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# The Impact of Gender and Social Networks on Microenterprise Business Performance

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*Why are some people more successful than others in starting new businesses? Are women more or less successful than men? This study investigates relationships among gender, social networks, and microenterprise business performance. It examines existing theories and research on gender differences in social networks and whether gender differences affect female micro-entrepreneurs' business performance. The purpose of this study is to help U.S. Microenterprise Development Programs create strategies to enhance the ability of female micro-entrepreneurs to gain economic benefits from their social networks. The paper identifies key gaps in theory, proposes an alternative research framework, and suggests directions for future research and policy and program development.*

**Key words:** *Microenterprise, gender, social networks, social capital, poverty*

Microenterprise (ME), once a promising approach to poverty alleviation, has taken on new meaning in the context of worldwide economic recession and governments' decreasing capacity (Dumas, 2010). MEs, defined as small-scale businesses that hire fewer than five employees including the owner (Solomon, 1992), were introduced to the United States in the late 1980s as an alternative strategy for providing low-income people with economic opportunities (Edgecomb & Klein, 1996). ME success in developing countries, such as the Bank Rakyat Unit Desa program in Indonesia and the Grameen Bank in Bangladesh, encouraged the United States to examine the potential of microenterprise for business development, job

creation, and community development.

The focus of the ME approach is quite different from traditional welfare approaches to poverty alleviation in that it aims to improve the capability of the poor to achieve their goals in the economic mainstream through business development (Kim, 2012; Sherraden, Sanders, & Sherraden, 2004). U.S. microenterprise development programs (MDPs) provide capital, business training, technical support, and access to social networks (Schreiner, 2003). They have a special focus on women from economically and socially disadvantaged backgrounds (Jurik, 2005; Servon, 1999). Many women choose microenterprise due to gender inequality in labor market, and time-flexibility and economic opportunities in business (Dumas, 1999).

This study examines the theoretical and empirical research evidence to determine if the network assistance strategy of U.S. MDPs is an effective way to improve female participants' business performance. The network assistance strategy of U.S. MDPs aims to include economic benefits for women's businesses from their social networks. For instance, 55 Women's Business Centers (WBCs) provide low-income women with referrals to specialized business professionals in a variety of fields such as accountancy, law, and sales consulting. Additionally they organize peer-support groups for small businesses (Women's Business Development Center, 2012). This approach underscores the importance of increasing linkages between female micro-entrepreneurs and community members for women's business development (Sherraden, Sanders, & Sherraden, 2004).

This study reviews existing research on relationships among gender, social networks, and business performance. Relevant publications were located using keywords such as social network, social capital, gender, gender inequality, microenterprise, and microenterprise performance in major databases and collections of electronic journals (such as Google Scholar, Google books, DBLP, ERIC, International ERIC, EBSCO, Social Service Abstracts, Sociological Abstracts, and Social Science Citation Index, Women's Studies International, Espacenet, JSTOR, Scopus, Web of Science, Gender Watch). The review includes books, book chapters, published articles, working papers, conference papers, and reports from government agencies until 2011, yielding 2,635 separate studies. This

project covers 50 studies that focus on gender, social networks, and business performance.

This study asks two central questions. First, are there gender differences in social networks of micro-entrepreneurs and, if so, do these gender differences affect women and men's microenterprise performance differently? Second, what kinds of network assistance strategies are effective in improving women's business performance?

With greater emphasis on gender sensitive programming that includes social network building, U.S. MDPs could serve as good training models for improving business outcomes for women entrepreneurs. Toward this end, we begin by examining existing research about the relationships among gender, social networks, and business performance, identifying gaps in theory and empirical research. Then we propose an alternative research framework and directions for research.

## Gender and Social Networks

The relationship between gender and social networks has been investigated in social capital theory. Social capital is generally defined first as the ability of actors to receive economic benefits by acquiring membership in a social network or other social structure (Portes, 1998), and second, as the ability to gain access to actual or potential resources that shape people's social interactions, such as social norms, trust, and information (Granovetter, 2005). A social network is defined as the system of individuals' organized relationships with others (Donckels & Lambrecht, 1995).

Gender differences in social networks are based on two main theoretical frameworks in social capital theory: a) the social network *structure* approach; and b) the social network *resource* approach. The network structure approach primarily focuses on understanding the network mechanisms and structures that affect the paths for converting individual interpersonal relationship into economic benefits (Klyver & Terjesen, 2007; Lin, 1999). A social network's structure is measured using indicators such as size, density, range, diversity, and composition.

The network resource approach analyzes the nature of resources embedded within a network that may assist in

microenterprise development (Seibert, Kraimer, & Liden, 2001). A social network's resources are measured by indicators such as the number of accessible resources, best resources, variety of resources, and the socioeconomic status of network members (Lin, 1999). Individual research studies typically do not use all indicators.

### *Gender Differences in Social Network Structures*

A key concept in the social network structure approach is the extent to which an individual is linked to others in their social networks (Seibert et al., 2001). These links, or ties, may be "strong" or "weak." The strength of a tie refers to a mixture of the emotional bond, the amount of time spent on the relationship, frequency of interaction, intimacy, and mutual services (Granovetter, 1973).

Weak ties are infrequent and restricted to one type of relationship. Strong ties are frequent, emotionally close, and represent relationships that involve reciprocity (Granovetter, 2005). Somewhat counter-intuitively, weak ties are often more important than strong ties, according to Granovetter (2005), author of a seminal piece on the "strength of weak ties." He explains that since weak ties are more likely to reach outside of one's social clique to make a bridge from a possibly disconnected group to individuals in an organization, they provide members with unique information and resources for a job search or entrepreneurial activities (Granovetter, 2005; Lin, 2000; Molyneux, 2002). In contrast, strong ties exist between people who already have similar information and qualities. Thus, information obtained through these ties is more likely redundant (Munch & McPherson, 1997). Exceptions include situations in which strong ties assist people in insecure positions to handle crisis and uncertainty by obtaining emotional supports and urgent aid (Granovetter, 1983; Krackhardt, 1992).

Some studies examine gender differences in social network structures. In particular, most studies investigate gender differences in network strength and diversity (Klyver & Terjesen, 2007; Loscocco, Monnat, Moore, & Lauber, 2009; Renzulli, Aldrich, & Moody, 2000; Robinson & Stubberud, 2011). Most studies verify that businesswomen's social networks are less likely to have 'weak ties' than business men's social networks.

In particular, women's job- or business-related networks include higher proportions of kin, families, and female neighbors. Men's networks consist of fewer kin and neighbors, but include more professional acquaintances and consultants affiliated with formal associations (Klyver & Terjesen, 2007; Rankin, 2001; Renzulli et al., 2000; Robinson & Stubberud, 2011). Based on these findings, researchers (Lin, 2000; Molyneux, 2002) maintain that women are less likely to receive benefits from their networks for job searches, business start-ups, and job promotions, since their networks consist of kin rather than business associates. At the same time, men are more likely to receive additional benefits, such as business information, from male-dominant larger networks. Gender differences that favor men's business success are rooted in gender-based structural inequality. In particular, women's child care and housekeeping responsibilities imposed by gender segregated roles tend to focus women's social network around family and kin (Loscocco et al., 2009; Munch & McPherson, 1997).

Not all studies confirm gender differences in social network structures. Two studies find no gender difference in terms of the percentage of kin and business contacts in women's and men's networks. Loscocco and colleagues (2009) and Cromie (1992) report that women's business networks are no more likely than men's to include families and friends. However, with respect to network activities, Cromie (1992) does find that male entrepreneurs put more efforts into both social and professional clubs and societies, and that women spend less time developing new contacts and have less frequent contacts with their network members than do men.

Although there have been inconsistent outcomes in studies, a relatively larger number of studies have found that, compared to men, women have fewer weak ties in their networks, which may be more beneficial for their businesses than strong ties.

### *Gender Differences in Social Network Resources*

The other theoretical approach to understanding gender differences in social networks is the social network resource approach. This approach contends that it is not network structures but network resources embedded in the networks that

influence business performance. In addition, resources embedded in networks are determined by individual social position, not generated by individual choices (Bourdieu, 1986; Lin, 2005; Molyneux, 2002). Therefore, social capital is inherently unequal and contradictory in nature (Beggs, 1997; Rankin, 2001). The social network resource approach sheds light on women's inequality. Even though some studies report that women's networks are largely similar to men's networks in terms of size, density, and activities (Cromie, 1992; Loscocco et al., 2009), women's networks contain fewer viable economic resources. For example, studies verify that men are more likely to be affiliated with core associations which have more information and resources, such as economic institutions (Beggs, 1997; Davidsson, 2003). In contrast, women tend to be located in smaller and more peripheral organizations, which are associated with domestic and community affairs. Therefore, even when women develop networks typified by weak ties, they do not deliver as many economic returns. In other words, it is not the weakness of a social tie but the embedded resources that convey benefits (Lin, 2000).

This approach highlights how an individual's networks are associated with structural inequality and shed light on the impacts of gender inequality in terms of resource distribution in social networks.

### *Integration of the Two Approaches*

Although Lin (2002) asserts that the social network resource approach effectively replaced the social network structure approach, integration of the two approaches provides a more useful theoretical framework for analyzing gender differences. The integration of the two approaches can help explain how the configuration and the content of a network influence the quality of resources embedded in networks. In other words, structure and resources are complementary approaches for analyzing gender differences in social networks. The next section examines theories and research on how social networks affect business performance.

## Social Network Structure and Resources and Business Performance

Business performance is measured by a broad range of objective and subjective measures, such as business start-up, sales growth, profitability, business survival, and satisfaction with business outcomes (Watson, 2007). In existing research, there are two main hypotheses on the relationship between social capital and business performance: (a) the network founding hypothesis; and (b) the network success hypothesis.

### *The Network Founding Hypothesis*

The network founding hypothesis investigates how social networks influence the business start-up (Brüderl & Preisendorfer, 1998). It consists of the discovery and exploitation of entrepreneurial opportunities (Shane, 2000). This hypothesis assumes that social network resources, networking activities, and network support positively influence the process of business start-up (Hite, 2005).

With respect to the impacts of social network structures on business start-up, both strong and weak social network ties affect business start-up by providing scarce but necessary information (Brüderl & Preisendorfer, 1998; Davidsson, 2003; Wagner, 2004). Weak ties stimulate entrepreneurship and facilitate the discovery of opportunities by exposing nascent entrepreneurs to new and different ideas, worldviews, and advice (Aldrich & Zimmer, 1986; Granovetter, 1983, 2005). Strong ties also assist nascent entrepreneurs by providing unpaid family work and emotional support (Brüderl & Preisendorfer, 1998; Hite, 2005; Sanders, 1996). For example, inexperienced nascent entrepreneurs are more likely to depend on the advice of their close friends than someone unknown or not trusted, and their friends may offer opportunities or resources that influence the nascent entrepreneurs' choices (Casson, 2007; Hite, 2005; Woolcock, 2001). Micro-entrepreneurs rely on the advice of friends and relatives in order to maintain confidentiality and control of the business (Bryson & Daniels, 1998; Burt, 1998; Davidsson, 2003; Portes, 1998).

Social networks also provide nascent entrepreneurs with resources to leverage critical resources for establishing businesses, including information, advice, and access to financial

capital (Brüderl & Preisendorfer, 1998; Davidsson, 2003). For emerging firms, these social network resources are critical because they might not otherwise be available or affordable (Aldrich & Reese, 1993; Hite, 2005; Johannesson, 1996; Littunen, 2000).

Despite these theoretical findings, only a few studies demonstrate positive effects of social networks on business start-up. Davidsson and Honig (2003) find that both strong and weak ties are positively associated with business start-up success. With regard to impacts of social network resources on business start-up, Aldrich and colleagues (1987) and Jenssen and Greve (2002) find that accessibility of network resources is positively correlated with business start-up. In particular, Jenssen and Greve (2002) find that both strong and weak ties increase the entrepreneurs' access to resources. With the exception of Jenssen and Greve's (2002) study, which sampled small and medium-sized businesses (SMEs), other studies use randomly selected samples of nascent entrepreneurs, regardless of business size.

### *The Network Success Hypothesis*

The network success hypothesis suggests that weak ties are most likely to assist inexperienced entrepreneurs by providing links to organizations and people who have valuable information and resources regarding the growth and survival of businesses (Casson, 2007; Granovetter, 1983, 2005; Woolcock, 2001). Similarly, Hite (2005) and Fischer and Reuber (2003) argue that if the emerging firm depends heavily on close personal relationships that do not have resources, early growth would be at risk.

However, research has produced inconsistent results with respect to the relationship between entrepreneurs' social networks and business growth and survival. Watson's study (2007), using a sample of SMEs, supports the network success hypothesis by finding that more numerous weak network ties increase the probability of business growth. However, some findings contradict the network success hypothesis. Brüderl and Preisendorfer (1998) find that both weak and strong ties have positive influence on sales growth in a randomly selected sample of business founders. These scholars also report more strong ties lead to higher chances of business survival,

whereas more weak ties have little effect on survival. In terms of the impact of network resources on business performance, Aldrich, Rosen, and Woodward (1987) find that accessibility of network resources is also positively correlated with business profit.

Other researchers (Aldrich & Reese, 1993; Johannisson, 1996; Littunen, 2000) find no significant positive effect of network size, activities, and resources on business performance. In fact, Bates (1994) finds that heavy use of social networks is more likely to result in less profitable and failure-prone businesses. Brüderl and Preisendorfer (1998) propose two reasons for these findings. The first reason is related to measurement error. They contend that instead of measuring network structures or accessible resources, research should measure actual utilization or support from networks because entrepreneurs can improve success only if they use their social networks for their business. The second reason is that entrepreneurs are more likely to compensate for their lack of financial and human capital by utilizing their social networks. Despite entrepreneur efforts to extract capital from social networks, studies tend to show no or even negative effects of social network on business performance (Brüderl & Preisendorfer, 1998). In order to overcome measurement error and compensation effect, these scholars suggest measuring network activities, such as time investment and control, for other critical variables, such as human capital and financial capital.

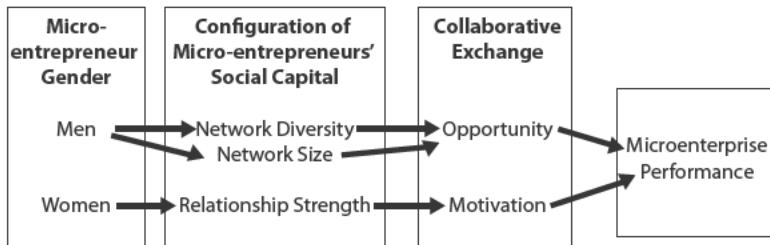
Thus far, we have investigated the relationships between gender and social networks and between social networks and business performance. In order to fully understand how gender differences in social networks may affect business performance, the next section reviews the few existing studies that examine relationships among all three: gender, social networks, and business performance.

### *Role of Gender on Business Performance*

Tata and Prasad (2008) propose a theoretical framework that addresses the relationships among gender, social networks, and microenterprise performance (See figure 1). Using six propositions, they investigate the social network structure of micro-entrepreneurs, including network diversity, network size, and relationship strength. They hypothesize that female

and male micro-entrepreneurs have different network structures. Specifically, men's networks have more diverse, larger, and weak tie relationships, while women's networks are more likely to be in the form of less diverse, smaller networks, and strong tie relationships. They hypothesize that the greater diversity and larger network size will increase opportunity to engage in collaborative exchange. In addition, stronger network relationships will increase micro-entrepreneurs' motivation to engage in collaborative exchange. Finally, more opportunity and higher motivation to engage in collaborative exchange will positively influence ME performance. In other words, Tata and Prasad (2008) argue, on one hand, that men's greater opportunity to engage in collaborative exchange will improve their business performance, and on the other hand, women's higher motivation to engage in collaborative exchange will enhance business performance.

Figure 1: Tata and Prasad's Conceptual Model of the Relationship among Micro-entrepreneurs' Gender, Social Network, Collaborative Exchange and Microenterprise Performance.



Source: Tata & Prasad, 2008, p. 376

Tata and Prasad's theoretical framework contributes to understanding different paths through which gender influences microenterprise performance. However, this framework has limitations. First, it overlooks resources embedded in social networks. Tata and Prasad (2008) assume that women's stronger network relationships and higher engagement in collaborative exchange will automatically increase ME business performance. Our review of research, however, suggests that both structure and resources are important and have greater explanatory value when they are both included. If women's social networks do not contain sufficient resources connected

to business opportunities, we suggest that women's higher engagement in collaborative exchange will not increase business success. Second, Tata and Prasad's framework does not explain how men's and women's social network structure influences business performance. If it is true that male micro-entrepreneurs have advantages due to larger and more diverse networks, female micro-entrepreneurs should experience disadvantages due to smaller and homogeneous networks. However, Tata and Prasad (2008) do not address this issue.

This logical flaw is related to lack of clarity about stages of microenterprise development: start-up, growth, and survival. According to the network founding and success hypotheses, strong ties could positively influence business founding but not growth and survival (Brüderl & Preisendorfer, 1998; Klyver & Terjesen, 2007; Renzulli et al., 2000; Robinson & Stubberud, 2011). In this regard, compared to men, female micro-entrepreneurs' strong ties could be beneficial for business start-up but not for business growth and longer-term survival. Therefore, the variable of microenterprise performance in this model needs to be diversified in order to measure the gender effect on different stages of business development.

Similarly, there are only a limited number of studies that explore relationships among gender, social networks, and business performance. Renzulli and colleagues (2000) randomly sampled business owners, members of local business organizations, and participants of small business classes, and find that women are more likely to have homogeneous networks with a high proportion of kin, compared to men. Given the importance of diverse social networks on business start-up, the researchers find that this created significant disadvantages for women in business start-up. In contrast, Chowdhury and Amin (2011), in a sample of SMEs, find that the stronger ties that female entrepreneurs have, the more likely they are to intend to start up a business. They measure strong ties in social networks by asking if family members share and take interest in the business plan.

The value of strong ties also comes out in Yetim's (2008) study of female migrant entrepreneurs who were members of local business organizations. Yetim (2008) finds that migrant women utilize the strong ties in their businesses more than non-migrant women (Yetim, 2008). Yetim concludes that the

structure of women's social networks is shaped by their immigrant status, ethnicity, and economic status. Migrant women's heavy utilization of strong ties can substitute for their lack of other capital for their business. According to Valdez (2011), structural oppression and privilege stemming from the intersection of race, gender, and class, shape unequal market capacity to succeed in business in the United States. In the case of migrant women, their social status—determined by the intersection of gender, ethnicity, and immigrant status—may impose unequal access to market resources for business start-up compared to non-migrant women. Therefore, for migrant women, developing and utilizing strong ties within ethnic networks could be a last resort in order to overcome their new social milieu (Yetim, 2008). In contrast to weak tie theory represented by Renzulli and colleagues' study (2000), Chowdhury and Amin (2011) and Yetim's (2008) studies underscore the positive nature of strong ties for business motivation and start-up for women, findings supported by the network founding hypothesis and Tata and Prasad's theoretical framework.

There are two possible reasons for these inconsistent findings: errors in measuring social networks or social capital, or failure to control for other key variables. Chowdhury and Amin (2011) and Yetim's (2008) studies measure social capital in terms of respondent's subjective self-evaluation, including responses such as "members of my family share many of my interests" (Chowdhury & Amin, 2011, p. 142), and "I can use relationships in my social milieu to initiate and maintain an enterprise" (Yetim, 2008, p. 873). These self-evaluations measure neither objective network structure and resources nor actual utilization of networks. Furthermore, Yetim (2008) and Renzulli and colleagues' (2000) studies do not control for financial capital, which significantly affects business performance (Brüderl & Preisendorfer, 1998). Therefore, these study limitations prevent a full understanding of the relationships across gender, social networks, and business performance. More rigorous research designs and measures are needed.

Tata and Prasad's theoretical framework (2008) contributes to decreasing measurement error of social network by providing objective criteria to measure social network structures, such as network size and diversity and relationship strength. However, their theoretical framework should articulate other

possibly confounding factors that affect the relationship across gender, social network, and micro-entrepreneurs' performance.

### Research Gaps

This study has reviewed theories and research in order to explore the ways in which gender differences in social networks may differentially affect women's and men's business start up and growth. Our first research question was: Are there gender differences in social networks and, if so, do these gender differences affect women and men's microenterprise performance in different ways? Social capital theories (network structure and network resources theories) establish that female entrepreneurs are more likely to lack weak ties and resources that link them to valuable business opportunities. Overall, there is significant evidence that women's social networks are more likely to consist of kin and female neighbors (strong ties instead of weak ties) and are more likely to be associated with smaller and domestic affairs-oriented organizations that do not have high levels of business resources, compared to men's social networks. Given the arguments embedded in the network founding and success hypotheses, it is logical that fewer weak ties and fewer resources in female micro-entrepreneurs' networks would negatively affect business performance.

Nonetheless, despite logical theoretical arguments, there is less evidence on the relationship between gender differences in social networks and business performance and the evidence that exists is less robust. Inconsistent outcomes are likely due to measurement errors and lack of controlling for critical confounding factors. Some studies contend that women's strong ties significantly contribute to improving their business motivation and performance (Chowdhury & Amin, 2011; Yetim, 2008). In contrast, other studies show that women's greater number of strong ties (homogeneous networks having more kin) significantly negatively influences business start-up (Renzulli et al., 2000).

The second question was: What kinds of social network development strategies are effective in improving women's microenterprise performance? Here, we find inconsistencies between theory and empirical research that do not permit a clear answer without addressing gaps between theoretical and

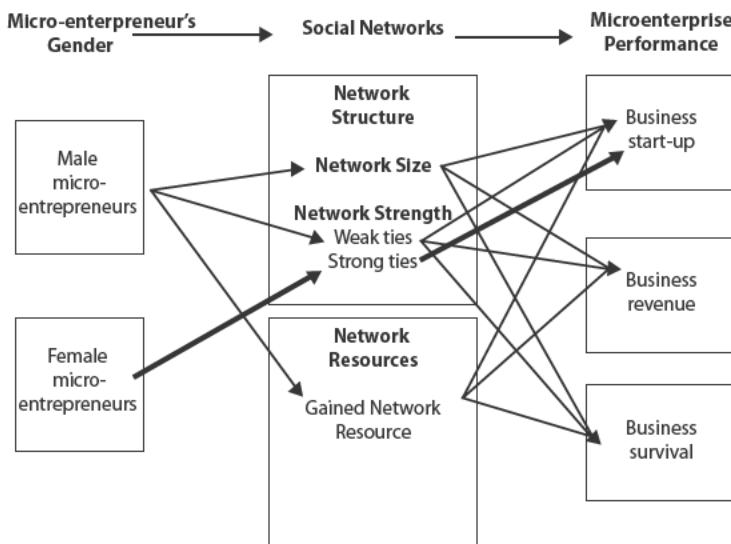
research. First, only a few studies measure how gender differences in social networks affect business performance. While some studies measure gender differences in social networks, they do not account for correlation between gender in social network and business performance. Second, most studies do not account for the size of the business. Network activities may be more important for ME performance than for larger businesses. For instance, lacking resources for advertising, microentrepreneurs' network members can be the first customers and suppliers and can assist in marketing a new business to other potential customers and suppliers. Third, most of the research on this issue uses cross-sectional data, which cannot track changes in business status over time. Since the effect of social networks on business performance could be different as businesses grow, longitudinal data analysis can reveal the dynamic impact of social networks on business performance.

### Alternative Theoretical Framework and Research Directions

In light of these research gaps, this section proposes an alternative theoretical framework and research design. Figure 2 presents an alternative conceptual model that builds on social network structure theory, social network resource theory, the network founding and success hypotheses, and Tata and Prasad's conceptual model.

The alternative model suggests measuring how gender differences in social networks affect microenterprise performance. First, the model measures both network structure and network resources. In regards to network structure, the size and strength of social networks should be measured. Size is measured by the total numbers of people within the social network. Strength is measured by the number of strong and weak ties. Strong ties are measured by the proportion of kin, family members, close friends, and neighbors within the social network, and weak ties are measured by the proportion of acquaintances from work and strangers before joining the business team. Finally, network resources are measured as resources actually gained from networks for entrepreneurial activities (Brüderl & Preisendorfer, 1998).

Figure 2. The Theoretical Framework of the Relationship among Gender, Social Networks, and Microenterprise Performance.



Second, the model measures microenterprise performance based on: (a) start-up success; (b) revenue; and (c) survival over time. These three factors allow for assessing business success over time. The reason for using these three factors is that gender differences in social network structure and resources are able to influence the performance of each factor differently as businesses grow.

Third, the model is specific to micro-entrepreneur and aims to examine the distinct impacts of social networks of micro-entrepreneurs. Much of the research on small businesses focuses on SMEs, which include enterprises with up to 500 employees (U.S. International Trade Commission, 2010). The specific circumstances of micro-enterprises can be lost among SMEs, which are typically much larger businesses with higher capitalization than microenterprises. Overall, SMEs are also more likely to be headed by men. In contrast, this model focuses on the specific circumstances of very small women-run businesses in order to identify ways to improve business performance.

The model suggests several hypotheses regarding relationships across gender, social networks, and microenterprise performance. First, female micro-entrepreneurs are more likely to

have smaller networks, more strong ties, and less gained resources in their networks compared to men. Male micro-entrepreneurs are more likely to have larger networks, more weak ties, and more gained resources in their networks compared to women. Second, network size and gained resources in social networks are positively associated with successful microenterprise start-up, revenues, and survival. Network strength in terms of strong ties is positively related only to successful microenterprise start-up. Third, female micro-entrepreneurs are positively associated with business start-up due to having more strong ties in their network, but negatively associated with business revenue and survival due to their smaller networks, fewer weak ties, and gained resources in their networks. Male micro-entrepreneurs are positively associated with all kinds of microenterprise performance due to larger networks and more weak ties and gained resources in their networks: successful business start-up, revenue, and survival.

This model makes theoretical and practical contributions to understanding the ME success among female micro-entrepreneurs. With respect to theoretical contributions, this model informs the path through which gender differences in social networks affect microenterprise performance. In particular, this model indicates how gender differences in social networks influence microenterprise performance at different stages of development, including business start-up, revenue growth, and survival. Second, this model indicates which components of social networks (e.g., network size, strength, and gained resources) are associated with gender and microenterprise performance. Finally, this model also provides implications for research and practice. This model provides research designs and hypotheses for research to test the relationship across gender, social networks, and microenterprise performance. Research should further inform and refine the conceptual model. The research to test this model can help to clarify what kinds of social network assistance strategies of MDPs would be effective in improving female micro-entrepreneurs microenterprise performance.

## Conclusion and Policy Implications

This research review presents theories and empirical studies that support the hypothesis that gender differences in social networks impact microenterprise performance. Despite some inconsistent research outcomes, overall we find that women's fewer weak ties and lower resource levels negatively affect business performance. These findings justify an MDP network assistance strategy for female micro-entrepreneurs. There is considerable evidence that supports the idea that providing network development opportunities for female micro-entrepreneurs could improve business performance by connecting women to valuable business resources and overcoming inequality caused by structural gender discrimination.

We offer three specific policy and program recommendations. First, U.S. MDPs should provide gender-sensitive assistance that focuses on helping female micro-entrepreneurs develop extensive weak network ties instead of strong ties. Based on our findings, it may make sense to switch the focus from peer lending to building diverse and valuable weak ties among female participants. For instance, MDPs could provide links to business experts, lawyers, bankers, male business owners, and suppliers that are currently beyond reach of women's peer groups. These ties could provide valuable resources for improving female entrepreneurs' business performance. MDPs could offer workshops that facilitate women's interactions with business organizations and business experts that may result in more resources, including advice, loans, and customer contact.

Second, U.S. MDPs can also strengthen the weak ties of their own organizations to benefit their business development services. They could develop more links to diverse groups, such as business organizations, non-profit organizations, and business experts. Without links to diverse organizations and experts who can convey valuable resources to them, MDPs will be unable to develop effective gender-sensitive network outreach for their female participants.

Finally, the findings of this study have important implications for public policy. Public policy should provide more

support for MDPs to help them strengthen female participants' weak ties and network resources. Providing gender-sensitive network development programs demands greater resources for staff, technical assistance, business association membership fees, and networking events, such as workshops with male businessmen or business experts. Although generating more resources is a challenge for Women's Business Centers (Langowitz, Sharpe, & Godwyn, 2006), it is a critical factor in providing gender-sensitive network development programs for female participants.

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