ISRAELI WOMEN ENTREPRENEURS: AN EXAMINATION OF FACTORS AFFECTING PERFORMANCE

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EXECUTIVE SUMMARY

This article examines individual factors influencing performance of 200 Israeli women-owned businesses. Whereas research on women entrepreneurs is extensive in developed countries, especially in the United States and Europe, there are comparatively few studies of performance of women-owned businesses in non-OECD countries. There is evidence that social structures (work, family, and organized social life) vary among developed and developing countries as these relate to women entrepreneurs. However, these differences have not been considered as they may relate to theories explaining performance of women-owned businesses. The extent to which existing theories are useful in the context of non-OECD countries is of increasing importance as women in these countries are assuming a greater role in enterprise creation and economic development as a result of radical geopolitical and economic policy changes worldwide.

In Israel, women suffer from occupational segregation and typically earn less money than their male counterparts, despite a generally high level of education. Entrepreneurship offers a vehicle for Israeli women to achieve economic parity. Approximately 5.1% of Israeli women are self-employed (compared with 15% of Israeli men) of the 816,800 Israeli working women. This study is the first systematic investigation of performance variation among Israeli women entrepreneurs, thereby contributing to our understanding of women's entrepreneurship in non-OECD countries.

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Five theoretical perspectives explain performance: individual motivations and goals; social learning (entrepreneurial socialization); network affiliation (contacts and membership in organizations); human capital (level of education, business skills); and environmental influences (location, sectoral participation, and sociopolitical variables). Each of these perspectives is associated with empirical work showing relationships between these individual level factors and performance. Three questions directed this study: (1) Which factors influence the performance of Israeli women entrepreneurs? (2) Which factors explain any variance in performance among businesses established by Israeli women entrepreneurs? (3) How similar are these explanatory factors to those found in other countries?

A sample of 220 Israeli women business-owners responded to a survey instrument originally composed by Hisrich and Brush (1982, 1985) that was translated into Hebrew and adapted to the particular conditions of the Israeli population. A majority of the questionnaires was distributed at meetings of professional associates of women entrepreneurs and returned by mail, but one-fourth was distributed to women who were not members of any professional association. No significant differences were found between the respondents who were members or non-members of associations. Reliability testing showed alpha coefficients of 0.65 and higher for scaled questions, which is acceptable for survey data. Statistical analyses, including Pearsons's correlations and multiple regressions, examined relationships between factors identified from theoretical perspectives and performance, which was measured by profitability, income, size (number of employees), and revenues.

Demographic variables were examined, and the age of the woman entrepreneur's children was significantly related to profitability (p < .01). The majority of Israeli women entrepreneurs are married and became entrepreneurs after their children were grown. This is consistent with the strong family orientation prevalent in the Israeli culture and the existence of institutional arrangements that support the working mother model as long as she gives priority to family responsibilities.

Of the five theoretical perspectives, results showed network affiliation, motivation, human capital, and environmental factors affected different aspects of performance, whereas social learning theory or existence of a role model had no significant effect on performance outcomes. Network affiliation was significantly related to profitability (p < .001), and the use of outside advisors also was related to revenue. In contrast, participation in multiple networks was negatively related to revenue, income, and size of the business.

Motivations showed a strong relationship to performance. Factor analysis identified three basic groups of motives: achievement, independence, and economic necessity. Similar to findings in other countries, achievement motives were highly related to personal income, whereas economic necessity was significantly related to both profitability and revenue.

Analyses of human capital variables showed mixed results; education level, areas of study, and previous entrepreneurial experience had no effect on previous experience. The fact that this population was highly educated (51% had university degrees) may have impacted on this result. Consistent with prior research findings, previous experience in the industry had a direct and significant effect on performance (p < .001). Previous salaried employment and involvement in the creation of a business were significantly correlated with sales and number of employees. Results also showed that indexes of women entrepreneurs' business skills (obtaining financing, budgeting, labor management, and planning ahead) were highly correlated with revenues (p < .01). Regression analysis showed the business skill index significantly related to profitability (p < .01). Environmental factors were significantly related to performance in that the sectoral affiliation (service versus manufacturing) was related to revenues and employees, but not to profitability and income.

This study supports previous research from the United States and Europe on women entrepreneurs, which found that performance is related to previous industry experience, business skills, and achievement motivation. However, the differential effects of network affiliations was significantly more important for women entrepreneurs in Israel. Affiliation with a single network was highly related to profitability, whereas involvement in multiple networks was detrimental to both revenues and the number of employees. These findings imply that to perform well, Israeli women entrepreneurs should gain related industry experience, develop business skills, and seek to achieve success. Most importantly, commitment to a single network for support and advice is better than a loose alignment with many support groups.
This research has implications for studies of women entrepreneurs in other non-OECD as well as developing countries. In countries such as Russia or China, anecdotal evidence shows self-employment offers women an opportunity to improve their economic status as more capitalistic policies are adopted. The extent to which individual factors found important in this study, such as business skills, motivations, previous industry experience, and network affiliation, affect performance in these countries is a topic for future investigation. This study suggests that individual factors affect performance differentially as a consequence of variations in social structures, work, organized social life, and family. Future research should explore the extent to which this is the case. Examination of aspects of organizational strategies and government policies as these influence performance is another topic for future study. © 1997 Elsevier Science Inc.

INTRODUCTION

Research on women entrepreneurs is extensive in developed countries, especially in the United States and Canada. These studies comprise a growing body of knowledge from which theories are emerging and prescriptions for success are derived. However, studies of women entrepreneurs in non-OECD as well as developing countries are comparatively scarce (Allen and Truman 1993). This is a critical omission from our understanding of women’s entrepreneurship, because the role of women entrepreneurs contributing to modernization of developing economies as well as facilitating enterprise development in transition economies is of increasing importance (OECD 1993). Furthermore, social structures, work, family, and organized social life (Aldrich 1989) vary widely in developing countries (Truman and Allen 1993). Because the theories have emerged primarily from research in developed countries, it is important to examine the extent to which these apply in the context of non-OECD countries.

Israel is one such country where women seek self-employment as a means to overcome occupational segregation and participate in economic development. The small size of this country, its predominantly strong family orientation, and overall higher education level of women reflect social structures that differ from many developed countries. Moreover, little is known about performance of Israeli women-owned businesses. The purpose of this article is to examine effects of individual factors on performance of Israeli women-owned businesses, compared with what is known about factors influencing performance from OECD countries. Being the first systematic study of Israeli women entrepreneurs, the research was guided by three questions:

1. Which factors influence the business performance of Israeli women entrepreneurs?
2. Which factors explain any variance in performance of businesses of Israeli women entrepreneurs?
3. How similar are these explanatory factors to those found in research conducted in other countries?

These questions are addressed in the following sections, which provide a background on the impact of social structures on women’s entrepreneurship generally, present an overview of the Israeli context, and address theoretical perspectives explaining performance.

1 According to the World Bank’s “World Development Report, 1990,” Israel is a less developed country in the high income category.
IMPACT OF SOCIAL STRUCTURES ON WOMEN'S ENTREPRENEURSHIP

Sociological theories argue that social structures (workplace, family, and organized social life) affect women’s access to entrepreneurial opportunities and may influence performance (Aldrich 1989). Occupational segregation, underrepresentation in upper level management positions, and expectations about family roles may restrict women to certain industrial sectors, as well as affect motivations and goals for their business ventures (Aldrich 1989). The extent to which women entrepreneurs face structural barriers in these areas will arguably have an impact on the performance of their ventures.

The degree to which these structural dimensions affect women entrepreneurs depends greatly on the country context. In particular, the perceived acceptability of women’s participation in entrepreneurship varies from country to country, relative to the expectations and cultural norms for women in that society. For example, in South America belief in “male machismo” and expectations that women’s primary responsibilities are childcare and domestic duties creates a barrier to venture creation and subsequent venture performance (Sekarun and Leong 1992). Relatedly, in Muslim countries women are subject to dishonoring their husbands by taking on entrepreneurial roles (Epstein 1993). In the Philippines, women’s movement into high level management positions is impeded by expectations that women must marry and have a family, effectively limiting the type of work experience women are able to obtain prior to self-employment (Epstein 1993). In transition economies, such as Hungary, lack of child care and unavailability of training in basic business skills are even greater obstacles for women entrepreneurs (OECD 1993). In Eastern European countries, women have low levels of education and technical knowledge, which further restricts the ability of women to succeed in their entrepreneurial endeavors (OECD 1993). Research also reveals that women starting new ventures are frequently hindered by a lack of business information, advice, and access to networks and business support systems (Allen and Truman 1993).

It is important to note that public policy initiatives designed to increase women’s access to information, skill improvement, and funding (OECD 1993; Allen and Truman 1993) are underway in many developing countries. Still, the relative impact of the effect of social structures in non-OECD and developing countries differs from that in the United States and Canada where more than 30% of all small companies are women-owned, social networks and support systems are well developed, and women have equal access to entrepreneurial training and information resources (OECD 1993; Brush 1991). Further, women from some OECD countries are increasingly accepted as equals in their entrepreneurial endeavors, making it easier for their businesses to succeed and grow.

These differences in social structures across developed and developing countries suggest variation in individual factors affecting performance of women-owned businesses. To date, studies examining the performance of women-owned businesses in non-OECD and developing countries are very limited. Furthermore, the theories explaining performance were based on populations from developed OECD countries that may or may not be applicable in other country contexts. The extent to which these theories explain individual effects on performance in one country—Israel—is examined. Israel is representative of a small non-OECD country where social systems—work, family, and organized social life—differ from those in other countries.
THE ISRAELI CONTEXT

The pursuit of careers or even a career orientation for women in Israel has been viewed negatively by some people (Izraeli 1994). During the 1980s and 1990s, women joined the labor force in greater numbers, today comprising about 44% of the labor force (Statistical Abstract of Israel 1994). However, occupational segregation still exists in several industry sectors. The fact that almost three-quarters of the female labor force is employed in only three of nine major occupational categories, whereas half is concentrated in only eight of the 90 occupations (Cohen et al. 1987), is evidence of structural conditions. Israeli women are overrepresented in service industries and in clerical occupations, and the average income in these occupations is considerably lower than in other occupations (Izraeli 1978; Semyonov and Kraus 1982). Furthermore, in spite of the “equal payment” law, several studies indicate that Israeli women in the labor force are paid less than men working in the same occupation (Efroni 1980). It is estimated that the hourly income of women employed full-time is about 71% of that of men, with women receiving a lower rate of return than men on their human capital resources (Efroni 1980; Azmon and Izraeli 1993). Women with the same human capital capabilities as men have fewer opportunities for advancement within organizations (Shenhav and Haberfeld 1993).

The wage disparity between men and women exists for all occupational categories, including scientific and academic workers, where average monthly income was 5,463 NIS for men, and 3,090 NIS for women [3 NIS (Israeli shekels) = U.S. $1]. Although the number of weekly hours men work is slightly greater, in professional and technical jobs the gap is similar (4,392 NIS for men versus 2,541 for women), whereas in administrative and managerial categories the disparity is 7,321 NIS for men versus 4,862 for women (Special Statistical Report No. 2963 1994). Although a recent law was enacted specifying equal opportunity in employment, it has had little impact on prevailing patterns of recruitment, job allocation, promotion, and reward, thereby retaining the gender earnings gap (Azmon and Izraeli 1993).

Sectoral differences between men and women carry over into business ownership. Entrepreneurship in service and retail are viewed as part of the nonsponsored segment of the labor market (Lerner 1989, 1991), which means there is absence of government support in areas of loans or grants. Most women-owned businesses are typically retail or service, falling into the nonsponsored segment of the market.

Because of these differential opportunity structures for employment in salaried jobs, turning to self-employment could be a means for women to overcome these structural barriers. However, statistics show that the average percentage of Israeli women in self-employment has remained stable and comparatively low during recent years, as indicated in Table 1.

This level of self-employment is lower than nearly all OECD countries where even
Greece and Turkey reported rates of 17.9% and 6.3%, respectively, for self-employed women (Labor Force Statistics, OECD 1990). It appears that the proportion of female business ownership in Israel will remain stable in the future. One possible cause for this is the existence of other barriers in the areas of family and organized social life.

Israel is a family-centered society. In 1991, over 95% of all women over 40 were married and had an average of 2.8 children per family (Izraeli 1994). Although both men and women value family life, greater and less flexible time demands are made on women. This encourages women to seek less demanding career paths where work hours are shorter (Izraeli 1994). Furthermore, women still feel a primary responsibility for family with organizations typically employing women who support this belief. In selecting jobs, women attribute great importance to “convenience”—namely, the extent to which the job can be accommodated to family life (Azmon and Izraeli 1993). Consequently, there is a general lack of support for women to be involved in management and administrative endeavors (Izraeli 1994) as well as self-employment.

The fact that few women occupy upper managerial and administrative positions influences the scope of management connections they are able to develop. However, women are highly educated and well trained, comprising 50% of all university students including business administration (Izraeli 1994). In Israel, the influence of the military is prevalent in every area of public and private life. Women with military careers frequently have better access to networks, both business and government, than those who do not. Yet most women have limited access to government and business contacts (Izraeli 1994), which limits women's abilities to obtain information and resources necessary for business creation and growth. There is evidence that networks and social groups supporting self-employed women are emerging, and research shows that Israeli women have stronger needs for affiliation due to greater emphasis on communitarian values than in the United States (Baum et al. 1993).

It is clear that Israeli women entrepreneurs must overcome structural barriers in the creation of their businesses, making the question of their businesses' performance of even greater importance. The theories addressing individual factors explaining performance of women-owned businesses follows.

PERFORMANCE IN WOMEN-OWNED BUSINESS: THEORETICAL BACKGROUND AND FRAMEWORK

The most comprehensive summary of individual factors influencing performance was noted in a recent literature review by Cooper and Gascon (1992), which examined such factors as experience, education, occupation of parents, gender, race, age, and entrepreneur's goals. This summary, drawn from previous literature examining performance (Stevenson and Jarillo 1990; Vesper 1990; Gartner 1985; Cooper 1981), concluded that successful ventures are more often started by men who are achievement motivated, manage risk, and engage in systematic planning. Although Cooper and Gascon (1992) cogently summarized the state of research on the topic to date, their discussion of independent variables is not organized according to particular theories or approaches.

Studies of performance of women entrepreneurs are few (Brush 1992), with the majority of research not being comparative among groups of women and men. However, individual level variables explaining performance in U.S. studies were frequently the same as those noted in male-owned businesses: previous occupational experience, busi-
ness skills, level of education, and personal factors such as motivations and having a mentor. The largest comparative study in the United States was conducted by Kalleberg and Leicht (1991) who examined the determinants of survival and success among small businesses headed by men and women, using longitudinal data. They found that women’s businesses were no more likely to fail and were just as successful as men’s, which was contrary to conventional wisdom regarding women’s inferiority in entrepreneurship. This research also found that the determinants of survival and success operated in much the same way for men and women “suggesting that the processes underlying small business performance are similar irrespective of an entrepreneur’s gender” (Kalleberg and Leicht 1991). These findings were supported in a comparative study conducted by Johnson and Storey (1993) in the United Kingdom, which found no significant differences in survival rates of male- and female-owned businesses, although women-owned firms were typically smaller and more likely to employ women. Most recently, Chaganti and Parasuraman (1994) examined strategic approaches of male and female entrepreneurs as these related to performance, finding similarities across gender, with the exception that women tended to emphasize quality more than men.

Although these recent studies add to our understanding of performance similarities and differences, “performance” in entrepreneurial businesses was operationalized differently, making it difficult to compare across studies. Most frequently used operationalizations of performance include survival, growth in employees, and profitability (Srinivasan, Woo, and Cooper 1994). For instance, Kalleberg and Leicht (1991) and Johnson and Storey (1993) examined survival, whereas Chaganti and Parasuraman (1994) examined financial performance and documented organizational factors as they related to performance.

Studies of individual factors influencing performance are prevalent, although the majority of these were carried out in the United States, Canada, and the United Kingdom. Because the purpose of this study is to consider a context where work, family, and organized social life differ from non-OECD countries, it will focus on individual level factors as these influence performance. The following discussion is organized according to five theoretical perspectives, each of which has a corresponding body of empirical research. These five perspectives are: (1) motivations and goals, (2) social learning, (3) network affiliation, (4) human capital, (5) environmental factors (see Figure 1). Hypotheses as to the applicability of each view in explaining performance in the Israeli context are presented.

**Motivations and Goals**

Psychological motivations such as achievement, independence, and locus of control have been widely investigated with regard to their influence on business start-up (Brockhaus and Horwitz 1986). Fewer studies examined their relationship to business performance. U.S. research has found that individual motivations and owner/founder goals are related to performance in women-owned businesses, where opportunity motivation was related to survival and independence was associated with “no growth” (Hisrich and Brush 1987). Other studies indicate few significant performance differences related to male versus female achievement motivation or individual self-esteem. Women reported lower levels of self-confidence than did males (Miskin and Rose 1990).

Compared with the United States, the occupational segregation and wage disparities between men and women in Israel are greater. Due to these structural barriers as
well as the perceptual barriers that accompany an entrepreneurial career, we might expect Israeli women entrepreneurs to be motivated by independence and achievement to ensure solid performance of their businesses. This leads to the following hypothesis:

**H1**: The influence of motivations and goals will be positively associated with business performance.
Social Learning Theory

A second theoretical approach emphasizes the role of entrepreneurial socialization, which is anchored in social learning theory (Bandura 1977) as an explanation of entrepreneurial behavior and career development. Social learning can occur through the observation of behavior in others, often referred to as role models. The individual's socialization process, which occurs in the family setting, transmits social norms, language, educational aspirations, and shapes career preferences through observational learning and modeling (Bandura 1977).

The utility of social learning theory to explain entrepreneurial career preferences was explored in several studies. The effects of observational learning through perceived parental entrepreneurial role model performance was explored by Scherer et al. (1989). These authors found that the presence of a parent in an entrepreneurial role was associated with increased education and training aspirations, task self-efficacy, and expectancy for an entrepreneurial career. The study also showed that individuals with a parent performing an entrepreneurial role were often high performers and significantly different from individuals without role models, who were low performers. Similarly, a Canadian study found that 33% of the women entrepreneurs in this sample reported their fathers were entrepreneurs (Belcourt, Burke, and Lee-Gosselin 1991). One Israeli study did find a clear link between role models (entrepreneurial fathers) and choice of an entrepreneurial career by offspring (Lerner 1992). These results support the importance of entrepreneurial role models in the backgrounds of practicing entrepreneurs identified in earlier studies (Brockhaus and Horwitz 1986; Hisrich and Brush 1984).

In the Israeli context, a comparatively small percentage of both men and women are entrepreneurs. The small number of self-employed women suggests women have fewer female role models. Because the expectation for women is to choose a career that is compatible with family life and responsibilities and not to have demanding careers (Azmon and Izraeli 1994), socialization and norms for women to be entrepreneurs would be minimal, leading to the following:

$H2$: The influence of social learning theory will be negatively associated with business performance.

Network Affiliation

A third perspective views entrepreneurship as embedded in a complex network of social relationships. Within these networks, entrepreneurship is facilitated or constrained by linkages between aspiring entrepreneurs, resources, and opportunities (Aldrich and Zimmer 1986). According to this view, the presence or absence of networks, such as access or membership in associations, play a role in influencing performance. The fact that women entrepreneurs are embedded in different personal and social networks than men, and that divisions and barriers limit the reach and diversity of their networks, might have far-reaching consequences for business performance (Aldrich 1989).

The importance of support systems, mentors, and advisors has been documented in earlier research. In particular, business associates and friends were identified as being important to moral support, whereas participation in trade associations and women's groups was related to business guidance (Hisrich and Brush 1987). Some researchers
have stated that access to information and assistance depends on “know-who” (Peterson and Ronstadt 1987), others arguing that the “old boys” network can be difficult for women to penetrate (Belcourt et al. 1991). Johannisson (1991) argues that the personal network of the entrepreneur is the most important resource of the firm. The significance of personal contacts as an aid to business development has been validated, with a study showing that strong ties in social networks facilitate the start-up process (Aldrich et al. 1987). Research from Northern Ireland found women’s networks as diverse as men’s (Cromie and Birley 1992). These findings were supported in the United States by Aldrich and Elam (1995).

There is evidence that the composition of women’s networks is different than men’s (Aldrich et al. 1987), and in many countries women are often excluded from social networks or informal networks of information (Brush 1990). One Canadian study assessing whether women entrepreneurs were creating an old girl’s network through business associations found that although the respondents felt belonging to business groups was important, they did not often join due to lack of time (Belcourt et al. 1991). These researchers felt that this infrequent use of assistance sources represented a “lost opportunity to break through the isolation of the glass box.” Limited use of mentors by women was found to be a significant inhibitor to successful business development (Carsrud et al. 1986).

In Israel it was noted earlier that occupational segregation in terms of sectors and level of managerial responsibility is prevalent. This implies that women will less often be integrated into certain networks, for instance in the manufacturing, government, or military sectors. The recent growth of women’s associations in Israel suggests women entrepreneurs might be likely to participate in women-only associations as a means to gain moral support. Research shows that in collectivist and informal societies like Israel’s, success is dependent on personal contacts and relationships with key individuals who facilitate the start-up (Baum et al. 1993). This leads to the following:

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H3: \text{The influence of network affiliation will be positively associated with business performance.}
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**Human Capital**

The human capital perspective proposes that level of education, area of education, previous entrepreneurial experience, previous business experience, and business skills will influence business performance. Cooper (1981) proposed experience and education were “antecedents” to the decisions to start a company and ultimately affected performance.

Several studies showed that years of formal education of the entrepreneur before establishing a new firm were related to eventual performance of the firm (Box, White, and Barr 1993; Brush and Hisrich 1991). Box et al. (1993) also found a relationship between higher levels of education and increased performance among manufacturing firms in Oklahoma. Testing the effects of education on business ownership in a longitudinal study, Dolinsky et al. (1993) reported that the levels of staying and reentering a business increased with higher levels of education. They argued that less educated women may face financial or human capital constraints that limited their business pursuits.

Because women in Israel are generally well educated, compared with women in
many developing countries, it would follow that women entrepreneurs also would be well educated. Based on the research from developed countries, it is expected that a high level of education would be associated with better performance, leading to the following:

H4a: The influence of a high level of education will be positively associated with business performance.

Hisrich (1986) stated that the high number of service-oriented businesses (over 90% of the businesses begun by women) reflected the educational focus of women entrepreneurs, which generally consisted of a liberal arts college education. This social sciences or liberal arts educational background might restrict or discourage them from starting ventures in manufacturing, finance, or technology (Birley et al. 1987; Brush 1990). Statistics in OECD countries indicate that the great majority of women-owned businesses are concentrated in retail trade and service sectors, which are perceived traditional areas of female employment (Brush 1990).

Although Israeli women have equal access to every course of study and between 40% and 50% of academic concentrations are composed of women, women in fact are underrepresented in engineering and management. This equal access implies that women would be as likely to have degrees in engineering or management as men, leading to the following:

H4b: The influence of area of education will be positively associated with business performance.

The influence of previous entrepreneurial experience upon the success of small businesses was tested in several studies. Ronstadt (1988) found that longer, more successful entrepreneurial careers were a function of earlier career starts and involvement in multiple ventures. Prior start-ups and years of entrepreneurial experience were significantly correlated with performance in a study of 300 manufacturing firms in Tulsa (Box et al. 1993). On the other hand, Miskin and Rose (1990) found that previous ownership experience was not significantly related to profitability of the women in their sample, but it was significant for males.

The overall small percentage of self-employed women (5.3%) suggests that the majority of Israeli women entrepreneurs will not have previous start-up experience. This lack of start-up experience suggests that:

H4c: The influence of previous start-up experience will have no association with business performance.

Many studies of women entrepreneurs find women start ventures in sectors where they have little experience. Forty percent of women entrepreneurs in a Canadian study reported they had not worked in a related field prior to venture creation. This lack of experience in a related field was correlated with significantly lower profits (Belcourt et al. 1991). On the other hand, Hisrich and Brush (1984) found that a majority of their sample of 468 women entrepreneurs (64%) tended to start businesses in fields where they had related experience. In a longitudinal study on this sample 5 years later, Brush and Hisrich (1991) found that among the 172 women business owners responding to the second survey, related experience was associated with business growth. They concluded that the "antecedent influences" of the women entrepreneurs did in fact affect business survival and growth.
Israeli women are typically employed in services and retailing, as they suffer from occupational and sectoral segregation, implying that previous experience of women entrepreneurs would be predominantly in these areas. Statistics show that women business owners are more frequently located in the nonsponsored segment of the market, which is typically service related. Therefore, women entrepreneurs would likely have greater knowledge of the industries of their ventures, as well as competitive aspects important to success, leading to the following:

\( H4d: \) The influence of related occupational experience will be positively related to business performance.

The importance of business skills, particularly strength in idea generation and dealing with people, was found to be related to performance in Brush and Hisrich’s (1991) longitudinal study. Since business skills are related to stage of business development, it is argued that women face challenges of learning business skills early in the life cycle of their business and are therefore less profitable than in later stages when they are more competent in business skills (Miskin and Rose 1990). Studies investigating business planning skills are mixed—some showing business planning skills related to success and others showing it does not make a difference. Whereas a recent meta-analysis of 14 research studies confirmed a relationship between planning and performance (Schwenk and Shrader 1993), these studies focused on the organizational level planning processes rather than the expertise or gender of the individual owner/founder.

Given that a high percentage of Israeli women work and that it is likely they will be employed in the service sector and start businesses in this area, it is expected they would have requisite skills needed to succeed in the area of their business. Because the structural barriers facing Israeli women might make it more difficult for them to obtain resources or suppliers, there should be more reliance on individual skills to succeed, leading to the following:

\( H4e: \) The influence of business skills will be positively associated with business performance.

Environmental Influences

Environmental influences presume that factors including the differential structure of opportunity, location, sectoral activities, and sociopolitical variables (i.e., availability of government assistance) are critical determinants of performance. Economic measures of venture profitability, revenues and number of employees are related to environmental economic conditions, such as the market structure, regional opportunities, investment climate, availability of labor, and other features (Gibb 1988). Similarly, resource availability, including venture capital, technical labor force, loans, support services, and a favorable entrepreneurial subculture are also a major influence on performance (Bruno and Tybjee 1982).

Availability of sufficient start-up capital is reported to be one of the most important environmental factors influencing success and profitability of new ventures (Brophy 1989). A study of 346 entrepreneurs who utilized a Washington SBDC found no significant differences between male and female perceptions of access to start-up capital (Miskin and Rose 1990). Relatedly, studies of women’s access to bank loans indicate that
although women are able to obtain outside financing, they faced perceptual barriers that they were less capable than their male counterparts (Fay and Williams 1993).

Environmental factors differentially affect the type of business and vary by industry sector. Historically, women-owned businesses have been concentrated in retail sales, personal, and educational services (Kalleberg and Leicht 1991). The U.S. Small Business Administration (1986) reports that in 1982 nearly half of all women entrepreneurs participated in service industries, and another 30% were in retail trade. A Canadian survey found that the retail sector tended to be overrepresented by women entrepreneurs (Belcourt et al. 1991). Even though both retailing and services generally have smaller returns and labor intensity, these sectors are generally easy to enter because of comparatively small capital investments. Companies in the service and trade industries generally have lower growth rates and profitability and often confront greater competition (Kalleberg and Leicht 1991).

In the Israeli context, it is expected that women entrepreneurs will be concentrated in service and retailing. Following previous research, it is expected that sectoral differences will affect performance, and that the type of business will determine higher or lower performance, leading to the following:

$H_5$: The influence of environmental factors will differentially affect performance depending on sector of business participation.

Based on these five theoretical perspectives, an integrated model was developed (see Figure 1). These five perspectives and the demographic variables comprise the individual level variables, which are expected to be differentially associated with performance. Although it is recognized that the organizational strategies and goals of organizations will also affect performance, these are not the focus of this study.

**RESEARCH METHODOLOGY**

The database for this research was created from a study conducted in Israel, using a research instrument that was a comprehensive questionnaire originally based on the one developed by Hisrich and Brush (1982, 1985), translated into Hebrew, and adapted to the particular conditions of the Israeli market. Whereas many of the same measures were used, the study did not replicate Hisrich and Brush’s work, having many contextual and sampling differences. A total of 550 women entrepreneurs were surveyed. The sample was identified from the membership of four major women entrepreneur associations. Four different associations were sampled to provide greater heterogeneity and decrease against any possible bias. Most of the questionnaires were distributed at professional meetings of women entrepreneur associations and returned by mail. The remainder were mailed to respondents. There were 220 usable responses, yielding a 40% response rate. Because sampling from women who are members of business associations could introduce a source of bias, the sample included women who were not members of women’s organizations as well.

To examine the possibility that consistent differences exist between those women entrepreneurs belonging to one of the women’s business organizations and those women who do not belong to any such organization, $t$-test analyses were performed for the main research variables. These tests were done to examine if there was any bias of selection in choosing the research population. These analyses revealed that no significant differences existed among the members versus nonmembers ($n = 160, 56$, respectively); thus,
the selection of one-quarter of the research sample from nonmembers did not cause any systematic bias. However, there were differences in certain business dimensions; for instance, the numbers of full-time employees—the members employing more full-time employees (the means are 5 vs. 10, \( p < .03 \)), and the average business age—member’s businesses were 3–4 years old, whereas the average business of nonmembers was 5–6 years (\( p < .03 \)). In addition, more members prepared business plans for their ventures than did nonmembers (\( p < .05 \)). Finally, although there were more retail businesses among the nonmembers than among the members, whose ventures were mostly in the services (58%), the difference was not significant. In sum, these \( t \)-tests show that the samples were dissimilar across age and size; however, when these differences are considered in the larger context of entrepreneurial businesses, all of these entrepreneurs can be considered small and young. It is not expected that a difference of 2 years in age or five employees will significantly influence the results given the mean for the entire sample.

**Variables**

The dependent variables for this research were measures of business performance. Performance measures were based on the following four main indicators, previously used by Brush and Hisrich (1991) and those commonly used in entrepreneurship research (Brush and VanderWerf 1992).

1. **Size of business**: number of employees, number of full-time/part-time employees
2. **Profitability**: Was your business profitable last year? Three categories of answers: profitable = 1; not profitable and not losing money = 2; losing money = 3
3. **Gross revenues**: 11 categories from 30,000 IS, up to more than 4 mm IS during the previous year
4. **Income**: open-ended question regarding the entrepreneur’s monthly income at present

The independent variables were divided into five groups to capture the dimensions of all theoretical perspectives:

1. **Demographic Variables**: age, marital status, number and age of children, father in business, economic status during childhood, length of residence in Israel, spouse’s occupation.
2. **Human Capital**: education level, education areas, previous occupation, previous status at work (employed/self-employed), previous experience in starting up business, previous experience in industry, involvement in starting up the current business, and nature of involvement. Business skills variables included management, planning, and areas of strength:
   - **Management Skills Index**: six items (\( \alpha = 0.74 \)). Each item had five categories from 1 = not important to 5 = very important. The six items were: finance-securing capital, forecasting, budgeting, dealing with people-management, marketing/sales-market research, idea generation, product innovation, business operations, production, daily operation, organizing and planning, business strategy, policies. A factor analysis of all management skills showed four items (finance, human resources, operations, and strategy) loading on factor 1, reliable at \( \bar{A} = 0.74 \). Pearson correlation coefficients between the two items in factor 2, marketing and innova-
tion, was $r = 0.36$, which was significant. Because only the first factor’s coefficient was high enough to justify including two factors of management skills, it was decided to use a single index of management skills comprising the five categories.

b. Planning Ahead Index: six items (reliability analysis scale of these items $= 0.83$)

Each item had five categories ranging from 1 = less than months to 5 = more than 2 years. The six items were: planning sales, cash flows, add or drop products, enter new/exit markets, hiring and other staff decisions, expansion of firm’s operations, changes in plant, building, and equipment. These dimensions were considered in terms of individual capability rather than firm strategy. Factor analysis of the planning ahead index found four items loading on factor #1 (planning sales, cash flow, new products, and entry into new markets) with $\hat{\alpha} = 0.08$. Reliability analysis coefficients of the remaining three items on factor #2 was also $\hat{\alpha} = 0.08$. As in the case of the business skills, it was decided to use an index including all of the skills rather than two separate factors. The planning index included six items and the reliability of this index was $\hat{\alpha} = 0.83$.

c. Areas of Entrepreneurial Strength in Business Index: 12 items ($\hat{\alpha} = 0.79$)

Each item had five categories ranging from 1 = not an area of strength to 5 = area of major strength. The 12 items were: location of firm, type of plant, equipment, product/service quality, pricing, customer service, innovation in products, cost control, employee productivity, marketing and selling, cash and financial management, overall quality of management, and human resource management. Areas of strength items also were factor-analyzed, but this analysis similarly failed to produce reliable coefficient values, with factor reliabilities of 0.79, 0.36, and 0.53. Hence, an area of strength index was developed that showed $\hat{\alpha} = 0.79$.

3. Motivations and Goals Variables:

Motives index: 12 items measuring motivations to enter into business. Each item had five categories, from 1 = not important to 5 = very important. Reliability analysis scale showed high reliability coefficient of the 12 items ($\hat{\alpha} = 0.77$). A factor analysis of the 12 questions loaded on three factors as following: the first factor was labeled achievement motivation and consisted of five items with a factor loading of greater than 0.55 (achievement, status-prestige, career, money, power). The second factor was labeled independence motivation and consisted of three items with a factor loading of greater than 0.66 (independence, job satisfaction, opportunity). The third factor was labeled necessity motivation and consisted of two items with a factor loading of greater than 0.71 (economic necessity, security).

Goals index: Eight items of importance of possible business goals ($\hat{\alpha} = 0.60$). Each item had five categories from 1 = not important to 5 = very important. The eight items were profitability, revenues and sales growth, product/service excellence, survival of the business, image of the business with customers, personal satisfaction of the owner-manager, contribution to society, and provide high living standard for the owner.

4. Network affiliation variables: Number of network affiliations used index was developed, based upon number of types of networks mentioned as used by the respondent (professional associations, trade associations, women’s professional groups, community organizations, college alumni groups, social groups-close friends/family, and political groups). Other measures included membership in women’s business associations, use of advisers, and number of advisers used. The Advisor Index was developed
TABLE 2 Descriptive Statistics for Study of Israeli Women Entrepreneurs (n = 217)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education level/university</td>
<td>69%</td>
<td>6.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Area of university education: management, economic, engineer</td>
<td>32.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous entrepreneurial experience</td>
<td>22.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous managerial occupation</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous experience in industry</td>
<td>51.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involvement in the start-up</td>
<td>91%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership in women’s association</td>
<td>76%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry: services</td>
<td>58.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry: retail</td>
<td>19.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry: manufacturing</td>
<td>22.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of entrepreneur</td>
<td>50.5</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>Marital status: currently married</td>
<td>76.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of children</td>
<td>91.8%</td>
<td>2.5</td>
<td>1.2</td>
</tr>
<tr>
<td>First child’s age</td>
<td>19.5</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>Father in business</td>
<td>55.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenues</td>
<td>5.3</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Income (IS)</td>
<td>5701</td>
<td>4823</td>
<td></td>
</tr>
<tr>
<td>Number of employees</td>
<td>12.2</td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>73%</td>
<td>1.3</td>
<td>0.65</td>
</tr>
<tr>
<td>Sources of finance: personal</td>
<td>76.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

on the basis of number and type of advisors mentioned as used by the respondent. The seven professional kinds of advisors were in the following areas: production and/or purchasing, market research and sales, bookkeeping and accounting, budgeting and planning, personnel/labor management, legal personnel, and computer specialist.

5. Environmental variables were composed of industry variables: services/retail/manufacturing, and type of ownership, percent of ownership (0% to 100%).

FINDINGS

Descriptive statistics showed that the average age of the Israeli woman entrepreneur in this study was 50.5 (SD = 0.6, median = 51, see Table 2). The range of ages of the entrepreneurs was between 32 and 74, with 53% between 32 and 51. An overwhelming majority (92.4%) of all respondents were mothers, mostly of two or three children (33% and 36%, respectively). Seventy-six percent of the entrepreneurs in the study were married (only 9% of them never had been married). Twelve percent were divorced or widowed (3%). The average ages of the entrepreneurs’ children were 19.5 for the first child, 16.5 for the second child, and 14 for the third and fourth. In addition, 55% of the entrepreneurs in the study were exposed to business socialization during their childhood: 55% of them were daughters of business owners (see Table 2).

A majority of the women entrepreneurs in the study had higher education. Seventy percent of the sample had more than 12 years of education and 52% had an academic degree, of whom 27% held a B.A. and 25% an M.A. The remaining 30% had high school education or had studied at an educational college. Of the university-educated entrepreneurs, 33% studied economics, management, or engineering, with the rest studying humanities, social sciences, or fine arts. This social science and arts educational background is characteristic of women business owners, as has been found in the United States and OECD countries (Brush 1990). The educational background partly explains
the high concentration of women-owned businesses in the service sectors in the OECD countries and Israel. Fifty-eight percent of the entrepreneurs in the study were in services, 19% in retail, and 23% in manufacturing in Israel.

Whereas 43.6% of the sample had academic occupations before starting up their businesses and 18% were in managerial positions, 15.7% worked in technical, professional, and secretarial positions. Nearly 19% worked in other occupations, but only 4% served as housewives before launching their ventures.

For most of the women entrepreneurs in the sample (77.7%), the current business was their first venture; only 22.3% had previous experience in starting a business. At the same time, however, 51.6% had previous experience in their economic sector, the percentage of those with previous experience being significantly higher in the services. Most of the entrepreneurs in the sample (85%) were employed before launching their businesses.

The majority of women entrepreneurs (76.4%) used only their personal savings as sources of financing their ventures. Of those, 30% needed little financing for launching their ventures. Only 23.6% used other sources, such as bank loans. Whereas the women in the sample owned businesses in 34 different locations in Israel, most were in the Tel Aviv area (28.7%), Jerusalem (11.4%), Haifa (10%), and many other urban centers.

To examine the question of factors most influencing performance, Pearson correlations were performed on 28 different variables pertaining to the following areas: demographics, background socialization, human capital, networks, motivations, and industry. These analyses examined the influence of each of these variables on the following four performance measures: (1) business profitability, (2) revenues, (3) the entrepreneur’s income, and (4) the number of persons employed by the business.

Based on an examination of the correlations between each of the independent variables with the performance measures, stepwise multiple-regression analysis was used to determine the influence of each of the independent or dependent variables. Each stepwise regression involved all independent variables and examined their influence on each dependent variable separately. Table 3 presents both the Pearson correlation coefficients and the beta scores of the regression analysis of the variables that have a significant impact on performance in descending order of their influence. Findings of the analysis of each of the performance measures are discussed below.

Profitability: Membership in women’s business associations was the variable first to enter the equation \( r = 0.15, p < .05 \) (see Table 3). Of the three motivational factors, economic necessity was significantly correlated with profitability \( r = 0.22, p < .05 \).

In addition, the age of first child, sources of finance, and business skill index also influenced profitability. Less influential were previous experience, industry sector, and marital status.

Revenues: Independent variables associated with revenues were involvement in start-up, business skills, areas of strength, and network affiliation (see Table 3). The entrepreneur’s involvement as a founder was significantly associated with gross revenues \( r = 0.36, p < .01 \), whereas previous experience in the industry was similarly correlated \( r = 0.28, p < .01 \). Management skills also entered the regression equation and obtaining finance and budgeting, personnel management, and organizing and planning skills were highly correlated with revenues. All areas of the planning index were significantly correlated with revenues. The number of network affiliations of women entrepreneurs was negatively correlated with revenues \( r = -0.23, p < .01 \).
<table>
<thead>
<tr>
<th>Variable</th>
<th>( \beta )</th>
<th>( r )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profitability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Membership in women's business associations</td>
<td>0.25&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.15&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. First child's age</td>
<td>0.21&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.15&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>3. Sources of finance</td>
<td>0.19&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.17&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>4. Skills index</td>
<td>0.19&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>5. Economic necessity motives</td>
<td>0.17&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.22&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>6. Previous employment</td>
<td>0.15&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.18&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>7. Manufacturing</td>
<td>-0.15&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>8. Marital status</td>
<td>0.13&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.18&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>9. Areas of strength</td>
<td>-0.10&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Involvement in start-up</td>
<td>0.26&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.36&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. Skills index</td>
<td>0.21&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.47&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>3. Number of networks</td>
<td>-0.17&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-0.23&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>4. Number of advisors</td>
<td>0.14&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.37&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>5. Areas of strength</td>
<td>0.14&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.36&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>6. Previous experience in industry</td>
<td>0.11&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.28&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>7. Planning index</td>
<td>0.10&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.32&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>8. Services</td>
<td>-0.10&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>9. Independence motives</td>
<td>-0.10&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>10. Economic necessity motives</td>
<td>-0.09&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>11. Membership in women's business associations</td>
<td>-</td>
<td>-0.23&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>12. Sources of finance</td>
<td>-</td>
<td>0.17&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Services</td>
<td>0.22&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.21&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. Areas of strength</td>
<td>0.15&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>3. Economic necessity motives</td>
<td>-0.12&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>4. Number of networks</td>
<td>-0.11&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td><strong>Number of Employees</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Services</td>
<td>0.44&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-0.37&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. Manufacturing</td>
<td>0.36&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>3. Number of networks</td>
<td>-0.14&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
</tr>
<tr>
<td>4. Involvement in start-up</td>
<td>0.13&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.26&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>5. Planning index</td>
<td>0.11&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.29&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>6. Number of advisors</td>
<td>-</td>
<td>0.29&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>7. Sources of finance</td>
<td>-</td>
<td>0.19&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>8. Previous experience in industry</td>
<td>-</td>
<td>0.16&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>9. Number of children</td>
<td>-</td>
<td>0.16&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Multiple regression and Pearson correlative coefficients; \( n = 218 \).

- \( ^{a} p < 0.001 \).
- \( ^{b} p < 0.01 \).
- \( ^{c} p < 0.05 \).

Employees: The number of employees was primarily influenced by the industry of operation, with sector being first to enter the regression equation (see Table 3). The significant difference in size of the average business ranged from services (four employees) and retail (eight employees), compared with an average of 36 in manufacturing firms (the standard deviations were 12, 16, and 37, respectively). The second more influential variable was the entrepreneur's involvement in start-up (\( r = 0.26, p < .01 \)).

Personal Income: The regression equation for personal income showed one dominant variable, achievement motivation (\( r = 0.21, p < .05 \)) (see Table 3). Areas of
TABLE 4 Comparison of Developed and Developing Countries

<table>
<thead>
<tr>
<th>Theoretical Perspective</th>
<th>U.S./Developed</th>
<th>Hypothesized</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Motives/Goals</td>
<td>Medium</td>
<td>Positive</td>
<td>Strongly supported</td>
</tr>
<tr>
<td>2. Social Learning</td>
<td>Medium</td>
<td>Negative</td>
<td>Supported</td>
</tr>
<tr>
<td>3. Network/Affiliation</td>
<td>Medium</td>
<td>Positive</td>
<td>Strongly supported</td>
</tr>
<tr>
<td>4. Human Capital</td>
<td>Strong</td>
<td>Positive</td>
<td>Mixed support</td>
</tr>
<tr>
<td>4a. Education level</td>
<td>Strong</td>
<td>Positive</td>
<td>Not supported</td>
</tr>
<tr>
<td>4b. Area of education</td>
<td>Medium</td>
<td>Positive</td>
<td>Not supported</td>
</tr>
<tr>
<td>4c. Previous entrepreneurial experience</td>
<td>Strong</td>
<td>Negative</td>
<td>Supported</td>
</tr>
<tr>
<td>4d. Occupation experience</td>
<td>Strong</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>4e. Skills</td>
<td>Strong</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>5. Environmental</td>
<td>Strong</td>
<td>Positive</td>
<td>Supported</td>
</tr>
</tbody>
</table>

strength in the business and economic necessity motivation also entered the equation.

The results of these multiple regression analysis indicate that each of the four measures of performance is influenced by a different group of independent variables. In other words, there is no evidence that a single cluster of factors equally affects profitability, revenues, income, or number of employees. Findings indicate that the factors in this study only partially explain variance in each of the performance measures, suggesting that strategic and organizational variables that were not measured will probably contribute to this unexplained variance.

Two performance measures, revenues and number of employees, are better explained by independent variables; 39% of the variance is explained in the former, and 31% in the latter. For profitability, the independent variables explain only 15% of the variance, whereas for income it is only 7%.

HYPOTHESIS TESTING RESULTS

Overall, the perspectives most useful in explaining performance in Israeli women-owned businesses were motivations and goals, network affiliations, and human capital. Whereas environmental factors were somewhat useful, social learning theory received no support.

In addition, certain demographic variables were important in the analyses, particularly age of the entrepreneur’s children, which was associated with profitability (see Table 3). This might suggest that women with older children have more time to devote to making their businesses successful, whereas a woman with younger children is expected to first fulfill her family responsibilities consistent with the norms in the Israeli culture. Relatedly, the average age of women entrepreneurs in this study was substantially older than shown in previous U.S. studies, 50 as opposed to 35–45. This implies that Israeli women usually do not seek entrepreneurial careers until after their families are raised. Following is a discussion of the hypothesis testing as these relate to each theoretical view, with a summary presented in Table 4.

Motivations and Goals

In support of our expectations, motivations and goals had a significant influence on business performance. The three groups of motives (achievement, economic necessity, and
independence) all were associated with various aspects of performance. Economic necessity was highly correlated with profitability; achievement was strongly associated with income; and independence was associated with revenues, although its impact was negative. These results support our earlier speculations that women entrepreneurs in Israel may be strongly motivated to achieve high performance as a way of overcoming structural barriers. Unexpectedly, independence was negatively related to revenues, possibly because independence as a cultural norm may not be valued as highly in a collectivist society. Overall, H1 was supported.

**Social Learning Theory**
Findings show no support for Bandura's (1977) social learning theory. Multiple regression equations indicated that family socialization variable (self-employed father) had no influence on business performance of Israeli women entrepreneurs. However, it should be remembered that Bandura's theory was applied to the influence of an entrepreneurial role model as it related to preference for entrepreneurial behavior (Scherer et al. 1989). The results support our contention that the small numbers of both self-employed women and men in Israel may mean fewer role models for Israeli women entrepreneurs. Hence, H2 was supported.

**Network Affiliation**
Membership in a women's organization had a highly significant effect on the profitability of Israeli women-owned businesses. Women belonging to such organizations reported higher profitability than women who did not. Similarly, the use of a number of advisors was linked to better performance in terms of higher revenues; however, use of a number of network affiliations was negatively linked to revenues of the business, personal income, and size in terms of number of employees. These findings support our expectations about the importance of network affiliations for Israeli women entrepreneurs and previous research from the United States and other countries showing that reliance on membership in women's organizations is related to performance. H3 was supported.

**Human Capital**
The impact of human capital factors on performance had mixed results. Contrary to our expectations and previous U.S. research, education level and areas were not related to performance. The high level of education of Israeli women in general may actually equalize their knowledge bases, thereby not adequately distinguishing among better or worse performers. H4a and H4b were not supported.

The role of previous entrepreneurial experience and experience in the industry produced different results. Previous start-up experience was not significant, although involvement in the start-up was significant. This is not surprising given that for 78% of the sample, this entrepreneurial venture was their first. Similarly, this supports our expectations that were founded on the small percentage of women involved in entrepreneurial endeavors. Therefore H4c was supported.

On the other hand, previous experience was highly correlated with performance, previous salaried employment with profitability, and previous experience in the industry with revenues. These results support earlier research by Hisrich and Brush (1991), which
found that previous experience was associated with business growth. Women in service sectors showed a higher level of previous experience in their relevant sector than their colleagues in other sectors \( (p < .001) \). These results provide support for H4d.

Consistent with U.S. research, the influence of business skills had an important impact on business performance. The three indexes (business skills, planning, and areas of strength in business) all had dominant influences on all performance measures, particularly revenues and profitability. The skills most highly correlated with revenues were obtaining finance, budgeting, and planning ahead. These results support our thoughts that Israeli women entrepreneurs would have to rely heavily on business skills to ensure the success of their ventures. H4e is supported.

**Environmental Factors**

Environmental influences were associated with employees where number of employees was differentially associated with type of business; manufacturing with more employees and services with fewer. Further, manufacturing was associated with profitability, but the association was negative, perhaps reflecting the difficulties associated with women getting involved in this sector. Overall, H5 on environmental factors was supported. These conclusions are summarized in Table 3.

**CONCLUSIONS AND IMPLICATIONS**

This systematic investigation of individual factors influencing performance of Israeli women-owned businesses examined the applicability of five theoretical perspectives. This research sheds light on the explanatory power of these five perspectives, derived from studies in OECD countries in a non-OECD country context. Distinct differences exist in the social structures of Israel and other developed countries (the United States, Canada, and the United Kingdom) where the majority of research on women entrepreneurs has been conducted. This variation in social structures affects the explanatory power for the five theories. In particular, research from developed countries showed that human capital variables, education level and area, previous entrepreneurial experience, and previous industry experience were all associated with better performance. However, this study found only mixed support for these variables where the lack of experience in entrepreneurial endeavors as well a level of education of Israeli women were not associated with performance. This was due in part to the comparatively late age of women entrepreneurs at start-up, overall high level of education of women in general, and high incidence of first venture experience. On the other hand, the importance of business skills and previous work experience in performance relationships were similar to research in other countries. Taken together, these findings reflect the differential effect of human capital variables depending on the country context. Further research examining the influence of human capital variables in Israeli women-owned businesses compared with men-owned businesses is now needed.

A second important difference between these findings and earlier research is the role of motivations. Whereas U.S. research found mixed results with regard to the relationship between motivations and performance, this study of Israeli women entrepreneurs showed that motivations entered all four regression equations and effectively were related to all four measures of performance. It appears that these findings reflect the effects of different social structures, particularly the impact of occupational segrega-
tion, wage disparity, and participation in the nonsupported sector of the market. To fully understand the importance of motivations with regard to performance, comparison of these findings to Israeli men entrepreneurs or women entrepreneurs from other non-OECD as well as developing countries is needed; this will determine if these results are gender specific or a function of social structures.

A third area unique to this study is the impact of network affiliation on business performance. It was surprising that a commitment to a single network was related to profitability, whereas affiliation with multiple organizations was negatively associated with both revenues and personal income. This implies that Israeli women entrepreneurs who strongly connect with an organization will increase profits by building loyal ties, whereas multiple loose associations or ties may not allow these strong relationships to develop. Although this study did not examine the process of networking of these entrepreneurs, clearly the results suggest more investigation is needed. In addition, the extent to which a single organizational affiliation is related to profitability among Israeli male entrepreneurs and entrepreneurs in other countries bears further research.

The fact that social learning theory was not significantly related to performance suggests that this theory is more useful in explaining motives for creation. However, it is possible that the presence or absence of successful role models (male or female) may more directly affect performance in countries where there is a greater presence and encouragement for entrepreneurship.

Despite the structural barriers encountered by Israeli women entrepreneurs, this study suggests that performance can be improved by having a single strong affiliation with a women’s organization, gaining previous experience in the area of their venture and learning business skills. Further, achievement motivation is important to increasing personal income.

Overall, this research suggests that theories regarding entrepreneurship in particular, derived from research in OECD countries, need to be carefully examined and tested before being used in non-OECD and developing country contexts. Social structures, work, family, and organized social life are particularly likely to affect motivations and human capital influences on business performance.

REFERENCES


Dolinsky, A.L., Caputo, R.K., Pasumaty, K., and Quanzi, H. 1993. The effects of education on...


