and market-facing opportunities (Böhm et al. 2022; Lall et al. 2023; Lata et al. 2021; Papaflippou et al. 2022). As a result, traditional formulations of social capital and SNT often fail to capture the lived realities and coping strategies of female entrepreneurs navigating deeply unequal systems (Bai et al. 2021; Webb et al. 2020).

Emerging critiques call for a more situated application of Social Network Theory (SNT)—one that accounts for structural adversity, institutional exclusion, and the gendered constraints typical of postcolonial contexts (Böhm et al. 2022; Lall et al. 2023). Responding to these calls, while this study uses Social Network Theory (SNT) as its core theoretical framework, it draws on both postcolonial and decolonial lenses to adapt and contextualize SNT for the structurally unequal, postcolonial context of Bangladesh. Postcolonial scholarship enables us to trace how colonial legacies have embedded gendered exclusions within formal institutions and access to economic networks,



particularly through elite-controlled and male-dominated governance structures (P. Chatterjee 2020; Spivak 2004). In parallel decolonial thought helps interrogate the epistemic dominance of Global North models and foregrounds the value of local, informal, and community-based strategies that women use to navigate exclusion (Godfrey and Brewis 2018; Lata et al. 2021). Although these two perspectives arise from different scholarly traditions, they converge around shared concerns with colonial legacies, structural inequality, and institutional exclusion (P. Chatterjee 2020; Godfrey and Brewis 2018). We therefore use such perspectives in an integrated manner—as complementary lenses that support a more contextually grounded understanding of network access and functionality. Through this reframing, we advance the concept of “unexpected networks”: adaptive, trust-based, and often informal or digitally mediated ties that emerge in response to institutional voids and formal exclusions (Manello et al. 2020; Ozkazanc-Pan and Muntean 2018). Within this expanded framework, personal networks (bonding ties) provide critical emotional, financial, and moral support, particularly during early-stage entrepreneurship or periods of crisis (Lata et al. 2021; Papaflippou et al. 2022). Professional networks (bridging ties) are conventionally seen as being key to legitimacy and business growth. However, they are often inaccessible, or ineffective in exclusionary and male-dominated ecosystems (S. Ahmed 2025; S. Rahman and Masud-All-Kamal 2024). In contrast, virtual networks (linking ties) offer women alternative routes to market access, visibility, and peer learning through digital platforms that bypass traditional institutional gatekeepers (Cavallo et al. 2019; Jafari-Sadeghi et al. 2021). This reconceptualization of SNT shifts the analytical lens from a generalized assessment of networks, to a context-specific view of how network types function differently under conditions of adversity. In doing so, it highlights the importance of critically examining which networks matter, for whom, and under what institutional and historical conditions—particularly within contexts characterized by gendered asymmetries and postcolonial constraints.

## 2.2 | Networks and Female Entrepreneurship

The entrepreneurial literature widely recognizes the centrality of networks in influencing access to resources, legitimacy, and long-term business outcomes (Gloor et al. 2020; Smith and Lohrke 2008). However, much of this work—particularly within Western frameworks—privileges formal professional networks and assumes their universal functionality across contexts (Jack 2010; Lall et al. 2023). In its conventional application, Social Network Theory (SNT) reinforces this bias by positioning bridging capital—typically accessed through institutionalized, professional relationships—as the most instrumental in scaling business ventures (Burt 2000; Filipovic and Arslanagic-Kalajdzic 2023; Soltis et al. 2018). Yet such theorizing often neglects the gendered and geographic asymmetries that shape access to these networks, especially in Global South settings such as Bangladesh (Alda-Vidal et al. 2023; Howson et al. 2023). These asymmetries are not merely contemporary but rather they are rooted in a longer trajectory of institutional exclusion (Calás et al. 2007; Mujeri and Mujeri 2021). Under British colonial rule, commercial and administrative infrastructures were

concentrated in urban centers and tailored to the needs of elite male actors—while systematically excluding women and rural communities from access to property, education, and economic participation (Lange 2004; M. M. Rahman 2017). Following independence, many of these institutional structures were retained and adapted into postcolonial governance and market systems—reproducing elite access to trade bodies, credit systems, and entrepreneurial networks while maintaining structural barriers for marginalized groups (Calás et al. 2007; Lata and Khan 2021).

Professional networks in Bangladesh, such as chambers of commerce, trade bodies, and incubators, are disproportionately male-dominated, urban-centric, and structured around elite social capital (Lata and Khan 2021; McDonald 2011; Roomi and Parrott 2008). Female entrepreneurs from rural areas or non-elite backgrounds frequently encounter spatial immobility, patriarchal scrutiny, and institutional gatekeeping that inhibit their participation in these spaces (Alshareef 2022; Dwivedi et al. 2018). Even when formally included, women often lack decision-making power or access to the inner circles that hold real influence (Guéneau et al. 2023; Jamali 2009). These exclusions underscore the Eurocentric and androcentric assumptions embedded in SNT, and highlight the need to reassess which networks matter, and for whom, under structurally adverse conditions (D’Angelo 2021; Vindhya 2024).

In such contexts, personal and virtual networks assume heightened significance. Personal networks comprising family, neighbors, and extended kin form a foundational support structure that offers emotional assurance, small-scale financial backing, unpaid labor, and symbolic legitimacy (Mitra and Basit 2021; Ojong et al. 2021). These bonding ties are not merely fallback options but primary lifelines in contexts where institutional scaffolding is absent or inaccessible (Chaudhuri et al. 2020; Chit et al. 2023). They are embedded in trust-based reciprocal norms that sustain businesses during crises and enable gradual resilient growth (Afrin et al. 2023; Karim et al. 2023). However, these ties may also constrain innovation or expansion when social obligations become limiting (Powell and Eddleston 2013; Rindova et al. 2009). Virtual networks facilitated by digital technologies and social platforms provide alternative channels for women to access markets, exchange knowledge, and build professional identities in socially acceptable and spatially flexible ways (Cavallo et al. 2019; Jafari-Sadeghi et al. 2021). Platforms such as Facebook, WhatsApp, and informal e-commerce hubs enable women to bypass restrictive gatekeepers and engage in entrepreneurial activity without needing a physical presence in male-dominated spaces (Busch and Barkema 2021; R. P. Khan et al. 2025; Zaheer et al. 2022). However, it is important to note that digital divides shaped by income, region, and gender can reinforce inequality; rural women often face weak infrastructure, low digital literacy, and restricted device ownership (Hechavarría and Brieger 2022; Heeks 2022). Despite the differentiated value of each network type, the literature has hitherto largely treated the women in isolation, and under-theorized how structural adversity influences their functionality (Jha and Basu 2025; Karman et al. 2024). By interrogating how personal, professional, and virtual networks are accessed and mobilized under adverse conditions, this study contributes to scholarship a context-sensitive extension of SNT that centers on gendered exclusion, historical marginalization, and adaptive resilience strategies.

## 2.3 | Networks and SMEs in Bangladesh

SMEs play a vital role in the economic landscape of the Global South, such as Bangladesh, significantly contributing to GDP and employment (Dhaka Tribune 2022; Mujeri and Mujeri 2021). In Bangladesh, SMEs account for about 25% of the GDP and provide employment for approximately 80% of the industrial workforce, underscoring their importance in the country's economy (Dhaka Tribune 2022). Of these, around 7.2% are officially registered as women-owned SMEs, though this figure underrepresents the scale of women's entrepreneurship due to the large number of informal, home-based, or unregistered businesses run by women—particularly in rural areas (Moral et al. 2024; The Business Standard 2022). Most women entrepreneurs operate microenterprises, such as tailoring services, food processing, or the manufacture of handicrafts, often from within their homes and supported by family labor (Afrin et al. 2023; Huq and Arenius 2024). This reality underscores the importance of understanding how different types of networks—especially informal or digitally enabled ones—support survival and growth in contexts marked by institutional exclusion and socio-cultural constraints (Baten et al. 2024; S. Rahman and Masud-All-Kamal 2024).

Female entrepreneurs in the Global South, including Bangladesh, face unique challenges rooted in both historical and socio-cultural contexts that differ from those in Western economies (Chabanet 2023; Lata et al. 2021). These challenges often stem from colonial legacies that continue to influence social structures, economic opportunities, and gender roles (Meliou 2020; Ozkazanc-Pan and Muntean 2018). Although British colonialism is often portrayed as a modernizing force that introduced legal, educational, and bureaucratic reforms in its colonies, these institutional changes were far from neutral or universally progressive (Agarwal 1994; P. Chatterjee 2020; Lange 2004). Rather than dismantling patriarchal structures, the British administration actively reinforced them by formalizing male dominance in public life. They did this through the instigation of property laws that favored men,<sup>5</sup> the exclusion of women from civil service and formal education, and the creation of legal frameworks that confined women's economic roles to the domestic and informal spheres (S. Ahmed 2025; M. M. Rahman 2017; Lata and Khan 2021). British colonial policies privileged a centralized male elite in urban trade, law, and landholding, embedding patriarchal norms within institutional design (Home 2017; Lange 2004). Post-independence state structures largely inherited these exclusionary patterns, visible today in trade associations such as the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), where leadership remains male-dominated despite formal commitments to inclusivity (Chowdhury 2025; Guéneau et al. 2023; Meliou 2020). Access to such bodies often requires political affiliation, elite schooling, or male sponsorship, which are barriers that systematically exclude women, particularly those outside Dhaka and Chattogram (Qayum 2021; S. Rahman and Masud-All-Kamal 2024). Religious and cultural norms further constrain women's entrepreneurship by limiting mobility, public visibility, and perceptions of legitimacy (Afrin et al. 2023; Saifuddin et al. 2019). Practices such as gender seclusion and notions of family honor restrict women from traveling alone, enrolling male clients, or appearing at trade fairs or business networking events

(Imas and Garcia-Lorenzo 2023; Azam Roomi and Harrison 2010). Even well-intentioned NGO or government training programs often reinforce these norms by assuming that women will operate in isolation or within “women-only” markets, which limits their ability to scale or connect with broader supply chains (Kabeer 2018; Qayum 2021).

Faced with layered constraints, women entrepreneurs often depend on what this study terms “unexpected networks”—adaptive support systems formed by blending personal, professional, and virtual ties to overcome challenges (Manello et al. 2020; Ozkazanc-Pan and Muntean 2018). In the Bangladeshi context, personal networks are particularly crucial for the survival of female-owned SMEs, functioning within a socio-economic landscape shaped by cultural norms and postcolonial legacies (Böhm et al. 2022; Lall et al. 2023). These networks comprise family, friends, spouses, siblings, and even local religious leaders, and provide emotional and financial backing, especially in the early stages of business or during crises (Bullough et al. 2022; Łapniewska 2022; Mitra and Basit 2021). They help female entrepreneurs gain legitimacy, access informal labor or seed capital, and counteract community stigma. Beyond emotional and financial support, such networks play an increasingly functional role in business operations (Bastian et al. 2023; Batjargal et al. 2019). The influence of Bangladeshi cultural norms and societal expectations plays a significant role in shaping these networks, which are not only vital for emotional support but also serve as practical conduits for business-related information and resources (Lata et al. 2021; Papaflippou et al. 2022). These networks enable entrepreneurs to expand their connections to include secondary ties, such as bankers, lawyers, and accountants, thereby enriching their venture networks and bridging the gap between personal and professional spheres (Nguyen et al. 2021; The Business Standard 2022).

Far from being incidental, these ties are embedded in the collectivist fabric of society and act as informal welfare mechanisms in contexts which lack stable financial institutions, legal safeguards, or structured mentorship (Dwivedi et al. 2025; Horak and Suseno 2023). In such environments, trust-based relationships should not be viewed as outdated or inefficient; rather, they represent deliberate and strategic adaptations to structural inequality and are central to women's entrepreneurial survival in Bangladesh (Evertsen 2023; Qayum 2021). This system of support reflects the communal ethos prevalent in many Global South societies, where trust and reciprocity within tightly connected communities serve as a foundation for social and economic resilience (Doshi 2022; Łapniewska 2022). Unlike in Western contexts which often prioritize professional affiliations, personal networks in Bangladesh provide a critical safety net that empowers women to take entrepreneurial risks and pursue opportunities with confidence (Bastian et al. 2023; Smith and Lohrke 2008).

From a decolonial perspective, the reliance on personal networks can be seen as a strategy for resisting and navigating the constraints imposed by both historical colonial legacies and contemporary global economic structures (Godfrey and Brewis 2018; Lata et al. 2021). Acting as conduits for engaging with the environment, personal networks facilitate the entrepreneurial ecosystem through attention, action, and

interpretation (Steyaert and Landström 2011). By leveraging these networks, female entrepreneurs are able to access crucial knowledge and resources, laying the foundation for their entrepreneurial activities in ways that are often more adaptive and contextually relevant than those suggested by Western models (Lall et al. 2023; Nguyen et al. 2021).

Furthermore, collective knowledge and resources within personal networks are essential for opportunity recognition and growth aspirations (Mitra and Basit 2021). In the context of the Global South, where formal institutional support is often lacking, these networks function as alternative forms of capital that are crucial for overcoming the structural barriers faced by women in business (Doshi 2022; Imas and Garcia-Lorenzo 2023). Family and close friends significantly influence women's involvement in business ownership, helping them overcome the challenges of being outsiders in business networks and emphasizing the importance of integrating into domestic business networks that resonate more with their lived experiences (Bullough et al. 2014; Stoyanov et al. 2016). Additionally, personal networks often serve as informal labor markets, facilitating the recruitment of new employees, and illustrating the deep interconnectedness between personal relationships and business operations in non-Western contexts (Brymer et al. 2013). Overall, the success of female entrepreneurs in Bangladesh, and more broadly in the Global South, hinges not only on individual skills but also on the broader network of human and social capital provided by personal networks (Ozkazanc-Pan and Muntean 2018). These networks represent a decolonized approach to entrepreneurship, one that is rooted in the realities and resilience of communities in the Global South rather than in the ideologies of the Global North (Alakaleek et al. 2024; Sobhan and Hassan 2024; Yami et al. 2021). Given these contexts, we hypothesize:

**H1.** *Personal networks have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh.*

Conversely, professional networks, traditionally viewed as essential for business growth in Western contexts, do not significantly impact the business survival and success of female entrepreneurs in Bangladesh, thus challenging conventional wisdom (Darnihamedani and Terjesen 2022; Jaim 2021). These networks, including industry associations, business clubs, and mentorship opportunities, are often based on Western business norms that may not fully align with the realities faced by female entrepreneurs in the Global South (Chaudhuri et al. 2020; Chit et al. 2023; Klimas et al. 2021). In Bangladesh, the limited relevance and reach of such networks can be better understood through a consideration of the country's broader socio-cultural and historical context (Momen and Ferdous 2023). In particular, colonial-era institutions have contributed to gendered exclusions by formalizing economic and legal systems in ways that often favored male participation (Aparicio et al. 2022; Bhat 2024). During this period, women had limited access to property rights, commercial registration, and formal financial systems (Agarwal 1994; S. Ahmed 2025). Educational policies tended to prioritize boys' schooling, especially in English-medium and professional tracks (Afrin et al. 2023; Jaim 2021; Sobhan and Hassan 2024). While not solely responsible, these historical patterns have interacted with prevailing local norms

and contributed to the underrepresentation of women in professional economic spaces (S. Ahmed 2025; S. Rahman and Masud-All-Kamal 2024). Cultural and structural barriers today—including restrictions on gender mixing, expectations around domestic roles, and administrative norms rooted in past systems—continue to limit women's access to such networks (Jaim 2021; Lall et al. 2023). Societal constraints, such as patriarchal norms and gender biases are often reinforced by both local traditions and past institutional arrangements. As such, these further prevent many female entrepreneurs from fully leveraging professional networks that reflect Western models (Jaim 2021; Sobhan and Hassan 2024). Additionally, insufficient support structures that fail to address the specific needs of female entrepreneurs in these contexts further diminish the effectiveness of these networks (Afrin et al. 2023; Debrulle and Maes 2015). This suggests the need for a more context-sensitive and inclusive approach to entrepreneurship support—one that recognizes and responds to the cultural, social, and historical specificities of Bangladesh, ensuring that professional networks are better aligned with the lived experiences of women entrepreneurs (Afrin et al. 2023; Jaim 2021; Sobhan and Hassan 2024). Such an approach is essential to fostering environments that promote equitable access to resources and opportunities (Jabbouri et al. 2024; Ozkazanc-Pan and Muntean 2018). Given these contexts, we hypothesize:

**H2.** *Professional networks do not have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh.*

Interestingly, virtual networks have an unexpectedly significant positive impact on local community support and operational strategies in Bangladesh, extending beyond their typical digital reach (Lall et al. 2023; Wiig et al. 2024; Zaheer et al. 2022). In the context of the Global South, where access to traditional business networks is often constrained by colonial legacies and socio-cultural barriers, virtual networks have emerged as powerful tools for female entrepreneurs (Chaudhuri et al. 2020; Chit et al. 2023; Klimas et al. 2021). Facilitated by digital platforms and social media, these networks provide cost-effective marketing solutions and enable female entrepreneurs to maintain and grow their businesses despite geographical and resource constraints (Busch and Barkema 2021; R. P. Khan et al. 2025; Sehora et al. 2009; Zaheer et al. 2022). The ability of virtual networks to offer access to broader markets and innovative solutions is particularly valuable in adverse contexts common in non-Western settings, where physical networking opportunities might be limited due to historical inequalities and ongoing socio-economic challenges (Cavallo et al. 2019; Jafari-Sadeghi et al. 2021).

In Bangladesh, female entrepreneurs often face mobility issues due to cultural norms, safety concerns, and the remnants of colonial governance that continue to shape public and private spaces—and here, these virtual connections are becoming increasingly critical (Böhm et al. 2022; Lall et al. 2023; Kab-eer 2018). Virtual networks allow female entrepreneurs to circumvent these restrictions, providing them with alternative avenues to engage with markets, peers, and resources on their own terms (Bridges et al. 2022; Busch and Barkema 2021; R. P. Khan et al. 2025; Ozkazanc-Pan and Muntean 2018). This



dynamic underscores the importance of virtual networks in enabling female entrepreneurs in the Global South to manage and grow their businesses within their local contexts, while also challenging and reshaping the existing power structures that have historically marginalized them (Escobar 2009; Ojong et al. 2021). Understanding these dynamics can offer valuable insights into how female-owned SMEs in Bangladesh can thrive, thereby contributing more robustly to the national economy (Nyberg et al. 2021; Simmons et al. 2019). Given these contexts, we hypothesize:

**H3.** *Virtual networks have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh.*

While the benefits of networks are well-documented, their influence can be nuanced and unexpected in adverse contexts, particularly in the Global South (Ganson et al. 2022; Ide 2023). In Bangladesh, female entrepreneurs face significant challenges rooted in historical and socio-political factors shaped by colonial legacies such as economic instability, gender-based discrimination, limited access to capital, inadequate infrastructure, restrictive social norms, and political unrest (Franczak et al. 2023; Meliou 2020; Ozkazanc-Pan and Muntean 2018). Economic instability, characterized by frequent fluctuations and inflation, leads to unpredictable costs. This makes it difficult for businesses to plan effectively—a challenge exacerbated by the economic policies inherited from colonial rule (Hasan 2024; Sabatino 2016). Limited access to financial services means that female entrepreneurs struggle to obtain loans, which hampers their ability to invest and grow—particularly within a financial system that often mirrors Western models unsuited to the local context (Andriamahery and Qamruzzaman 2022; S. Huang et al. 2025; Sharma et al. 2024).

Gender-based discrimination entrenched by both local traditions and colonial-era gender roles, restricts women's mobility and participation in professional activities. This leads to skepticism from investors and customers, based purely on gender (Lall et al. 2023; Papafilippou et al. 2022; Triana et al. 2018). Restrictive social norms confine women to domestic roles, a situation rooted in both indigenous practices and colonial ideologies that sought to limit women's public engagement (Böhm et al. 2022; Lata et al. 2021; Srhoj et al. 2022). Moreover, limited access to capital remains a significant barrier, as financial institutions often require collateral that many women do not possess. There are also fewer financing options which are specifically designed for female entrepreneurs, reflecting a lack of adaptation to local realities (Alakaleek et al. 2024; Orser et al. 2020; Sobhan and Hassan 2024). Inadequate infrastructure disrupts business operations and increases costs, as seen in unreliable electricity and poor transportation networks—legacies of uneven colonial development (Ozkazanc-Pan and Muntean 2018; Yami et al. 2021). Additionally, limited internet access—particularly in rural areas—restricts marketing reach and underscores the digital divide that continues to affect the Global South (Cavallo et al. 2019; Jafari-Sadeghi et al. 2021; Tsvetkova et al. 2019). Political unrest including strikes and protests, further disrupts daily business activities and creates an atmosphere of uncertainty, deterring investment and increasing operational risks—all of which are remnants of a tumultuous post-colonial history (Ide 2023; McAdam, Crowley, and Harrison 2019).

In these challenging environments, personal networks often extend beyond immediate family to include community members or local organizations offering crucial support in times of need (Godfrey and Brewis 2018; Meurer et al. 2022). These networks provide essential emotional and financial backing, helping female entrepreneurs navigate economic downturns, social upheaval, and political instability—contexts which are deeply influenced by both colonial histories and ongoing global inequities (Mitra and Basit 2021; Ojong et al. 2021; McAdam, Harrison, and Leitch 2019). Professional networks, although theoretically beneficial, might not have the same impact because of cultural and structural barriers that are often reinforced by societal constraints inherited from colonial power structures (S. Ahmed 2025; Debrulle and Maes 2015; S. Rahman and Masud-All-Kamal 2024). Conversely, virtual networks can offer support through digital literacy and marketing strategies, helping entrepreneurs overcome resource constraints by providing access to broader markets, thereby challenging the traditional limitations imposed by both local and global inequalities (Eggerman et al. 2023; Meurer et al. 2022; Rosenbaum 2023). However, limited internet access in rural areas or a lack of digital infrastructure may reduce their effectiveness, highlighting the ongoing challenges of digital inclusion in the Global South (Amankwah-Amoah et al. 2021; Wiig et al. 2024; Zaheer et al. 2022). Given these dynamics, we hypothesize:

**H4.** *In adverse contexts, the influence of personal networks on the business survival of female entrepreneurs in SMEs in Bangladesh is greater than that of professional and virtual networks.*

The research model for this paper, which is based on the literature review discussed above, is illustrated below in Figure 1.

## 3 | Research Methodology

### 3.1 | Sample and Data Collection

This study employs a quantitative research design to investigate the impact of various networks on the business survival of female entrepreneurs in Bangladesh, particularly within adverse contexts. Female SME owner-managers in two cities<sup>6</sup>—Dhaka (the capital city) and Khulna (a non-capital city)—were chosen to capture diverse economic environments and provide a more comprehensive understanding of the challenges faced by female entrepreneurs in different urban settings. Dhaka represents a densely populated metropolitan area with more developed infrastructure and greater access to resources (Mazid 2019), whereas Khulna provides insights from a smaller urban area with different economic dynamics (N. Ahmed 2023).

The collection of data for this study involved a field survey that utilized a sufficiently large sample size to ensure a thorough examination of the instrument. Two research assistants were responsible for obtaining consent from the entrepreneurs and conducting face-to-face surveys at their business premises. Out of a sample size of 225, 156 completed questionnaires were received, resulting in a response rate of 69.33%, which is considered satisfactory according to Zayadin et al. (2023). The gap in the sample



size was due to some respondents refusing to participate and others being ineligible.

The research examined SMEs employing up to 250 workers, in line with the definition provided by the Central Bank of Bangladesh, known as Bangladesh Bank (2012). This classification is also widely used in management research (e.g., Cardon and Colleen 2015). The sampling approach employed was stratified, and half of the firms were selected from Dhaka, whereas the remaining half were selected from Khulna to prevent sampling bias (Lohr 2021). The firms were randomly chosen using information from the Chambers of Commerce and Industries in both cities. The sample was evenly selected from 13 distinct industries, which can be seen in Table 1 below:

Ethical concerns regarding the data collection were handled following the guidelines of the first author's university. Each

participant was given a consent form and a participant information sheet, which had a short introduction explaining the survey's purpose and confidentiality. Each participant provided their informed consent before participating in the survey. To ensure anonymity, the questionnaire did not include any questions about the participants' identities. The participants were informed that the information gathered would be used solely for academic purposes and would only be accessible to them (Saunders et al. 2009).

The paper employed two approaches to develop constructs and measurements for the initial questionnaire, given its exploratory nature (Sukri et al. 2022). Firstly, existing measures from prior research were adopted and slightly modified to make them more suitable for the Bangladeshi context, as long as they met acceptable measurement standards (Sukri et al. 2022). Secondly, new operational measures were established based on conceptual

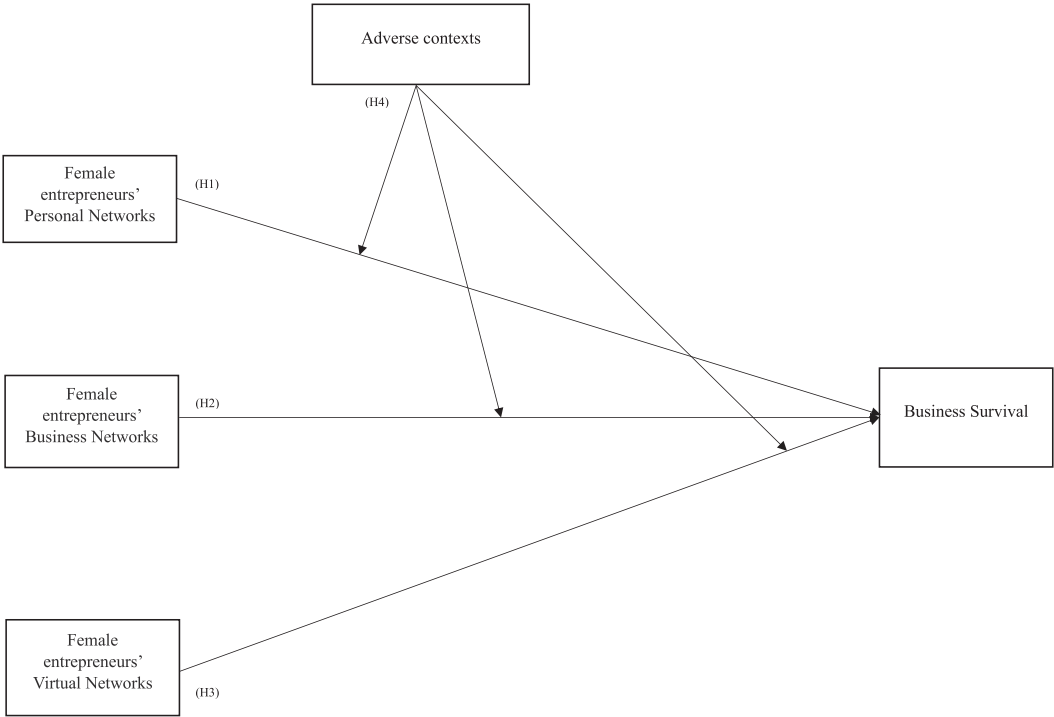


FIGURE 1 | Research model.

TABLE 1 | Sector-wise representation of the sample.

Sector/industry	Sector/industry
Outsourcing (including content makers)	Agribusiness
Knitwear & readymade garments	Beauty salon
Educational & consultancy services	Handicrafts
Healthcare and pharmaceuticals	Retailer/grocery shop
Infrastructure (property, transport, and storage)	Textile boutique shop
Restaurant & catering service	ICT
Broadcasting, advertising, and event management	
Sample size	
13 sectors × 12 = 156	
Total sample = 156	

studies for variables that had not been used in previous research (Sukri et al. 2022). The content validity of the initial questionnaire was assessed by four academic researchers (C. Wu and Thompson 2020). Subsequently, the initial questionnaire was pre-tested on 10 firms to identify any complex or unclear items and to evaluate the reliability and validity of the scales. Certain items were revised for clarity. This process provided initial evidence of the scales' reliability and validity.

After data collection, the completed questionnaires were checked for completeness and consistency. Data cleaning involved checking for and correcting any entry errors, handling missing values, and ensuring the data were ready for analysis. The data were then analyzed using STATA 12 (C. Wu and Thompson 2020).

### 3.2 | Variables and Measures

The dependent variable—business survival—was measured by the number of years the business has been in operation. This measure captures the longevity of the business and its ability to sustain operations over time (Mengistae 2006). The independent variables included personal networks, professional networks, and virtual networks. Personal networks (Cronbach's  $\alpha^7 = 0.85$ ) were assessed using a five-item scale, including emotional support (*Emo*) (House et al., 1988), financial support (*Fin*) (Anderson and Miller 2003), advice (*Adv*) (Adler and Kwon 2002), encouragement (*Enc*) (Cohen and Wills 1985), and social engagement (*Soc*) (Clark and Graham 2005). The items measured the extent to which entrepreneurs received emotional and financial support from family and friends. Responses were recorded on a five-point Likert scale ranging from one (never) to five (often).

Professional networks (Cronbach's  $\alpha = 0.87$ ) were measured using a five-item scale including industry meetings (*Assoc*) (Riddle and Kate 2003), business clubs (*Club*) (Wolfe et al. 2002), mentorship (*Ment*) (Hartmann et al. 2013), collaboration (*Collab*) (Steinmo and Rasmussen 2016), and networking events (*Netw*) (Kullak et al. 2021). This scale measured the level of participation in industry associations, business clubs, and access to mentorship and business partnerships. Responses were recorded on a five-point Likert scale ranging from one (never) to five (often).

Virtual networks (Cronbach's  $\alpha = 0.89$ ) were measured using a five-item scale including social media marketing (*SM\_Mktg*) (Lamberton and Stephen 2016), customer engagement (*SM\_Cust*) (Grewal et al. 2017), online platforms (*Ops*) (Reischauer and Mair 2018), online forums (*Forums*) (DeSanctis et al. 2003), and digital tools (*Dig\_Tool*) (Di Domenico et al. 2014). The items assessed the use of digital platforms and social media for marketing, customer engagement, and accessing business resources. Responses were recorded on a five-point Likert scale ranging from one (never) to five (often).

Adverse contexts were included as an interaction term to understand their moderating effect. Adverse contexts (Cronbach's  $\alpha = 0.82$ ) were measured using a five-item scale, including economic instability (*Eco\_Inst*) (Sabatino 2016), political unrest

(*Pol\_Unrst*) (Xavier et al. 2014), social barriers (*Soc\_Barr*) (Cahen et al. 2016), resource constraints (*Res\_Cons*) (I. H. Lee and Lévesque 2023), and market volatility (*Mar\_Volt*) (L.-Y. Wu 2010). The items assessed the frequency and intensity of challenges faced by the entrepreneurs. Responses were recorded on a five-point Likert scale ranging from one (Strongly Disagree) to five (Strongly Agree) (Welter et al. 2024).

To isolate the specific effects of personal, professional, and virtual networks on business survival, the analysis incorporated several theoretically grounded and empirically validated control variables: business size, educational background, industry type, business experience, access to finance, technology utilization, and market competition. These controls reflect critical structural and contextual factors influencing entrepreneurial outcomes in emerging economies and were included to strengthen the internal validity and interpretability of the regression results (Kutner et al. 2005; Podsakoff et al. 2003).

Business size was included due to its influence on resource capacity, institutional access, and network embeddedness (Cardella et al. 2020). Larger firms tend to have greater visibility, more stable financial footing, and enhanced ability to engage with external networks (Darnihamedani and Terjesen 2022). They also benefit from stronger absorptive capacity, which supports learning from and integration with external actors (Miller et al. 2022). In this study, business size was measured by the number of employees and coded as a binary variable: 0 for micro-enterprises (1–9 employees) and 1 for small enterprises (10–49 employees), following the SME classification commonly used in Bangladesh (Bangladesh Bank 2012). This operationalization reflects the national structure of female-owned enterprises, which predominantly fall within these two categories (Mortada 2019).

Educational background was controlled for because it shapes entrepreneurs' cognitive and strategic capabilities. Those with higher education are better equipped to identify and leverage both formal and informal network opportunities, engage with technology, and make informed business decisions (Chen et al. 2023). The variable was coded as 0 for entrepreneurs with less than a bachelor's degree and 1 for those holding a bachelor's degree or higher.

Industry type was included to account for sectoral variations in network use, technology adoption, and customer engagement. For instance, ICT and service-oriented businesses typically rely more on digital platforms and remote collaboration, whereas manufacturing firms may prioritize supply chain coordination and local partnerships (Yoruk et al. 2023; Zhou et al. 2019). These distinctions can substantially influence the structure and function of networks. In this study, industry type was operationalized as a binary variable: 0 for non-manufacturing and 1 for manufacturing sectors (Y.-F. Huang et al. 2023), consistent with the composition presented in Table 1.

Business experience affects entrepreneurial judgment, resilience, and access to social capital. Experienced entrepreneurs are more likely to have established networks and accumulated trust-based relationships, enabling them to respond more effectively to market shocks or opportunities (X. Liu et al. 2017;

Stamm and Gutzeit 2022). This variable was coded as 0 for less than 5 years of experience and 1 for 5 years or more.

Access to finance was included to capture the role of capital in supporting business continuity and network engagement. Entrepreneurs with financing are better positioned to invest in operations, build connections, and pursue growth even in resource-scarce environments (S. Huang et al. 2025; Sharma et al. 2024). Financial access also affects the ability to adopt technology and navigate crises (Adomako et al. 2018). It was measured as a binary variable: 0 if the entrepreneur lacked access to finance and 1 if they had access to any formal or informal financial sources.

Technology utilization was controlled for because digital capability enhances access to external knowledge, platforms, and collaborative tools. Firms that actively use IT are better integrated into virtual and professional networks and demonstrate higher adaptability and innovation (Battistella et al. 2023; Nikiforou et al. 2020; Wang et al. 2020). In this study, the extent of technology utilization was measured using a four-point Likert scale capturing the integration of advanced digital tools in daily business operations.

Market competition was included as a control to account for environmental pressures that may independently influence survival. High competition often necessitates innovation, strategic partnerships, and proactive customer engagement, all of which are linked to network behaviors (Bruhn et al. 2023; Sharma et al. 2024). This was measured using a five-item five-point Likert scale assessing perceived competitive intensity in the entrepreneur's immediate market environment.

The control variables were entered in the first step of the hierarchical regression analysis, allowing subsequent models to assess the unique contribution of network types on business survival independent of these structural and contextual factors. See details in Table 2.

### 3.3 | Tackling Common Method Bias

To mitigate common method bias, the study employed procedural remedies such as ensuring respondent anonymity, reducing evaluation apprehension, and counterbalancing question order (Podsakoff et al. 2003). Statistical remedies included Harman's single-factor test, which indicated that common method bias was not a significant issue in this study, with the first-factor accounting for less than 30% of the variance (Fuller et al. 2016).

### 3.4 | Factor Analysis

Factor analysis was used to condense data into a smaller set of summary variables, and extract dimensions for each type of network. According to Hair Jr et al. (2020), there are two important types of factor analysis: confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). Whereas CFA emphasizes theory and tests all facets of the model, EFA is more

data-driven and derives constructs from the variables. EFA was used in this study to identify the key dimensions of personal networks, professional networks, virtual networks, adverse contexts, technology utilization, and market competition. The associated Rotated Factor Matrix are shown in Table 3. According to the suggestions made by Hugten et al. (2023), a variable was only taken into account if its absolute value of factor loading was greater than 0.4.

An average of the items on the scale was utilized within the regression model following Lin and Wu (2014).

## 3.5 | Methods of Data Analysis

Descriptive statistics were used to summarize the demographic characteristics of the sample and the general use of networks. Hierarchical regression analysis was employed to test the hypotheses regarding the impact of personal, professional, and virtual networks on business survival. The model controlled for potential confounding variables to ensure the robustness of the findings. The analysis was conducted using STATA 12.

## 4 | Results

Table 4 provides descriptive statistics and correlation coefficients for all variables included in the analysis. The table provides mean values, standard deviations, and correlations among the variables, which help in understanding the basic relationships before conducting the regression analysis. The sample comprised female entrepreneurs from various sectors, exhibiting considerable variation in access to networks and resources, with an average business age (business survival) of 5.2 years (SD = 3.1). Correlation analysis shows statistically significant positive relationships between business survival and several predictors, including business size ( $r = 0.34^{**}$ ), experience ( $r = 0.31^{**}$ ), access to finance ( $r = 0.27^{**}$ ), technology utilization ( $r = 0.30^{**}$ ), personal networks ( $r = 0.42^{**}$ ), and virtual networks ( $r = 0.37^{**}$ ). Negative correlations are observed between business survival and market competition ( $r = -0.15^{*}$ ) and adverse contexts ( $r = -0.20^{*}$ ), indicating that firms operating in structurally disadvantaged environments—characterized by high competitive pressure, limited institutional support, and socio-economic constraints—face greater challenges to survival.

The issue of multicollinearity was examined using the Pearson correlation coefficient (bivariate analysis) as detailed in Table 4. All correlation coefficients were found to be below the thresholds of 0.70 and 0.80, which are generally deemed acceptable (Rumsey 2023). This indicates that multicollinearity is not a concern for this study. To gain a clearer understanding, we also conducted a variance inflation factor (VIF) test. The VIF values for all variables were below 5 (see Table 5), indicating that multicollinearity is not a concern in this model, in accordance with the standard defined by Kutner et al. (2005).

Hierarchical regression analysis was then employed to test the hypotheses concerning the impact of personal, professional, and virtual networks on business survival. This analysis was

**TABLE 2** | Constructs and measures.

Construct	Type	Measures	Acronym	Cronbach's alpha
Personal networks	Independent	How often does the participant receive emotional support from family and friends? (House et al. 1988)	Emo	0.85
		How often does the participant receive financial support from family and friends? (Anderson and Miller 2003)	Fin	
		How often does the participant receive advice from family and friends? (Adler and Kwon 2002)	Adv	
		How often does the participant feel encouraged by family and friends? (Cohen and Wills 1985)	Enc	
		How often does the participant engage in social activities with family and friends? (Clark and Graham 2005).	Soc	
Professional networks	Independent	How often does the participant attend industry association meetings? (Riddle and Kate 2003).	Assoc	0.87
		How often does the participant participate in business club activities? (Wolfe et al. 2002).	Club	
		How often does the participant seek mentorship from industry experts? (Hartmann et al. 2013).	Ment	
		How often does the participant collaborate with other businesses on projects? (Steinmo and Rasmussen 2016).	Collab	
		How often does the participant engage in networking events organized by professional bodies? (Kullak et al. 2021)	Netw	
Virtual networks	Independent	How often does the participant use social media for marketing purposes? (Lamberton and Stephen 2016)	SM_Mktg	0.89
		How often does the participant engage with customers via social media? (Grewal et al. 2017)	SM_Cust	
		How often does the participant use online platforms for business operations? (Reischauer and Mair 2018).	Ops	
		How often does the participant participate in online business forums? (DeSanctis et al. 2003).	Forums	
		How often does the participant use digital tools for business management? (Di Domenico et al. 2014).	Dig_Tool	
Adverse contexts	Moderator	Economic instability affects business operations (Sabatino 2016).	Eco_Inst	0.82
		Political unrest impacts the business environment (Xavier et al. 2014).	Pol_Unrst	
		Social barriers hinder business activities (Cahen et al. 2016).	Soc_Barr	
		Resource constraints limit business growth (I. H. Lee and Lévesque 2023).	Res_Cons	
		Market volatility challenges business sustainability (L.-Y. Wu 2010).	Mar_Volt	
Technology utilisation	Control	New business partnerships are made with the help of advanced IT (Gadde et al. 2012)	IT_Part	0.84
		Using advanced IT to facilitate work flexibility (S. Chatterjee et al. 2022).	IT_Flex	
		IT is utilized to maintain collaboration with current business partners (Hahn and Gold 2014).	IT_Collab	
		Collaborative competence/skills development is enabled by advanced IT (Christensen et al. 2019).	IT_Comp	

(Continues)



TABLE 2 | (Continued)

Construct	Type	Measures	Acronym	Cronbach's alpha
Market competition	Control	Intensity of competition in the local market (Nicolini 2001).	Comp_Int	0.79
		Competitive pressure from other businesses (Wiklund et al. 2009).	Comp_Press	
		Market entry barriers faced by the business (Acs et al. 1997).	Mar_Barr	
		Strategies to differentiate from competitors (Gomes-Casseres 1997).	Strat_Diff	
		Impact of competitive pricing strategies (K. S. Lee et al. 1999).	Comp_Pric	

Note: It is noted that some variables were log-transformed to achieve normality.

conducted in eight steps: control variables were introduced in Model 1; the three types of networks were added individually in Models 2 to 4; adverse contextual factors were included in Model 5; and the three interaction terms were incorporated in Models 6 to 8. The regression model was significant at each step, with the final model explaining 52% of the variance in business survival. The detailed results of this analysis are presented in Table 6.

Model 1 accounts for 38% of the variance in business survival, highlighting the substantial explanatory power of firm-level characteristics even before considering network variables. Among these, business size ( $\beta = 0.48$ ,  $p < 0.01$ ) emerges as the most influential predictor, aligning with prior research that links larger firm scale to increased visibility, operational capacity, and bargaining power in the marketplace (Cardella et al. 2020; Miller et al. 2022). Business experience ( $\beta = 0.30$ ,  $p < 0.05$ ) also shows a significant positive association, suggesting that accumulated learning and experiential knowledge enhance entrepreneurs' ability to manage uncertainty, leverage opportunities, and maintain business continuity (Stamm and Gutzeit 2022). Access to finance ( $\beta = 0.22$ ,  $p < 0.05$ ) and technology utilization ( $\beta = 0.27$ ,  $p < 0.05$ ) both exert statistically significant positive effects, reinforcing the critical role of resource availability and digital capacity in supporting firm resilience—particularly in low-resource environments where institutional support is weak or inconsistent (S. Huang et al. 2025; Battistella et al. 2023). These results are especially salient in postcolonial Global South contexts such as Bangladesh, where institutional underdevelopment is not simply a product of contemporary limitations but also a legacy of colonial extraction, economic marginalization, and policy discontinuities that have historically undermined local enterprise ecosystems. In such environments, firm-level capacity—rather than institutional scaffolding—becomes essential for overcoming systemic inefficiencies and navigating infrastructural gaps. Industry type also yields a significant positive coefficient ( $\beta = 0.25$ ,  $p < 0.05$ ), indicating that entrepreneurs in manufacturing sectors may enjoy better survival outcomes compared to their non-manufacturing counterparts, likely due to more stable value chains, stronger demand dynamics, and higher barriers to entry that discourage rapid market saturation (Yoruk et al. 2023; Zhou et al. 2019). This advantage may also reflect historical legacies, as colonial industrial policy in many Global South nations favored manufacturing and urban-centric

economic development, resulting in sectoral disparities in institutional embeddedness, access to infrastructure, and long-term state support that all persist today. In contrast, market competition ( $\beta = -0.15$ , n.s.) and educational background ( $\beta = 0.14$ , n.s.) show no significant effects. This suggests that in Bangladesh's postcolonial entrepreneurial landscape, intensified market rivalry does not consistently lead to business failure and that formal educational credentials may offer limited strategic utility in contexts where structural hierarchies, gender norms, and institutional gatekeeping (often shaped by colonial governance models) continue to constrain women's entrepreneurial mobility and influence (Batjargal et al. 2013; Wang et al. 2020). Taken together, these findings suggest that within Global South environments marked by historical inequities and weak institutional reach, tangible operational capabilities, sectoral positioning, and access to strategic resources play a more decisive role in ensuring business survival than individual-level qualifications or market dynamics (X. Liu et al. 2017).

Model 2 introduces personal networks, which significantly increase model fit (Adj.  $R^2 = 0.45$ ) and demonstrate a large positive effect on business survival ( $\beta = 0.52$ ,  $p < 0.01$ ). This supports H1 and underscores the functional relevance of familial, kinship, and close social ties in Bangladesh's entrepreneurial ecosystem (R. U. Khan et al. 2022). Personal networks provide emotional support, informal credit, knowledge sharing, and moral legitimacy—all of which are crucial in the absence of formal infrastructure (Bullough et al. 2014; Stoyanov et al. 2016). These findings are consistent with network theory, which suggests that bonding social capital plays a critical role in contexts marked by institutional voids and gendered access constraints (Brymer et al. 2013). In the postcolonial Global South, where entrepreneurial ecosystems are often fragmented and under-resourced because of historical legacies of extractive governance and centralized industrial planning, personal networks take on an amplified role as substitutes for institutional support (Ozkazanc-Pan and Muntean 2018; Yami et al. 2021). In Bangladesh, these ties are often the only reliable structures women can draw upon, especially in rural or economically marginalized areas, where colonial patterns of infrastructure development continue to shape exclusion (R. U. Khan et al. 2022). For many women entrepreneurs, especially in rural or low-income settings, personal ties are not just complementary resources but rather they are survival-enabling mechanisms (Rosca et al. 2020).

**TABLE 3** | Combined pattern matrix for constructs.

<b>Rotated component matrix</b>	<b>Personal networks</b>	<b>Professional networks</b>	<b>Virtual networks</b>	<b>Adverse contexts</b>	<b>Technology utilization</b>	<b>Market competition</b>
Emotional support from family and friends	0.799					
Financial support from family and friends	0.736					
Advice from family and friends	0.617					
Encouragement from family and friends	0.487					
Participation in social activities with family and friends	0.563					
Attendance at industry association meetings		0.804				
Participation in business club activities		0.752				
Seeking mentorship from industry experts		0.681				
Collaboration with other businesses		0.633				
Engagement in networking events		0.593				
Use of social media for marketing			0.825			
Engagement with customers via social media			0.742			
Use of online platforms for business operations			0.701			
Participation in online business forums			0.648			
Use of digital tools for management			0.612			
Economic instability affects business operations				0.812		
Political unrest impacts the business environment				0.768		
Social barriers hinder business activities				0.729		
Resource constraints limit business growth				0.691		
Market volatility challenges business sustainability				0.644		
New business partnerships are made with the help of advanced IT					0.814	
Using advanced IT to facilitate work flexibility					0.776	
IT is utilized to maintain collaboration with current business partners					0.743	
Collaborative competence/skills development is enabled by advanced IT					0.701	
Intensity of competition in the local market						0.823
Competitive pressure from other businesses						0.785
Market entry barriers faced by the business						0.742
Strategies to differentiate from competitors						0.709
Impact of competitive pricing strategies						0.667

Note: Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization.

Model 3 assesses professional networks. Although the coefficient is positive ( $\beta = 0.34$ ), it is not statistically significant, offering support for H2. This hypothesis posited that in the Bangladeshi context, professional networks would not

significantly contribute to business survival due to structural and institutional barriers that limit women's effective participation in such networks. The absence of statistical significance in our findings empirically confirms this theoretical expectation.

**TABLE 4** | Descriptive and correlation statistics.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Business survival (business age)	5.2	3.1	1											
2. Business size	0.67	0.47	0.34**	1										
3. Educational background	0.65	0.48	0.21*	0.15*	1									
4. Industry type	0.54	0.50	0.18*	0.10	0.12	1								
5. Business experience	0.52	0.50	0.31**	0.21*	0.14*	0.10	1							
6. Access to finance	0.45	0.50	0.27**	0.12	0.21*	0.09	0.25**	1						
7. Technology utilization	0.58	0.50	0.30**	0.11	0.18*	0.14*	0.22*	0.28**	1					
8. Market competition	2.75	1.01	-0.15*	-0.10	-0.12	-0.08	-0.13	-0.18*	-0.16*	1				
9. Personal networks	3.65	0.85	0.42**	0.20*	0.15*	0.12	0.23**	0.30**	0.28**	-0.11	1			
10. Professional networks	3.45	0.90	0.39	0.18*	0.21*	0.16*	0.22*	0.27**	0.29**	-0.14	0.32**	1		
11. Virtual networks	3.55	0.95	0.37**	0.19*	0.20*	0.15*	0.21*	0.26**	0.28**	-0.12	0.31**	0.33**	1	
12. Adverse contexts	3.10	0.85	-0.20*	-0.15	-0.17*	-0.14	-0.18*	-0.19*	-0.20*	0.25**	-0.21*	-0.19*	-0.18*	1

\* $p < 0.1$ .\*\* $p < 0.05$ .\*\*\* $p < 0.01$ .**TABLE 5** | Variance inflation factor (VIF) test results.

Predictor variables	VIF	1/VIF
Business size	1.72	0.581
Educational background	1.34	0.746
Industry type	1.41	0.709
Business experience	1.53	0.654
Access to finance	1.39	0.719
Technology utilization	1.48	0.676
Market competition	1.37	0.730
Personal networks	1.56	0.641
Professional networks	1.64	0.610
Virtual networks	1.72	0.581
Adverse contexts	1.52	0.658
Mean VIF	1.51	

This result marks a notable divergence from dominant assumptions in Western literature that emphasize the universal value of business associations, mentorship, and formal partnerships (Chaudhuri et al. 2020). In the Bangladeshi context, these networks are often inaccessible to women because of the intersecting barriers of class, gender, geography, and institutional elitism (Darnihamedani and Terjesen 2022). Professional networks are frequently embedded in male-dominated chambers of commerce, urban-centric trade associations, and closed mentorship circles, which exclude or marginalize women, particularly those outside metropolitan areas (Klimas et al. 2021). This exclusion is not accidental but is shaped by colonial-era governance models that reinforced elite-dominated economic structures, creating persistent institutional hierarchies that disproportionately affect female entrepreneurs (Lall

et al. 2023). As such, the lack of significance does not indicate conceptual irrelevance but rather reflects structural inaccessibility and the exclusionary architecture of formal business ecosystems (Debrulle and Maes 2015).

Model 4 introduces virtual networks, which show a positive and statistically significant relationship with business survival ( $\beta = 0.31$ ,  $p < 0.05$ ), thus supporting H3. These platforms enable female entrepreneurs to circumvent traditional spatial, financial, and cultural constraints by facilitating peer engagement, direct customer communication, and online marketing at minimal cost (Lall et al. 2023). This finding aligns with prior research that identifies digitalization as a democratizing force in entrepreneurship, broadening access to critical resources, market linkages, and knowledge-sharing opportunities (Nikiforou et al. 2020; Wang et al. 2020). In Global South settings—particularly postcolonial economies such as Bangladesh—virtual networks assume even greater importance due to persistent deficiencies in formal entrepreneurial infrastructure (Calvo et al. 2022; Ozkazanc-Pan and Muntean 2018). These deficiencies are not merely recent challenges but are deeply rooted in colonial-era legacies of extractive planning, urban-centric development, and uneven public investment (Bridges et al. 2022; Sebora et al. 2009). Under colonial governance, institutional resources were often concentrated in select metropolitan hubs while peripheral and rural regions were systematically neglected—a pattern that continues to shape disparities in digital access and institutional support (Escobar 2009; Ojong et al. 2021). Against this backdrop, digital platforms offer a form of technological leapfrogging, enabling entrepreneurs—especially women historically excluded from formal business ecosystems—to access markets, enhance visibility, and develop alternative support networks outside the reach of traditional gatekeeping structures (Simmons et al. 2019). In this study, virtual networks emerge as low-barrier

**TABLE 6** | Hierarchical multiple regression analysis results.

Predictor variables	Model 1: Control variables	Model 2: Personal networks	Model 3: Professional networks	Model 4: Virtual networks	Model 5: Adverse contexts	Model 6: Personal networks × adverse contexts	Model 7: Professional networks × adverse contexts	Model 8: Virtual networks × adverse contexts
	Business survival	Business survival	Business survival	Business survival	Business survival	Business survival	Business survival	Business survival
Business size	0.48*** (0.08)	0.47*** (0.08)	0.46*** (0.08)	0.45*** (0.08)	0.45*** (0.08)	0.45*** (0.08)	0.45*** (0.08)	0.50*** (0.08)
Educational background	0.14 (0.09)	0.13 (0.09)	0.13 (0.09)	0.12 (0.09)	0.12 (0.09)	0.12 (0.09)	0.12 (0.09)	0.12 (0.09)
Industry type	0.25** (0.11)	0.23** (0.10)	0.22** (0.10)	0.21** (0.10)	0.21** (0.10)	0.21** (0.10)	0.21** (0.10)	0.21** (0.10)
Business experience	0.30** (0.09)	0.28** (0.09)	0.27** (0.09)	0.26** (0.09)	0.26** (0.09)	0.26** (0.09)	0.25** (0.09)	0.25** (0.09)
Access to finance	0.22** (0.10)	0.20** (0.10)	0.19** (0.10)	0.18** (0.10)	0.18** (0.10)	0.18** (0.10)	0.17** (0.10)	0.17** (0.10)
Technology utilization	0.27** (0.09)	0.25** (0.09)	0.24** (0.09)	0.23** (0.09)	0.23** (0.09)	0.23** (0.09)	0.22** (0.09)	0.22** (0.09)
Market competition	−0.15 (0.11)	−0.14 (0.11)	−0.14 (0.11)	−0.13 (0.11)	−0.13 (0.11)	−0.13 (0.11)	−0.12 (0.11)	−0.12 (0.11)
Personal networks		0.52*** (0.11)				0.45*** (0.12)		
Professional networks			0.34 (0.12)				0.32** (0.11)	
Virtual networks				0.31** (0.12)				0.29** (0.13)
Adverse contexts					−0.19 (0.14)			
Personal networks × adverse contexts						0.65*** (0.10)		
Professional networks × adverse contexts							−0.24 (0.09)	
Virtual networks × adverse contexts								0.37** (0.11)
Adjusted $R^2$	0.38	0.45	0.48	0.50	0.51	0.51	0.51	0.52
F-value	15.42***	16.54***	17.62***	18.45***	18.98***	18.98***	19.02***	22.43***
Constant	5.12* (1.02)**	4.75* (1.05)**	4.65* (1.10)**	4.54* (1.13)**	4.42* (1.15)**	4.21* (1.23)**	4.21* (1.23)**	4.20* (1.19)

\* $p < 0.1$ .

\*\* $p < 0.05$ .

\*\*\* $p < 0.01$ .



high-impact tools that compensate for institutional shortcomings, highlighting the need to embed inclusive digital strategies within broader enterprise development policies (Bridges et al. 2022; Ozkazanc-Pan and Muntean 2018).

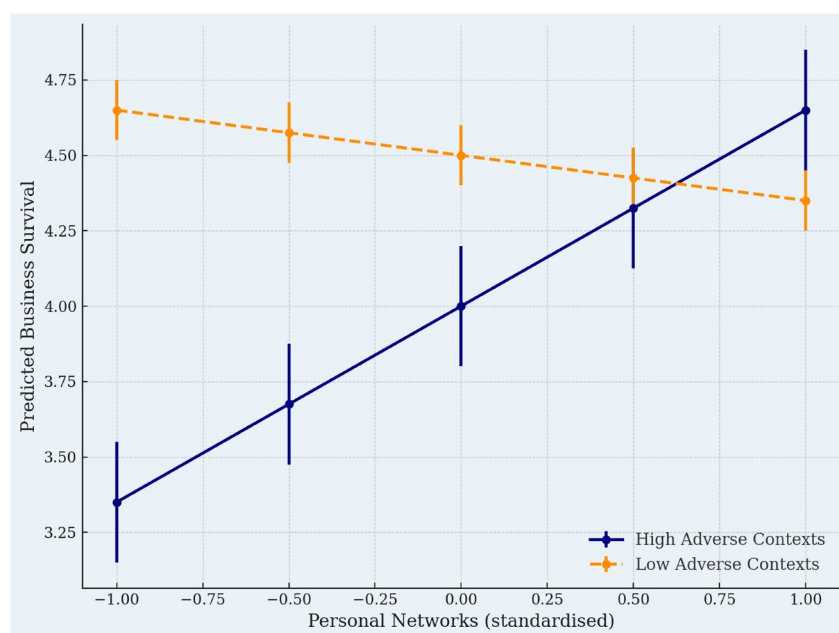
Model 5 incorporates adverse contexts as a direct predictor, yielding a negative but non-significant coefficient ( $\beta = -0.19$ , n.s.). Although adversity alone does not significantly predict business survival, its moderating role becomes evident in the subsequent interaction models. Model 6 examines the interaction between personal networks and adverse contexts, revealing a strong and significant effect ( $\beta = 0.65$ ,  $p < 0.01$ ), thus supporting H4. This interaction indicates that the utility of personal networks intensifies under conditions of institutional instability, market volatility, or socio-political disruption (Meurer et al. 2022). Personal networks provide emergency support, alternative market information, and crisis mitigation strategies, functioning as resilience-enhancing assets precisely when external conditions deteriorate (Franczak et al. 2023; McAdam, Crowley, and Harrison 2019). Such adaptive responses are particularly important in postcolonial states where public institutions often lack the agility or reach to provide support in times of crisis, thereby forcing women entrepreneurs to rely on social networks inherited through kinship and local community structures (Ganson et al. 2022; Ide 2023). This aligns with theories of social resilience and counter-cyclicity, which argue that social capital is not static but context-sensitive, becoming most valuable under duress (Bruhn et al. 2023).

Model 7 evaluates the interaction between professional networks and adversity. The interaction term is non-significant ( $\beta = -0.24$ , n.s.), further reinforcing the structural ineffectiveness of professional networks in this context (Audretsch et al. 2022). Not only are these networks difficult for women entrepreneurs to access but they also fail to scale or adapt when adversity increases (Debrulle and Maes 2015; Hammerschmidt et al. 2021). This rigidity reflects the colonial legacy of elite-

controlled institutions that have historically prioritized male-dominated commercial networks over inclusive systems of support (Nyame-Asiamah et al. 2020; Rohe and Chlebna 2022). This finding challenges normative assumptions about institutional adaptability and raises concerns about the relevance and responsiveness of formal support mechanisms in gendered and fragile market settings (Hammerschmidt et al. 2021; Rohe and Chlebna 2022).

Model 8 investigates the interaction between virtual networks and adverse contexts and finds a positive significant coefficient ( $\beta = 0.37$ ,  $p < 0.05$ ), confirming that digital platforms are especially valuable in challenging environments (Q. Wu and He 2020). In Global South settings such as Bangladesh, formal infrastructure is often uneven due to colonial legacies of centralized development and systemic neglect, and as a result virtual networks offer flexible low-cost alternatives (S. Rahman and Masud-All-Kamal 2024). They enable remote operations, facilitate rapid knowledge sharing, and support informal innovation ecosystems that respond to local needs (Appio et al. 2019). Rather than relying on slow or exclusionary institutional mechanisms, women entrepreneurs use digital platforms as bottom-up tools for resilience, market access, and peer support (Wang et al. 2020). In this sense, virtual networks serve as practical responses to structural inequality, empowering entrepreneurs in contexts where formal support remains limited (Choudhary et al. 2019).

To enhance interpretability, we include graphical representations of the interaction effects presented in the regression models. Figure 2 shows that the positive relationship between personal networks and business survival is significantly stronger under conditions of high adversity, illustrating the buffering role of personal ties during times of crisis. In contrast, the relationship is flat or slightly negative in low-adversity contexts, suggesting that personal networks become particularly valuable only when institutional or economic conditions are challenging.



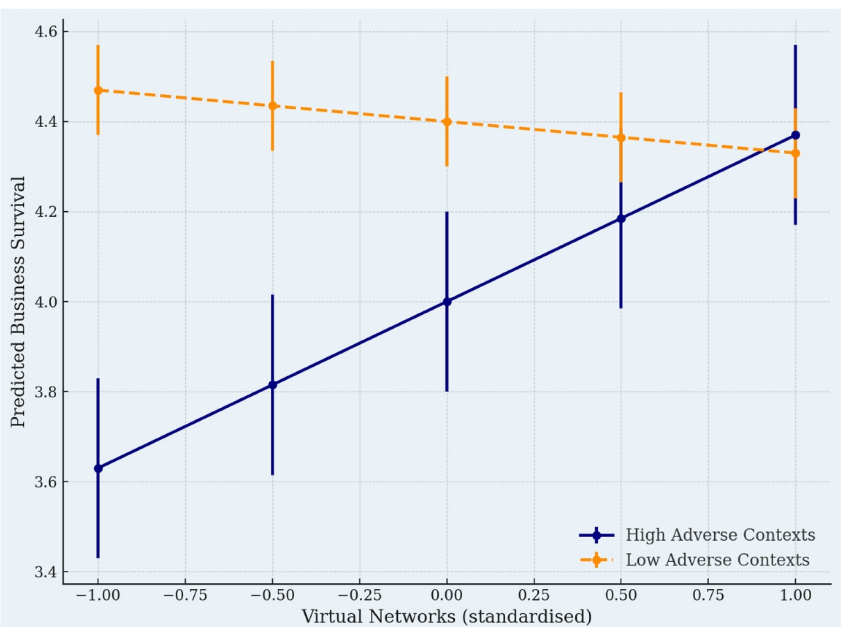
**FIGURE 2** | Interaction effect (plot) of personal networks and adverse contexts on business survival.

Similarly, Figure 3 illustrates that virtual networks also exhibit a stronger positive effect on business survival under adverse conditions, reinforcing their relevance as adaptive tools in resource-scarce environments. On the other hand, Figure 4 provides a visual representation of the interaction between professional networks and adverse contexts. Unlike the previous plots, the lines are nearly flat and parallel, indicating a non-significant interaction. This visual confirms our regression finding in Model 7, suggesting that professional networks, in this context, do not meaningfully influence business survival under varying levels of adversity. These plots provide visual confirmation of the interaction effects and support H4.

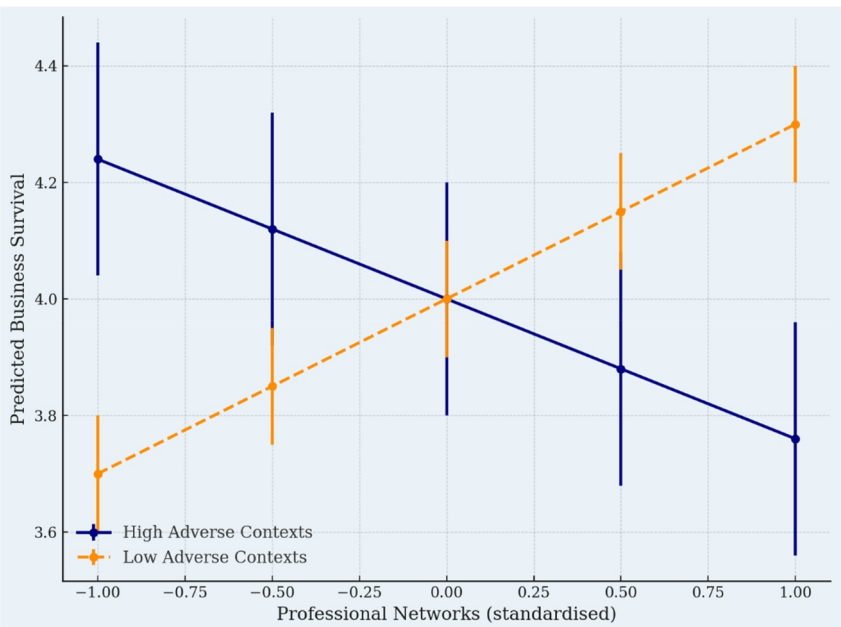
## 5 | Discussion and Conclusion

### 5.1 | Main Findings

The findings of this study provide significant insights into the role of various networks in supporting the business survival of female entrepreneurs in SMEs in Bangladesh, particularly within adverse contexts, as revealed by the hierarchical regression analysis summarized in Table 7. These results should be viewed through the lens of Bangladesh's broader alignment with many Global South contexts—where institutional exclusion, gendered power structures, and informal economies shape



**FIGURE 3** | Interaction plot of virtual networks and adverse contexts on business survival.



**FIGURE 4** | Interaction plot of professional networks and adverse contexts on business survival.

**TABLE 7** | Outcomes of hypotheses tests.

Hypothesis	Supported in Hierarchical regression	Conclusion for hypothesis
H1: Personal networks have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh	Yes (impact of personal networks on business survival is: 0.52 <sup>***</sup> )	Supported
H2: Professional networks do not have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh	Yes (impact of professional networks on business survival is: 0.34)	Supported
H3: Virtual networks have a significant positive impact on the business survival of female entrepreneurs in SMEs in Bangladesh	Yes (impact of virtual networks on business survival is: 0.31 <sup>**</sup> )	Supported
H4: In adverse contexts, the influence of personal networks on the business survival of female entrepreneurs in SMEs in Bangladesh is greater than that of professional and virtual networks	Yes (impact of personal networks on business survival in adverse context is: 0.65 <sup>***</sup> ) & (impact of professional networks on business survival in adverse context is: −0.24) & (impact of virtual networks on business survival in adverse context is: 0.37 <sup>**</sup> )	Supported

\* $p < 0.1$ .\*\* $p < 0.05$ .\*\*\* $p < 0.01$ .

entrepreneurial life (Chowdhury 2025; Lata and Khan 2021). Rather than being limited to a national case, the study draws on Bangladesh's socio-cultural, institutional, and patriarchal similarities with other countries across the Global South to offer analytically transferable insights (S. Ahmed and Eklund 2024; Sobhan and Hassan 2024). Although statistical generalizability is not claimed, the core mechanisms uncovered—such as the compensatory role of informal and virtual networks under conditions of postcolonial legacies, institutional voids, resource constraints, and patriarchal constraint—resonate with broader structural realities in South Asia, Sub-Saharan Africa, and the Middle East (Lata and Khan 2021; Sobhan and Hassan 2024). These are not context-bound anomalies but rather patterned responses to exclusion that are likely to emerge in similar socio-institutional settings. The study therefore contributes to a deeper understanding of how women entrepreneurs across the Global South navigate adversity through adaptive and context-specific networking strategies.

The significant positive impact of personal networks on business survival supports H1 and offers a theoretically salient counterpoint to dominant assumptions in Social Network Theory (SNT), which often prioritize formal-professional affiliations as the most effective conduits of entrepreneurial support. Personal networks comprising family, kin, and trusted social ties, serve not only as sources of emotional and financial support but as critical infrastructures of entrepreneurial resilience—particularly in contexts marked by institutional fragility and gendered exclusion (Mittra and Basit 2021; Ojong et al. 2021; Powell and Eddleston 2013). This finding is consistent with extant scholarship that highlights the centrality of kinship and community-based ties in resource mobilization across the Global South, where state and market-based support systems remain weak, exclusionary, or altogether absent (Gujrati et al. 2019; Henley 2005; Schickinger et al. 2022). In the Bangladeshi context, these personal networks operate as informal welfare mechanisms, compensating for institutional voids that

are historically rooted in colonial-era legal and economic arrangements that have marginalized women and non-elite actors (Raile et al. 2021; Zaheer et al. 2022). This reinforces feminist critiques of SNT that call attention to how network access and utility are influenced by social position, cultural norms, and structural power (Meliou 2020; Ozkazanc-Pan and Muntean 2018). Our findings extend SNT by illustrating that personal ties are not inferior alternatives to professional networks but are instead potentially structurally responsive and contextually adaptive systems of support (Giotopoulos et al. 2022; C. Liu et al. 2016). The embedded trust, reciprocity, and shared norms inherent in these networks take on heightened functional significance where formal institutions fail to offer credible mechanisms for legitimacy, capital access, or crisis navigation (Marlow and McAdam 2013). In this way, personal networks in Bangladesh exemplify how women mobilize informal, relational resources to mitigate uncertainty and sustain business operations, thereby challenging universalist network hierarchies and affirming the theoretical need for a more situated, decolonized understanding of entrepreneurial connectivity (Raile et al. 2021; Zaheer et al. 2022).

Supporting H2, professional networks did not show a significant impact on business survival in Bangladesh. This result underscores the limitations of professional networks in contexts where women face persistent societal and infrastructural challenges, many of which are tied to the colonial history that continues to shape access to resources and opportunities in the Global South (Aparicio et al. 2022; Bhat 2024). In Bangladesh, professional networks such as chambers of commerce, trade associations, and business clubs are not neutral or universally accessible spaces (Guerrero et al. 2021; Momen and Ferdous 2023). Instead, they are deeply embedded in elite male-dominated institutional structures that often reproduce existing social hierarchies and exclude those lacking economic, social, or cultural capital (S. Ahmed 2025; S. Rahman and Masud-All-Kamal 2024). Participation in these networks often requires

not only business legitimacy but also physical mobility, elite endorsements, and fluency in formal business norms—resources that many female entrepreneurs, particularly those from rural areas or lower-income groups, do not possess or are actively denied (Afrin et al. 2023; Jaim 2021; Sobhan and Hassan 2024). Although professional networks are widely promoted for facilitating knowledge exchange, mentorship, and strategic partnerships (Deng et al. 2021; Jabbouri et al. 2024), their practical application may be limited in settings where structural and cultural barriers restrict women's full participation (Banerjee and Jackson 2016; Tlaiss and Maura 2021). This structural exclusion is not incidental; it reflects broader gendered dynamics within Bangladesh's entrepreneurial ecosystem, where informal community-based ties are often more effective and trusted than formal business institutions (Afrin et al. 2023; Karim et al. 2023). Moreover, the design and functioning of professional networks frequently overlook the realities of women-led businesses, many of which operate informally, rely on family-based labor, or serve localized markets that fall outside the purview of formal institutions (Alakaleek et al. 2024; Sobhan and Hassan 2024). This disconnect renders professional networks not only inaccessible but also irrelevant to many female entrepreneurs' lived experiences and survival strategies (Saifuddin et al. 2019; E. Y. Song et al. 2022). This finding challenges the widespread belief in Western-centric literature that participation in industry associations, business clubs, and access to mentorship and partnerships are universally crucial for the sustainability of female-owned SMEs (Chaudhuri et al. 2020; Chit et al. 2023). Such conditions exemplify what we refer to as “network inaccessibility”: the phenomenon where institutions are formally open but structurally exclusionary, thereby reinforcing inequalities under the guise of neutrality (Harima et al. 2024; Stam et al. 2025). Instead, it underscores the urgent need to reconfigure professional support systems to be more context-sensitive, inclusive, and reflexive of the historical and socio-cultural realities faced by women entrepreneurs in the Global South (Johnston et al. 2022; Tahir 2024). Dismantling the institutional gatekeeping embedded in professional networks is essential to ensure their benefits reach marginalized entrepreneurial populations (Alakaleek et al. 2024).

Virtual networks have demonstrated a significant positive impact on business survival, supporting H3. This finding aligns with a growing body of scholarship on the transformative potential of digital technologies in the Global South, where virtual networks enable entrepreneurs to overcome structural and cultural constraints while accessing broader markets and resources (Agnihotri 2020; Lim and Rasul 2022). In contexts such as Bangladesh, where female entrepreneurs face socio-economic and gender-based mobility restrictions, digital platforms including WhatsApp business groups, Facebook marketplaces, and mobile payment systems operate not merely as tools of communication but as adaptive infrastructures. These are spaces where entrepreneurs can engage with suppliers, customers, and information flows that remain inaccessible through the more formal physical networks (Busch and Barkema 2021; R. P. Khan et al. 2025; Zaheer et al. 2022). Such platforms offer spatial flexibility, temporal autonomy, and relational anonymity, allowing women to navigate gendered constraints and expand their entrepreneurial reach (Wiig et al. 2024; Zaheer et al. 2022). From the perspective of Social Network Theory

(SNT), this result challenges the dominant assumption that professionally brokered face-to-face ties—typically valorized in Western-centric frameworks—are universally optimal for entrepreneurial success (Borgatti and Halgin 2011; Nambisan 2017). Instead, the findings underscore that network efficacy is context-dependent and shaped by historical and institutional exclusions. Digital tools and online platforms emerge not just as marketing channels but as powerful equalizers and relational arenas where women are able to negotiate legitimacy, build trust, and maintain continuity in the absence of robust formal institutions. In this sense, virtual networks play a structurally central role in contexts of systemic adversity, supporting a decolonized interpretation of SNT that recognizes the legitimacy and theoretical centrality of non-traditional digitally influenced forms of networking (Juhász 2021; Y. Song et al. 2021). This study thus extends the explanatory scope of SNT by foregrounding how virtual infrastructures serve as core mechanisms of entrepreneurial resilience and adaptation in the Global South (Meurer et al. 2022; Wang et al. 2020).

The interaction terms between network types and adverse contexts revealed intriguing findings. The significant positive interaction between personal networks and adverse contexts supports H4, suggesting that personal networks are especially vital in challenging environments. In regions such as Bangladesh, where economic and political instability are common, the resilience and adaptability of personal networks become crucial for the survival and growth of female-owned businesses (Raile et al. 2021). This study highlights that the effectiveness of these networks is amplified in adverse contexts, aligning with Social Network Theory, which emphasizes the importance of network resilience and adaptability in crisis situations (Borgatti and Halgin 2011). The unexpected benefits of personal networks, such as resilience and crisis support, are particularly crucial in non-Western contexts where formal support structures are often inadequate, and the legacy of colonial governance still affects the availability and accessibility of resources (Giotopoulos et al. 2022; C. Liu et al. 2016). In contrast, the interaction between professional networks and adverse contexts was not significant, indicating that professional networks do not provide critical support in challenging conditions. This may be due to the lack of robust professional support systems or the persistence of cultural barriers that restrict female entrepreneurs' access to these networks, reflecting the ongoing challenges of decolonizing economic systems and practices (Brieger and Gielnik 2021; Meurer et al. 2022). Whereas professional networks may offer benefits in stable conditions, they might not be as reliable during crises (Hennekam and Shymko 2020), necessitating the development of more resilient and adaptable professional support mechanisms (Jogulu and Franken 2023).

On the other hand, the significant interaction between virtual networks and adverse contexts indicates that virtual networks offer unexpected advantages in challenging environments (Nyberg et al. 2021). In the Global South, where female entrepreneurs often face severe constraints on physical mobility and access to traditional markets, virtual networks provide a lifeline, enabling them to maintain operations and connect with customers and partners globally despite local disruptions (Imas and Garcia-Lorenzo 2023; Murzacheva et al. 2020). Social Network



Theory supports this by highlighting the importance of flexible scalable networks that operate effectively during disruptions (Borgatti and Halgin 2011). Features such as enhanced privacy, reduced social pressure, and the ability to operate anonymously allow female entrepreneurs in the Global South to overcome contextual challenges, focusing on business goals without societal judgment (Hill et al. 2022; Martins et al. 2004). Virtual networks offer supportive communities, greater flexibility, broader market access, and cost-effective digital tools, leading to increased sales and growth (Barnes and Pressey 2014). Additionally, they provide innovative solutions and continuous learning opportunities, helping women leverage advanced technologies to stay competitive in a rapidly changing global marketplace (McAdam, Harrison, and Leitch 2019). The ability to access broader markets and innovative solutions without the physical limitations common in non-Western contexts is particularly valuable in adverse situations, aligning with literature on the decolonizing potential of digital technologies in entrepreneurship (Colovic and Schruoffeneger 2022). Virtual networks can ensure continuous operations and market engagement even when physical networks are disrupted, enhancing business resilience (Gloor et al. 2020).

Overall, this study confirms the critical role of personal and virtual networks in supporting the survival of female-owned SMEs in Bangladesh, particularly in adverse contexts. Social Network Theory provides a valuable framework for understanding how these networks function and their impact on business resilience and success in the Global South, where traditional Western models may not always apply. The findings challenge conventional wisdom regarding professional networks and highlight the need for a more nuanced decolonized understanding of how different types of networks function in various socio-economic environments. These insights have important implications for policymakers and practitioners aiming to support female entrepreneurship in the Global South. By fostering diverse network connections and designing targeted interventions that reflect the realities of these contexts, stakeholders can significantly enhance the resilience and sustainability of female-owned businesses. This study underscores the importance of not only developing robust network structures but also ensuring that these networks are adaptable and responsive to the unique challenges faced by female entrepreneurs in different contexts.

## 5.2 | Implications for Research

This study makes a substantial theoretical contribution to the fields of female entrepreneurship, Social Network Theory (SNT), and economic development in the Global South by uncovering how entrepreneurial network strategies are shaped by historically rooted inequalities and institutional fragility. Specifically, the study addresses a critical gap in SNT literature, which has largely neglected how gendered actors in postcolonial structurally adverse contexts access, configure, and rely upon different forms of networks. Although much of the existing literature privileges professional networks as the most effective for entrepreneurial growth—those accessed through elite institutions, formal organizations, and structured mentorship programs—this

study demonstrates that such assumptions fail to hold in settings such as Bangladesh (Al Mahameed and Ahmad 2025; Karim et al. 2023). Here, personal and virtual networks emerge not only as equally important but often more reliable and contextually adaptive forms of entrepreneurial support. A particularly counterintuitive and theoretically significant finding is the dominant role of personal networks, comprising kinship ties, neighborhood connections, religious leaders, and close community actors. These are vital in ensuring business survival and legitimacy under conditions of economic, institutional, and socio-cultural adversity. Such networks are not merely cultural artifacts or informal coping mechanisms; they represent deliberate strategic adaptations to systemic exclusion and risk (Teyi et al. 2023). These forms of support can be understood as “unexpected networks”—socially embedded adaptive ties that emerge outside conventional entrepreneurial ecosystems and function as intentional responses to institutional and gendered exclusion. Their significance is often overlooked in dominant network theory, which continues to privilege formal, visible, and elite forms of connection (Bai et al. 2021; Webb et al. 2020).

In the Bangladeshi context, such exclusions are deeply rooted in colonial legacies that historically denied women legal personhood, access to property, formal financial systems, and participation in the public-commercial domain (Aziz 2024; Kabeer 2024). These colonial foundations have shaped the development of post-independence institutions in ways that continue to marginalize women from formal entrepreneurial ecosystems (Kabeer 2024). Consequently, women entrepreneurs have had to build alternative infrastructures of support through trusted social ties, often blending familial, communal, and moral legitimacy to substitute for absent or exclusionary formal institutions (Simba et al. 2023). This study, therefore, calls for a fundamental reconceptualization of Social Network Theory to account for such historically conditioned and gendered variations in network formation and utility. The findings problematize the implicit Eurocentrism in SNT that normalizes formality, visibility, and professional hierarchy as universal indicators of effective networking. Instead, this research advances a decolonized and gender-aware theoretical lens that centers “relational rationality”—the logic by which marginalized actors construct viable support systems using socially embedded non-institutional resources. It proposes that informal and hybrid networks should not be treated as residual or culturally bounded but rather as analytically central to theorizing entrepreneurship in the Global South. By illuminating how women entrepreneurs construct and operationalize these networks in response to exclusion, the study enriches Social Network Theory and opens new pathways for theory building that is inclusive, historically grounded, and globally relevant.

Second, the study offers an important corrective to the marginalization of virtual networks within Social Network Theory by demonstrating their strategic and transformative role in resource-constrained and socially restrictive contexts. Whereas often seen as peripheral tools for marketing or efficiency in the Western literature, virtual networks ranging from WhatsApp business groups and Facebook marketplaces to mobile banking platforms serve as central infrastructures for entrepreneurial activity among women in Bangladesh and other parts of the Global South (Boateng et al. 2023; Zaheer et al. 2022). These

digital platforms are not simply communication tools; they operate as spaces of economic agency, relational innovation, and institutional circumvention, enabling women to build businesses in contexts where access to physical markets, formal financial systems, or male-dominated professional arenas remains limited or obstructed (Wiig et al. 2024; Zaheer et al. 2022). Crucially, these platforms offer spatial flexibility, temporal autonomy, and anonymity. These are features that allow women to engage in entrepreneurial activities while navigating gendered constraints on mobility, visibility, and domestic obligations (Boateng et al. 2023; Kelly and McAdam 2023). In this sense, virtual networks expand the repertoire of entrepreneurial strategies available to women facing socio-cultural and infrastructural barriers (Wiig et al. 2024). From a theoretical standpoint, this reframes virtual networks not as supplemental or secondary but as core components of entrepreneurial survival in postcolonial contexts. They therefore challenge the implicit assumption in SNT that face-to-face formalized interactions are the most effective or desirable mode of network engagement. The findings call for greater theoretical sensitivity within SNT to the ways in which digital spaces influence access, agency, and legitimacy, particularly for marginalized actors who are excluded from conventional sites of entrepreneurial participation. A decolonized understanding of virtual networks recognizes that digital infrastructures can not only replicate formal systems but also enable new hybrid forms of economic engagement that subvert existing hierarchies. Thus, future theoretical work must integrate the role of digital ecosystems into mainstream network theory and treat them as more than technological artifacts—as dynamic, contested, and contextually embedded social spaces that shape entrepreneurial outcomes in the Global South.

Third, the study reveals that the interaction between different types of networks—particularly personal and virtual networks—produces a cumulative and adaptive effect that is central to entrepreneurial survival in adverse institutional environments. Rather than operating in isolation or following a linear hierarchy of importance, these networks function synergistically, with entrepreneurs strategically alternating or blending them in response to different contextual pressures. For instance, a female entrepreneur might rely on kin-based financial support during a crisis while simultaneously using WhatsApp to connect with suppliers or customers, demonstrating a hybrid networking strategy that fuses trust-based reciprocity with digital mobility (Eggerman et al. 2023; Rosenbaum 2023). This dynamic interplay challenges the compartmentalized view of networks often present in SNT, where personal, professional, and virtual ties are treated as analytically distinct and hierarchically ordered (Jacobsen et al. 2022). The findings from Bangladesh highlight that women use these networks flexibly, in ways that are shaped by shifting constraints related to gender norms, institutional dysfunction, and resource scarcity. This adaptability is not merely tactical but reflects a deeper epistemology of resilience—one that prioritizes fluidity, redundancy, and informal trust as rational responses to exclusion and precarity. As such, this study underscores the need to move beyond static models of network categorization in SNT and toward a more process-oriented, relationally grounded, and historically informed understanding of network behavior. It invites scholars to consider the concept of “network hybridity” as a central analytical category—one that captures the simultaneous mobilization of different relational forms to manage uncertainty,

negotiate legitimacy, and access resources in structurally constrained environments. This perspective not only advances theoretical clarity but also aligns SNT more closely with the lived realities of entrepreneurs in the Global South, where multiple systems of support coexist, intersect, and evolve over time.

Fourth, this study contributes to the theoretical advancement of Social Network Theory by foregrounding entrepreneurial context as a boundary condition that fundamentally shapes how networks are mobilized, structured, and experienced. Whereas SNT has traditionally focused on network configurations, positions, and outcomes, it has often treated entrepreneurial settings as passive or interchangeable backdrops. This study challenges that assumption by showing that the institutional, historical, and socio-cultural features of entrepreneurial environments—such as those surrounding SMEs in Bangladesh—actively configure the meaning, accessibility, and utility of different network types. In this context where entrepreneurs operate within informal economies, patriarchal institutions, and weak regulatory frameworks, networks do not simply reflect actor preferences; they emerge from structural necessity. This suggests that the explanatory power of SNT is limited when its models are decoupled from the political economy and institutional histories in which entrepreneurial action unfolds. By treating SMEs not merely as units of analysis but as relational sites where exclusion, adaptation, and resistance materialize through network use, the study advances a more embedded and situated view of network theory. It proposes that entrepreneurial ecosystems, especially in the Global South, should not be treated as sites of empirical variation—but rather as essential terrain for theoretical refinement. Future network research must therefore engage more seriously with contextual embeddedness as a theoretical dimension, recognizing that network forms are not universally stable but shaped by institutional configurations, gendered access, and historical memory.

Taken together, the findings of this study signal a necessary shift in how Social Network Theory conceptualizes entrepreneurial agency under structural adversity. Rather than treating informal, context-specific, and digitally influenced networks as peripheral to entrepreneurial success, this research shows they are foundational in environments where institutional support is partial, gendered, or exclusionary. The empirical evidence from Bangladesh illustrates that women entrepreneurs are not simply constrained by weak systems; they are active network builders whose strategies reveal complex forms of innovation, risk navigation, and legitimacy building that remain invisible in mainstream theoretical frameworks. By drawing attention to these neglected practices, the study not only expands the analytical scope of SNT but also challenges the longstanding tendency to universalize Global North models of networking. It argues that meaningful theoretical innovation must emerge from sustained engagement with settings where entrepreneurial norms and institutions are fluid, contested, and shaped by historical inequities. In doing so, this work elevates contexts such as Bangladesh from case-study status to critical vantage points for building richer, more inclusive, and globally relevant theories of networked entrepreneurship.

Future research should build on these insights by exploring how network strategies evolve over time in response to shifting institutional, technological, and socio-cultural conditions.

Longitudinal and life-course studies could examine how female entrepreneurs reconfigure personal, virtual, and professional ties across different stages of business development—particularly in contexts where access to support is uneven or disrupted by crises. Comparative research across countries with different post-colonial legacies could also deepen understanding of how historical configurations shape entrepreneurial networks in distinct ways. In addition, greater conceptual attention is needed to theorize the mechanisms through which certain actors are systematically excluded from key networks, not merely through lack of resources but through embedded norms, institutional inertia, and invisible barriers. Addressing these gaps would not only enrich the explanatory power of Social Network Theory but also advance a more inclusive, context-sensitive, and historically grounded understanding of entrepreneurship in the Global South.

### 5.3 | Implications for Practice

Practitioners often prioritize professional and virtual networks for business growth and sustainability, but this study reveals that personal networks can be just as crucial and frequently more accessible, reliable, and contextually adaptive—particularly in settings where institutional frameworks are weak or exclusionary. In Bangladesh and comparable Global South contexts, personal ties such as those with family members, neighbors, religious leaders, and long-standing friends often replace the role of formal institutions by providing financial assistance, emotional support, referrals, and labor in times of need. These ties are not incidental but represent historically evolved coping mechanisms in environments where colonial legacies have left behind uneven institutional development and gendered access to opportunity. This finding highlights the importance of decolonizing our approach to network utilization by recognizing the unique socio-cultural and historical contexts of the Global South, where personal networks often serve as vital lifelines in environments shaped by colonial legacies and ongoing structural inequalities. Rather than viewing personal networks as residual or informal, practitioners should treat them as foundational systems of support that enable entrepreneurial agency under conditions of marginalization. Entrepreneurs should therefore be encouraged to cultivate and maintain robust personal networks, which can offer unexpected sources of resilience and support during crises. Incorporating this decolonized perspective, business support programs should include training on how to effectively leverage personal connections for business advantage, recognizing that these informal networks often hold greater relevance and reliability in non-Western contexts compared to formal professional networks. This includes creating participatory tools such as community-led mapping exercises or peer-based mentoring circles, which help entrepreneurs identify and mobilize their relational assets. Such practices must also be sensitive to reciprocity norms and social obligations, recognizing that these networks are built on trust and not transaction. This approach represents a shift away from the traditional Western focus on formal networks and acknowledges the importance of localized community-based connections that have been integral to survival and success in the Global South.

Furthermore, virtual networks should be recognized as essential tools for entrepreneurial adaptation in under-resourced and socially restrictive environments. Rather than relying on broad concepts of “market access,” practitioners should be equipped to guide female entrepreneurs through specific digital strategies such as using bKash for microtransactions, leveraging Facebook Live for product demonstrations, or coordinating inventories with suppliers via WhatsApp broadcast lists. In many Global South contexts, these tools serve not just as technological conveniences but as the primary means through which women bypass logistical, cultural, and safety-related barriers. They also allow for asynchronous business engagement, which is critical for women balancing caregiving responsibilities or lacking the autonomy to attend in-person events. Practitioners should therefore be trained not only in how to use these tools but also in understanding the socio-cultural conditions that make them indispensable. This decolonized view of virtual networks moves beyond simply “bridging the digital divide” and recognizes that women use these platforms not to replicate formal business practices but to reinvent entrepreneurial engagement in ways that suit their realities. Practical interventions might include peer-run digital clinics, mobile phone-sharing cooperatives, or app-based microlearning modules tailored to local dialects and low-literacy users. By grounding virtual network practice in context-specific usage patterns, support initiatives can better align with the everyday strategies women already use to sustain their businesses. This not only enhances practical effectiveness but ensures that Social Network Theory reflects how entrepreneurial practice is continually reshaped by digital innovation under structural constraint.

### 5.4 | Implications for Policy

Based on the findings, policies should focus on strengthening personal networks through community-based programs that offer mentorship, peer support, and family business workshops, as these networks significantly impact the business survival of female entrepreneurs in adverse contexts. However, these interventions should not be imposed through top-down templates drawn from Western entrepreneurial ecosystems. Instead, they must be co-designed with local stakeholders such as women's self-help groups, faith-based institutions, and neighborhood-level cooperatives. This will reflect how relational trust, kinship ties, and communal responsibilities already function as lifelines in the entrepreneurial journeys of women. In Bangladesh and similar postcolonial settings, such informal networks have long substituted for formal systems that were either historically exclusionary or remain institutionally weak because of the lingering effects of colonial governance models. This emphasis on personal networks reflects a decolonizing approach to policymaking, acknowledging the critical role that informal community-driven support systems play in the Global South, where formal institutions may be less accessible or trustworthy due to historical and socio-political factors. Rather than attempting to formalize or professionalize these networks in the image of Western standards, policy should legitimize, resource, and protect these systems as resilient infrastructures of survival and agency. This means offering institutional recognition to unpaid relational labor, funding grassroots peer

mentoring, and treating informal support not as a barrier to formality but as an equally valid foundation for entrepreneurial success.

Additionally, reforming professional networks to be more inclusive and contextually appropriate is essential. In Bangladesh and many other Global South contexts, professional associations such as chambers of commerce, formal networking events, and industry bodies, often remain exclusive male-dominated spaces shaped by colonial-era institutional logics and postcolonial bureaucratic inertia. Policies must therefore go beyond symbolic inclusion and address the deep-seated barriers that continue to marginalize female entrepreneurs from these spaces. This includes subsidizing membership fees, providing childcare support at networking events, and rotating leadership opportunities to ensure diverse representation. Decolonizing professional networks involves creating policies that address the structural inequalities embedded in these networks, which have historically favored more privileged groups. Rather than replicating Western-centric models of elite gatekeeping, policy reforms must challenge institutional norms that assume one-size-fits-all professionalism. This can be achieved by targeted outreach, reducing membership fees, and creating women-focused subgroups within industry associations. Such reforms are not only about access but also about restructuring whose knowledge, visibility, and authority are legitimized within entrepreneurial ecosystems. Without these changes, professional networks risk reinforcing the very hierarchies they claim to disrupt.

Moreover, enhancing virtual networks is a critical policy priority in contexts where physical mobility, public visibility, and spatial access are constrained by gender norms, geographic isolation, or infrastructural underdevelopment. In Bangladesh and similar Global South contexts, digital tools such as WhatsApp business groups, Facebook marketplaces, and mobile money platforms have emerged as alternative arenas of entrepreneurship—thereby allowing women to access suppliers, clients, and peer networks without having to enter male-dominated public spaces (Boateng et al. 2023; R. P. Khan et al. 2025). Policymakers must move beyond generic digital expansion and instead adopt gender-responsive digital inclusion strategies. These should include subsidized mobile internet access for low-income women, platform design in local languages, and training programs tailored to women's time constraints and literacy levels. In the context of the Global South, where infrastructural barriers and limited mobility often impede participation in traditional networks, digital platforms can democratize access to resources and opportunities (Bhat 2024). However, treating digital access merely as a technical fix is insufficient. A decolonized digital policy approach must acknowledge that virtual spaces can serve as strategic workarounds to bypass institutional and spatial gatekeeping. These platforms offer women a form of mediated visibility—allowing them to remain economically active in environments where cultural or household norms may otherwise constrain public engagement. Thus, digital inclusion should be viewed not only as a technological upgrade but also as an avenue for economic justice and entrepreneurial autonomy.

Implementing policies that address the specific needs of female entrepreneurs in adverse contexts, such as emergency funding,

crisis preparedness, digital safety measures, and resilience-building programs, will further support business continuity and adaptability. However, to be effective, these measures must be situated within a policy architecture that recognizes the interplay between personal, professional, and virtual networks. Rather than isolating these forms of support or privileging one over the other, integrated policy design should reflect how women actively move between different network types in response to social, institutional, and technological constraints. For instance, hybrid models that link grassroots peer support with digital marketplace training and access to rotating professional mentorship schemes could provide a more holistic and sustainable foundation for entrepreneurial growth. These policies should be informed by a decolonized perspective that recognizes the unique challenges and historical contexts of the Global South, ensuring that support mechanisms are relevant and effective in these environments. Critically, this decolonial approach requires rejecting universalist assumptions about what constitutes effective support and instead centers plural locally rooted ways of organizing entrepreneurial life. A holistic approach to network development, integrating the benefits of personal, professional, and virtual networks, should be promoted to ensure that female entrepreneurs can leverage a broad spectrum of support mechanisms for their overall resilience and success. Such a model not only enhances the practical relevance of policy interventions but also contributes to a more inclusive and contextually relevant policy application of Social Network Theory. By embedding pluralism, context sensitivity, and structural reform into network policy, states and institutions can move toward a more inclusive, equitable, and theoretically robust vision of entrepreneurial development in the Global South.

## 5.5 | Limitations and Avenues for Further Research

While this study provides valuable insights into the role of networks in supporting the survival of female-owned SMEs in Bangladesh, several limitations should be acknowledged. First, the cross-sectional design limits the ability to draw causal inferences over time, highlighting the need for longitudinal and process-based studies that examine how these networks evolve, dissolve, or reconfigure in response to shifting economic and political climates. Such approaches would allow scholars to capture not only the structural composition but also the dynamic nature of network resilience in the face of contextual adversity. Second, although the sample size of 156 female entrepreneurs is statistically adequate for the analysis, it may not capture the full heterogeneity of entrepreneurial experiences across Bangladesh's socio-economic, geographic, and sectoral divides. Future research could enhance generalizability by including more diverse samples—for instance, comparative sampling across rural and urban regions, industry verticals (e.g., service vs. manufacturing), or even stratified sampling based on education and age groups—to assess whether network configurations vary systematically across such dimensions. Third, the reliance on self-reported data introduces potential biases such as social desirability or recall bias (Bartschat et al. 2022). Although common in entrepreneurial research, this limitation could be



mitigated in future studies through multi-method triangulation strategies, including ethnographic observation, in-depth interviews, or digital trace data from online platforms that entrepreneurs use to engage with their networks. These alternative data sources could offer more nuanced insights into how different types of ties are mobilized in real-time decision-making and survival strategies. Fourth, the exclusive focus on Bangladesh,<sup>8</sup> although justified by its rich postcolonial and patriarchal context, might limit the broader generalizability of the findings. Cross-country comparative research across postcolonial states in South Asia or Sub-Saharan Africa could illuminate whether the mechanisms uncovered here—particularly the prominence of personal and virtual networks—are context-specific or part of a broader Global South pattern. Such comparative insights would also support more robust theorization of network dynamics under conditions of institutional adversity in the Global South.

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### Ethics Statement

This study was conducted in accordance with ethical guidelines and received approval from the Ethics Committee of Essex University.

### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The data that support the findings of this study are available upon request.

### Endnotes

<sup>1</sup> In this study, the term “Global South” is used to describe countries in Asia, Africa, Latin America, and Oceania that share a common history of colonization and face similar socio-economic challenges (Mahler 2018). The phrase “non-Western contexts” refers to regions outside the traditional Western economic and cultural spheres, which include but are not limited to the Global South (Connell 2020).

<sup>2</sup> Bangladesh is used in this research as a strategically selected case that exemplifies the structural, socio-cultural, and institutional adversity common to many parts of the Global South (Kabeer 2024). The country's layered challenges are shaped by postcolonial legacies, weak institutions, resource constraints, and deeply patriarchal norms. These reflect conditions found in several other Global South contexts, particularly in South Asia, Sub-Saharan Africa, and the Middle East (Lata and Khan 2021; Sobhan and Hassan 2024). These parallels provide a strong analytical basis for extending the relevance of the findings beyond Bangladesh, especially in understanding how women navigate systemic exclusion through alternative, often informal, networking practices.

<sup>3</sup> To ensure no overlap, we have followed the following mutually exclusive definitions of personal, professional, and virtual networks: personal networks include family members and close friends who provide emotional and financial support (Ojong et al. 2021); professional networks consist of business associates and industry contacts who offer business-related advice and resources through face-to-face interactions (Darnihamedani and Terjesen 2022); and virtual

networks comprise individuals met and interacted with primarily through online platforms and digital communication tools (Jafari-Sadeghi et al. 2021).

<sup>4</sup> Although Pascual-Fuster et al.'s (2025) analysis focuses on Spain, their call to rethink ecosystem logics through lived experience and power dynamics resonates strongly with Global South contexts such as Bangladesh.

<sup>5</sup> In British India, where Islam and Hinduism have historically dominated the demographic landscape, colonial courts applied personal laws differently but with similarly patriarchal effects (Lange 2004; P. Chatterjee 2020). For Muslims, women's inheritance rights under Islamic law were mediated through Anglo-Muhammadan jurisprudence and adjudicated by colonial judges unfamiliar with Islamic legal traditions (Agarwal 1994; M. M. Rahman 2017). Procedural hurdles—such as legal fees, written documentation, and male-dominated court processes—further limited women's ability to claim property (Agarwal 1994; S. Ahmed and Eklund 2024). For Hindus, codified laws reinforced exclusionary customs that denied women access to ancestral property (Agarwal 1994; M. M. Rahman 2017). These colonial legal structures persist in postcolonial Bangladesh, where women—particularly outside urban centers—continue to face structural and cultural barriers, including social pressure to forgo claims, in accessing and asserting their inheritance rights (S. Ahmed and Eklund 2024; Qayum 2021).

<sup>6</sup> To address the impact of confounding variables, data were collected from SMEs in two specific cities in Bangladesh following recommendations from previous research (Y. Song et al. 2021). This approach controlled for confounding factors related to the size and location of the firms, thereby ensuring the study's findings were robust and reliable (Y. Song et al. 2021).

<sup>7</sup> The reliability of the scales was assessed using Cronbach's alpha to measure internal consistency. A Cronbach's alpha value of 0.70 or higher was considered acceptable for the scales used in the study (Maroufkhani et al. 2022).

<sup>8</sup> This context presents a compelling and analytically relevant case for understanding entrepreneurial dynamics in postcolonial settings. The combination of institutional fragility, entrenched gender norms, and a growing yet informally embedded female entrepreneurship sector mirrors conditions in other parts of the Global South, including Pakistan, Nigeria, and Nepal.

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