



Gender Differences in Firm Size, Growth, and Persistence:
 A Review of Research Literature on Women’s Entrepreneurship in the Information
 Technology Field

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Are there differences in the success of firms started by men and women?¹ The answer seems to be yes, although it depends to some extent on how “success” is defined. Is “success” faster growth, larger size, and greater persistence, as researchers thought in the 1970s and 1980s? Or is “success” how well performance matches the entrepreneur’s objectives, as more recent research argues? Even when using the same definition of success, research offers little consensus about gender differences in entrepreneurial success.

Many people believe that women-led firms under-perform firms led by men, but empirical evidence offers only weak support for this conclusion. The studies listed in the following chart all used reasonably large samples, but produced disparate results. Some conclude that women-owned firms employ fewer workers, others found no difference. Some conclude that women-owned firms take in less revenue, others found no difference. Conclusions about profitability of women’s firms range from less to more than men-owned firms, as do conclusions about failure rates. None of the studies listed found that women have more desire than men to grow their business, but some found no gender difference. The contradictory results could stem from differences over time and across industries and nations, but whatever produces them, they leave us unable to deduce confidently whether founder’s sex plays a substantial role in the success of a business.

Women-Owned Businesses (as compared to Men-Owned Businesses)

[US studies unless otherwise noted]

Type	Study	Finding about Women Firms
Employment	Rosa et al. 1996	Employ fewer workers; less likely to have at least 20 employees after 12 months of operation
	Industry Canada 1994	Fewer employees
	Menzies et al. 2004	No difference in Canadian firms
	Coleman 2005	No fewer employees when controlled for sales level and industry sector
Revenues	Rosa et al. 1996	Lower
	Johnson and Storey 1993	Lower
	Brush et al. 2003	Low, with only 16% having annual revenues

¹ The social science literature considers comparative success of firms founded by men and women, and possible causes for differences between the two. See, for example, Carter 2000; Buttner 2001; Gundry et al. 2002; Schmidt and Parker 2003; Menzies et al. 2004; and Still 2005.

	(based on CWBR data)	over \$500K
	Cliff 1998	Lower
	Menzies et al. 2004	Similar rates of economic performance in Canadian firms
	Kalleberg and Light 1991	No difference in economic performance in 400 businesses in Indiana
	Hisrich et al. 1997	Similar revenue level
	Cuba, DeCenzo, and Anish 1983	Lower revenue
	DuRietz and Henrekson 2000	Comparable economic performance in Sweden
Profitability	Industry Canada 1994	Less profitable
	Hisrich et al. 1997	Number of years to break-even point is similar
	Coleman 2005	Significantly more profitable in return on sales
Business failure rate	NFWBO 2001	Lower
	Johnson and Storey 1993	Lower
	Carter, Williams, and Reynolds 1997	Higher
	Robb 2002	Higher
	Srinivasan, Woo, and Cooper 1993	Higher
	Boden and Nucci 2000	Higher
	Chell and Baines (1998)	No statistical difference when take into consideration industry, age of firm, etc.
	Perry 2002	No statistical difference
Desire to grow the business	Kolvareid 1992	No difference between male and female entrepreneurs in Norway
	Morris et al. (2006) based on NWBC data	Weak, with expectation of five-year revenue goals under \$1 million
	Rosa, Carter, and Hamilton (1994)	Less likely than men (43% to 34%)

If gender differences in firm success do exist, they may be a product of differential access to resources or of founder intentions. The effects of human, social, and financial capital are discussed in other reviews by these authors and will not be discussed in detail here.² Let us simply assert that differences in education and experience, effective business networks, and access to financing all might be partial explanations.

Founder intention might also differ by sex. This possibility is the key issue distinguishing between past and current research into gendered success outcomes. For example, the smaller size of women-owned firms

² We will make one exception, to consider a recent study that compares male- and female-owned businesses' access to bank funding and specifically links this access to firm growth. Examining a large Australian sample of entrepreneurs, Watson (2006) finds lower levels of bank funding in female-owned compared to male-owned firms. He attributes this difference not to bank discrimination, but instead to the fact that women business owners are more risk averse and have a greater need to feel in control of their business. This gender difference in external funding is more prevalent in older than more recent firms. Growth, he finds, is not significantly correlated with a firm's level of bank funding. Growth is positively correlated, however, with profitability of the firm. For younger firms, there is no difference in growth rates by sex of the owner; but for more established firms, growth rates for female firms are significantly greater than for male firms. The author hypothesizes the stronger growth rate in mature, women-led funds may be because these firms have more internal funds to reinvest in the business than the mature, male-led firms.

seems to be an outcome of the lower thresholds women founders set on the size of their business (Cliff, 1998). There are many possible reasons women set lower thresholds than men. Perceived risks of high-rate growth or desire to balance work and career both concern women more than men and lead them to limit firm size (Cliff, 1998). Women may also intentionally keep their business small in order to lessen the chance they will lose control, e.g. through dilution of power from equity investment (Still, 2005, Cliff, 1998), or to avoid conflict with family responsibilities (England and McCreary 1987). Other reasons for women's deliberate size restrictions could be that women's socialization affects the process they use when making business growth decisions, or leads them to weigh risks and rewards differently from men (Orser and Hogarth-Scott, 2002). Thus, although there are many similarities in the motivations of men and women entrepreneurs,³ there also appear to be differences that produce gendered outcomes.

The remainder of this review examines three studies that speak to the issue of growth, and one study that speaks to business survival rates. The first study finds that firm growth is a matter of rational choices between financial and non-financial factors. Orser and Hogarth-Scott interviewed 139 people (including 33 women) entrepreneurs in five Canadian cities concerning their reasons for deciding to pursue or not pursue a growth strategy. They considered seven kinds of influences on growth decisions: (1) *recognition and accomplishment* (including employment creation, heightened employee morale, industry and product recognition, community contribution), (2) *personal costs of growth* (including personal stress, work-family balance, time for the business, time for family), (3) *resources for growth* (including capital, staff, and administrative assistance, time), (4) *support services* (including accounting assistance, staff support, and support from spouse), (5) *opinions of "salient others"* (including business partners, spouse, and clients), (6) *tensions that arise from growth* (including personal stress, the need to monitor employee's work more closely, and the influence of the external banker on the business), and (7) *the ability of the entrepreneur to maintain control*. There were statistically significant gender differences in only three of these factors: (1) recognition/accomplishment, (2) personal costs, and (5) opinions of others. The authors conclude that women owners more than men are inhibited by personal demands such as "family time, personal balance, and the additional stress would have." They also find that both men and women are affected by "financial and non-financial outcomes, the opinions of referent others, and the need for life balance." Thus, decisions about firm growth are gendered because the circumstances of men's and women's lives make some considerations more important for women than for men.

The second of these studies compares women entrepreneurs based on the growth strategies they have in mind for their business. Gundry and Welsch (2001) surveyed a random sample of 832 women business owners in the United States and found striking differences between business owners who had a high-growth orientation and those who did not⁴. They found that:

"High-growth-oriented entrepreneurs were significantly more likely to pursue (in order of importance) *market expansion* (e.g., adding a new product or service and expanding advertising and promotion, etc.); *technological change* (e.g., acquiring new equipment or service and computerizing current operations); *search for financing* (e.g., seeking professional advice and applying for loans); *operations planning* (e.g., expanding current facilities); and *organizational development* (e.g., off-site training of employees). Further, our findings suggest that key strategic success factors perceived by high-growth-oriented entrepreneurs are the reputation (image) of their firms, a strong focus on the quality of the product or service, available cash to grow the business, and effective leadership. ...

³ Both male and female entrepreneurs express interest in owning their own business because of the desire for independence, self-achievement, and internal locus of control. (Morris et al. 2006 cites Sarri and Trihopoulou 2005; Orhan and Scott 2001; Littunen 2000; Birley 1989; Scott 1986). Sonfield, Lussier, Corman, and McKinney (2001) found men and women similarly distributed in their willingness to take risk in their business.

⁴ Their findings contradict earlier work by Birley and Westhead (1994), which studied 405 business owners in Britain and found that the stated reason for starting a business has no correlation to the subsequent growth and size of the business.

Ambitious entrepreneurs were significantly more motivated to do whatever it takes to grow their enterprises and to make the necessary sacrifices to ensure the success of their businesses. ...

The high-growth entrepreneurs were significantly more willing to incur opportunity costs associated with venture growth. They desired to own and grow their businesses despite earning less than they could elsewhere and would readily give up a more promising career for business ownership. ... High-growth entrepreneurs, therefore, would put aside some of their personal or family goals and incur sacrifices and penalties, pursuing a “delayed gratification” model of behavior because they are committed to the growth of their ventures. However, neither group in our study perceived owning business as more important than spending time with their families.”

Gundry and Welsch’s study did not consider men, so it is impossible to tell how women entrepreneurs are similar to and different from male entrepreneurs with respect to growth intentions and related characteristics. Another note about this study is that the authors apparently consider growth an absolute measure of success; they never indicate that business owners might be successful by achieving some other goal with their entrepreneurship than growth. For example, in their literature review they contrast “high-growth companies and their less successful competitors” as though these are necessarily antonyms. Nevertheless, this study documents variation in women’s orientation toward the growth of their businesses and shows that the variation is positively associated with actual growth.

The third study, by Morris et al. (2006), also includes only women and reiterates Gundry and Welsch’s findings that women entrepreneurs make conscious choices about growth and they understand the trade-offs involved with a growth strategy. Morris et al. surveyed 103 women entrepreneurs in the United States and conducted in-depth interviews with 50 of them. The authors found strong distinguishing characteristics between women with a high-growth strategy as compared to those with a modest-growth strategy. A sample of their findings is encapsulated in the following table.

Differences Between High-Growth-Oriented and Moderate-Growth-Oriented Entrepreneurs (from Morris et al. 2006)

Characteristic	High-growth	Moderate-growth
Growth motivations	Desire to be rich, challenge, prove self, happiness, satisfaction, more profits	Sustainable income, family financial security
Characteristics of growth aspirations	Motivated by the challenge, competitive, goal-oriented	Control growth at levels consistent with life styles and family needs
Personal implications	Satisfaction of work in their life, strongly identify business as extension of one’s self-concept	A tool for income substitution, financial security, and accommodating other life priorities
Attitude toward debt	Tool to achieving their end goal	Avoid external funding to grow the business, assume debt only when necessary
Obstacles to strategy	Gaining access to Old Boys Club, difficult business environment, competitors, personal managerial skills, inability to hire qualified employees	Personal background and training, family responsibilities, access to bank financing



Role of family in business

none

Hire family members as employees to keep the family together

Morris et al. also reported findings for the entire set of respondents, not broken out by level of growth aspiration. They found the most common motive for starting the business was “the ability to do what I want,” followed in order by “personal expression,” “making a living,” and “helping people.” Only a few answered “getting rich,” “hitting the corporate glass ceiling,” or “prejudice or discrimination.” The most commonly mentioned goals were “loyal customers” and “sales growth,” with very few respondents mentioning “growth in employees,” “personal wealth creation” or “contribution to the community.” There was only weak agreement when the respondents were asked if women face unique obstacles in being entrepreneurs, and when they mentioned any particular obstacles they were overwhelmingly related to access to financial capital. In sum, this study also measured variation among female founders’ intentions regarding growth of their firms, and it confirmed the relationship between founder intention to grow and actual growth, both in terms of number of employees and rates of sales increases.

The fourth and last study we will consider in depth concerns the survival rates of women- versus men-owned businesses in the United States. Robb (2002) linked microdata on business survival with longitudinal Census data on women-owned businesses.⁵ The large sample of almost 45,000 firms tracks companies that survived for four years beginning in 1992. Robb found that in a given year, women-owned businesses were 5% more likely to fail than male-owned businesses; and more generally, even after controlling for industry, number of employees, legal form (e.g. sole proprietorships were more likely to close than S corporations or partnerships), organizational structure, location (e.g. single location firms more likely to close than businesses with multiple locations), and business age (young firms more likely to close than older firms), women-owned firms were still less likely to survive than firms owned by men. This study provides strong evidence that firm failure is gendered, but it contradicts the results of another large and recent study (NFWBO, 2001), which found that failure rates for women-owned firms were lower than for men-owned firms. Methodologies may account for the disparate conclusions, but the evidence leaves us unable to determine where reality lies. Furthermore, if the Robb study is correct, the gendered failure rates found cannot be explained as a difference in founder intention. Unequal access to human, social, and financial capital would be more likely explanations.

In conclusion, it seems that for most measures of success, women’s firms are at least no more successful than men’s. It remains unclear, however, whether these measures of success are relevant, because women and men entrepreneurs may have different intentions. More importantly for our purpose, the research leaves us unable to discern whether findings apply to entrepreneurship in IT because few studies examine high-tech fields, much less IT.

⁵ The study also provides data on minority-owned businesses.

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