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ORIGINAL SCIENTIFIC PAPER

## **Gender Differences in Acquiring Business Support from Online Social Networks**



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#### ABSTRACT

Social Networks have always been an invaluable resource for entrepreneurs attempting to engage in venture creation and growth. While differences in gender and its effect on traditional social networks have been explored, it is worth examining the gender effect when using the internet to create online network connections that supply useful resources. This study investigates the difference between male and female entrepreneurs' social networks, the resources obtained from those networks, and the evolution of the ever-valuable weak tie. Hypotheses are tested using analysis of variance and analyses reveal women that female entrepreneurs and male entrepreneurs use the online network connections very differently in terms of the type of relationship and the type of resource acquired. The findings create implications for organizations that support female, minority or disadvantaged business development as these ventures increase in number and success.

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**KEY WORDS:** *female entrepreneurship, networking ability, social networks, the strength of ties* 

### Introduction

Social networks and the process of creating network ties occur for men and women quite differently (e.g., Manolova, Carter, Manev, & Gyoshev, 2007). As revealed in the literature, men typically have larger social networks than women and thus, resulting in easier access to more resources. Manolova and associates (2007) found men's outside social networks can increase their business growth expectancies while that effect for women is minimal. Smith, Wilson, Strough, Parker, and Bruin (2018) found that women of all ages have mostly same-gender networks. The concept of network homogeneity particularly poses challenges in the resource acquisition stage of the venture creation process. In the past, studies have shown that the number of female business typically lag in terms of success when compared to businesses owned by men (Bruni, Gherardi & Poggio, 2004; Greve & Salaff, 2003; Thelwall, 2008). While the literature speculates many reasons for this lag, it seems that many of the obstacles faced in the past by female entrepreneurs have been overcome. As the number and size of successful ventures created and run by female entrepreneurs are on a steady rise, it is worth re-examining the use of social networks during the venture creation process as this aspect of business support may have evolved as well.

One aspect which has evolved is the easy availability of online social networking platforms to entrepreneurs as marketing and management tools (e.g., Geho & Dangelo, 2012). More and more entrepreneurs are now adopting social media such as Facebook, Instagram, and Twitter to make their businesses more competitive because such platforms can provide entrepreneurs more means to extend social interactions and maintain those ties (e.g., Fischer & Reuber, 2012). While such ties and interactions may provide information and resources that are crucial to entrepreneurial success, it has been shown that women and men may have different networks and levels of networking abilities (Semrau & Werner, 2014). Therefore, understanding how women and men develop and maintain social ties may help us explain why there is still a gap, in both number and success, between female and male entrepreneurs.

In this paper we explore the following research questions: (1) With the number of successful female-owned ventures on the rise, is there still a difference between the male and female entrepreneur's social networks in terms of size and types of relationships? (2) Do the number of resources obtained from the male and female entrepreneur's online social networks differ? These questions will be explored to gain more insight into how resources are marshaled for the venture creation process but also to see if perhaps there is evidence of the scales of success coming into balance for male and female entrepreneurs in the near future.

This research makes a few important contributions. First, while the majority of the network studies explore how network influences entrepreneurial performance, we answer the call for studying network as a dependent variable (Hoang & Antonic, 2003). Second, traditional network research has focused on physical ties (Granovetter, 1973). The current research examines a relatively underexplored area, online social network, and networking for entrepreneurs. The ever-rising use of social media platforms deems such research important. Further, our paper examines the differences in social networking behavior as it relates to gender implications.

The remainder of this paper is organized as follows. First, a review of the literature detailing the findings of past research on male and female social networks is presented. Then an overview of the role of social networks in the venture creations process is given. The literature detailing entrepreneurial climate, social network dynamism, and resource acquisition is then used to build a foundation for the tested hypotheses. Next, the hypotheses are presented followed by an explanation of the research design and methodology used to conduct the study as well as the results of the analysis. The results of the data analysis are presented followed by a discussion of the findings.

### **Literature Review**

### **Gender Differences in Network Composition**

Entrepreneurs use their social networks to gather resources. Past literature reveals that the social networks of men and women are quite different (Stoloff, Glanville & Bienestock, 1999; Wellman, 1992; Salaff & Greve, 2004). Social networks formed by women are considered to be

homogenous or consist of mostly family or kin (Renzulli et. al, 2000). This is also referred to as strong ties. Male social networks, on the other hand, are more heterogeneous, and therefore consist of more weak ties in addition to the established strong ties of family and kin possessed by female entrepreneurs (Moore, 1990). The strength of these ties is determined by relationship characteristics such as intensity, time, and reciprocity according to DeCarolis and Saparito (2006). This is important to note because the composition of the female entrepreneur's social network has created challenges in gaining financial support, status, and credibility (Bruni et. al, 2004). Furthermore, Young, Chawla, and Uzzi (2019) suggest that differences exist between male and female entrepreneurs in terms of fluctuating social support and commitment behaviors.

However, Redd (2014) finds that a female's social network changes over time and that as females progress through the different stages of the venture creation process the number of weak ties contained in the network tends to increase (Smith et al., 2018). This suggests that perhaps in the past, female entrepreneurs' social networks were more homogenous, but at present female entrepreneurs have found ways to create additional weak ties that supply needed resources. It has been suggested in the literature that social networks leading to successful business outcomes are those that maintain a balanced level of strong ties and weak ties (Greve & Salaff, 2003). (Redd, 2014) may suggest the internet has contributed to the introduction to additional weak ties for both male and female entrepreneurs. Access to the internet has eliminated many barriers and obstacles to accessing people, skills, training, financial resources, etc. (Sadowski, Maitland & van Ongen, 2002). To the best of our knowledge, no studies to date, have detailed the differences between male and female entrepreneurs in using online network ties for resources and business success.

### **Resource Acquisition**

All entrepreneurs must create social networks to gain access to social capital, the resources supplied by social relationships (Lin, 2001). Social capital includes access to information, influence, credentials and reinforcement (Lin, 2001; Aldrich & Martinez, 2001; Shane & Venkataraman, 2000; Aldrich & Zimmer, 1986). here is a very long list of resources needed by the entrepreneurs during and after the venture creation process, thus these sources of social capital are essential for progress, growth, and stability (Redd, Abebe & Wu, 2016). Often the contacts within

a social network not only supply resources but also act as filtering devices for legitimizing information pertinent to the launch and stability of the business venture (Burt, 1992).

Without the creation of useful network ties, it is suggested that a business's success will fall by the wayside. Female entrepreneurs, as a minority group, have underperformed when compared to their male counterparts. Access to social capital is just one of the many reasons this may be the case, as it seems certain that not having an optimal relationship in your social network leads to poor levels of social capital and in turn, no access to the needed resources for launching or maintaining a successful business. Past studies (Gartner et. al, 2004; Ellison, Vitak & Gray, 2014; Campbell, Marsden & Hulbert, 1986) have revealed the following resources supplied by the social network as most useful to the entrepreneur: information and advice, funding, introduction to other people, skills and training, emotional support, business services, and ideas in the form of creativity. All of these resources are imperative in the venture creation process and past literature seems to show that females have had difficulty accessing many of these resources due to the composition of their social networks (Carter, Brush & Greene, 2003; Aldrich, Resse & Dubini, 1989; Lin, Cook & Burt, 2001).

### **Networking Ability**

In examining the social networks of both male and female entrepreneurs, it is necessary to also consider the degree of connectedness with all the potential social network connections (Wasserman & Faust, 1994). This examination can lend insight into how relationships are created and used for the resource acquisition process. Ritter, Wilkinson, and Johnston (2004) define networking ability as the "ability to develop and maintain effective relationships". Entrepreneurs create several relationships during the venture creation process as some relationships offer physical resources, information sources or otherwise (Burt, Kilduff & Taselli, 2013). For the female entrepreneurs, this may have posed challenges in the past due to small network size and the absence of heterogeneity. Rho and Lee (2020) find that women have different networking behaviors than men. This notion further supports the relationship between network differences and business success. The ability of any entrepreneur to create additional useful connections or networking ability through current connections remains critical to be exposed to new opportunities and information (Tocher, Oswald & Shook, 2012; Foley & O'Connor, 2013; Semrau & Sigmund, 2012).

### Hypotheses

### **Network Resources**

There is no literature detailing the benefits of social network size for entrepreneurs, however, it is well established that more diverse network ties, specifically social networks that are heterogeneous are instrumental to entrepreneurial success (Fairlie & Robb, 2008; Greve & Salaff, 2003). Specifically, the resources that entrepreneurs seek to acquire include introductions to others, information and advice, training and skills, funding, business services, emotional support, and creativity and ideas. Implied in the heterogeneous network is the idea that having many connections, which supply different types of resources will allow venture creators to flourish (Upson et al., 2016). Past studies have revealed that in general, female social networks tend to be much smaller than a male's social network and that men tend to have a more heterogeneous network than women (Renzulli et. al, 2000).

It has also been established in the literature that weak ties are important to gaining access to the resources which are integral to launching and maintaining a venture (Granovetter, 1973; Marsden & Campbell, 2001). Many past studies show that female entrepreneurs have fewer weak ties than male entrepreneurs, however, with the use of the internet, access to resources has become more readily available to both male and female entrepreneurs (Semrau & Werner, 2014). This has created opportunities for entrepreneurs from all walks of life to overcome barriers to entry, specifically in terms of resource acquisition and access to new product markets. Access to the internet allows for access to similar resources, allowing women to have larger social networks and higher quantities and quality of weak ties in their social networks. Siminova, Popov, and Komorova (2019) find that online social networks encourage market development and product differentiation. To explore this further we test the hypotheses in the following section.

With the introduction of the internet, social networking for entrepreneurs has changed immensely, giving them access to many resources never available before and independent of time and space (Semrau & Werner, 2014). With its widespread use, even entrepreneurs in the most isolated cases can now have access to resources they otherwise wouldn't. Interestingly, it has been found that younger women seem to have outpaced men in internet usage; this is specifically the case for women under the age of 65 (Fallows, 2005).

To examine the difference in types of resources obtained from online social network connections and the types of relationships contained within the networks, we present the following hypotheses:

- **H1:** There is a significant difference in the types of resources male and female entrepreneurs acquire through online social networks.
- **H2:** With the growing use of the internet, female entrepreneurs have access to more weak ties through online network connections.

### **Research Methodology**

### Sampling

The target population for this study is made of both male and female entrepreneurs from throughout the United States who own or are in the process of starting business ventures which can be classified as small businesses. The entrepreneurs to be included in the study were identified in two ways. First, entrepreneurs were identified by their attendance at local Small Business Development Centers training or information sessions. Second, entrepreneurs were identified by Survey Monkey Audience, an online research panel of participants. All participants were over the age of 18 and either owned or were in the process of setting up a business.

To determine the correct sample size and effect size for the study, a power analysis was performed with pilot study data. With a target effect size of 0.02 and alpha ( $\alpha$ ) = 0.05, to obtain a power of approximately 0.80 a sample size of 392 is needed. Keeping the above analysis in mind it was determined that with the nature of the research questions and the required sample size it would be best to use an online panel as the anchoring sample for this study. Online panels allow the researcher to reach a higher level of diverse respondents while achieving the most stratified sample possible (Dillman, 2007; Johnson, 2016).

A questionnaire was developed using the Survey Monkey online survey construction interface after a pilot test. The finished survey was submitted to Survey Monkey Audience an online Panel used to collect survey responses from specific target audiences. A paper and pen version of the survey was also distributed to potential business owners through Small Business Development Center at a state university in the southern part of the country and several clients of the State SBDCs of Minnesota, Delaware, Oregon, and Louisiana. In instances where the survey was distributed electronically, separate survey links were established to track the response rate. In total 2,151 invitations to participate were extended. A total of 555 usable surveys were returned resulting in a 25.8% response rate. To check if there is nonresponse bias, we sorted early and late responders by date and used the two groups as proxies for responder and non-responder respectively. The t-test shows there was no significant difference between the two groups.

### Measures

**Strength of Ties:** Information on the strength of ties within the social network was gathered using an existing scale (Marsden & Campbell, 2004) where the respondent was asked to report not only the size of their social network used for business purposes but also they were asked to supply information on the frequency of using each type of business contact either for resources or to discuss business matters. The three-item construct has a Cronbach's alpha higher than the recommended value of 0.70.

**Online Resources:** The Panel Study for Entrepreneurial Dynamics (PSEDII) identifies seven different categories of resources provided to entrepreneurs through social network connections. These measurement items used in this study are borrowed from the PSEDII. More specifically the measurement items classify the resources obtained into the following categories: *information & advice, creativity, emotional support, business services, funding, training & skills, and introduction to other network connections.* This allowed for the tabulation of the quantity and types of resources gathered by each entrepreneur from online network sources.

### **Data Analysis and Results**

Table 1 tabulates the frequencies of several demographic variables such as gender, age, race, education level, and frequency of internet usage. Table 2 summarizes the ANOVA results for Hypothesis 1 and Table 3 summarizes the T-test results for Hypothesis 2. We tested our hypotheses using the ANOVA and T-tests because Pedhazur and Schmelkin (1991), as well as Blanca et al. (2017), suggest that the ANOVA and T-test analyses are acceptable techniques to use when analyzing the difference in means between two groups.

	Male	Female	N/A	
Total	229	261	19	
Location				
Urban	60	50		
Rura1	64	80		
Suburban	105	131		
Education Level				
Some high school	7	5		
High school	22	37		
Some college	53	78		
Associate degree	30	39		
Bachelor degree	67	56		
Graduate school	25	27		
Other	25	19		
# Employees				
1-4	148	202		
5-9	20	10		
10-19	17	5		
20-49	11	0		
50-100	12	2		
N/A	21	42		

Table 1: Sample Demographics

#### **Access to Resources**

An ANOVA was performed to compare male and female entrepreneurs in terms of the types of resources obtained from the online social network. Specifically, the resources examined were *information & advice, creativity, emotional support, business services, funding, training & skills, and introduction to other network connections.* Each resource revealed a significant difference between male and female entrepreneurs, except information and advice (see Table 2). This gives support to Hypothesis 1, as there is a statistical difference in the type of resources obtained from the social networks of male and female entrepreneurs. In general, a larger percentage of females used the internet to access information and advice than their male counterparts.

#### Access to Weak Ties

We predicted with Hypothesis 2 that with the use of the internet, women would have more weak ties. The T-test results show that there is a significant difference in the number of weak ties between the two groups (F=6.717, p =0.010), thus, Hypothesis 2 is supported (see Table 3). Further crosstabs analysis, gave surprising results, revealing that the female entrepreneurs in this study on average have more weak ties in their social networks than their male counterparts. These results suggest, that even with the availability of the internet in most areas there remains a difference in how male and female entrepreneurs use their social networks. This finding also challenges the research of the past which has always found that women would have less weak ties in their social networks than men. We believe that this result can be attributed to the widespread use of the internet. It indicates that female entrepreneurs have identified online social network connections as a means to fill a previous void or structural hole in obtaining social capital.

### **Discussion & Conclusion**

This research brings to the gives insight into the differences in how male and female entrepreneurs create social networks. Specifically, the study examines how male and female entrepreneurs approach their online social networks for different resources and interestingly, the study reveals that women now have more weak ties than men in digital settings, no doubt because of the internet. This may be because women entrepreneurs have traditionally had less weak ties in their social networks, they may look to the internet and online social networks to create the weak ties they have been missing; filling the so-called structural holes (Burt, 2017) A study conducted by Pew, confirms that women use the internet more often than men and for longer periods (Fallows, 2015).

		Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	.689	1	.689	3.344	.068
onlineINTRO	Within Groups	100.578	488	.206		
	Total	101.267	489			
	Between Groups	.001	1	.001	.003	.953
onlineINFO	Within Groups	95.038	488	.195		
	Total	95.039	489			
	Between Groups	.272	1	.272	2.781	.096
onlineTRAINING	Within Groups	47.777	488	.098		
	Total	48.049	489			
	Between Groups	.988	1	.988	17.748	.000
onlineFUNDING	Within Groups	27.175	488	.056		
	Total	28.163	489			
	Between Groups	.647	1	.647	5.136	.024
onlineBIZSVC	Within Groups	61.477	488	.126		
	Total	62.124	489			
	Between Groups	.662	1	.662	5.029	.025
onlineEMO	Within Groups	64.238	488	.132		
	Total	64.900	489			
	Between Groups	1.118	1	1.118	6.206	.013
onlineCREATIV	Within Groups	87.945	488	.180		
	Total	89.063	489			

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Table 3: T-test Results for Hypothesis 2

Table 2: ANOVA	Tests for	Hypothesis 1	' & Resource A	Analyses

	Levene's Test			t-test f	or Equality			
	for Equ Varia	v	t df	<b>8</b> . (			95% Confidence Interval of the Diference	
	F	Sig.					Lower	Upper
Equal variances assumed	6.717	0.01 -1-72	376	0.086	5 -0.90455	0.52584	-1.93849	0.1294
Equal variances not assumed		-1.771	292.885	0.078	3 -0.90455	0.51072	-1.9097	0.1006

These results also align with Dong et al. (2016) which found that entrepreneurs find more diverse ties in online friendships than face to face networks. Looking beyond our tests for significance, our key findings also show that women are less likely than men to use online social networks to access funding, training and skills, and business services. Men, on the other hand, are less likely than women to access creativity and ideas, emotional support and information and advice. Future research can address similarities

or differences in how male and female entrepreneurs access these resources online in comparison to those connections which are traditional face to face connections. In future studies, it will be interesting to see if the scales of success in terms of creating and maintaining a business venture will finally balance between male and female entrepreneurs as the internet has served as a great tool in overcoming barriers to entry.

The implications for individuals, cities, and geographic areas that have created business support or development incubators are important. Examining female entrepreneurs gives us a great deal of insight into the many challenges faced by most minority entrepreneurial groups. The results of this study suggest, that perhaps training materials can be developed to help struggling entrepreneurs, but not without internet access otherwise identifying and acquiring online network resources more readily through education and direction will be very difficult. Small Business Development Centers and Disadvantaged Business Enterprise developers may consider developing online training to help these struggling groups better identify the resources now available to them through internet relationships where internet access is available.

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