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THE IMPACT OF PUBLIC ASSISTANCE PROGRAMS ON SMALL BUSINESSES: STRATEGIC PLANNING, ENTREPRENEURSHIP RESOURCES USAGE, AND MARKET ORIENTATION AS MEDIATING VARIABLES

Rami Schayek
Ben-Gurion University of the Negev
sehyek@bgu.ac.il

Dov Dvir
Ben-Gurion University of the Negev
dvird@som.bgu.ac.il

ABSTRACT

This paper draws upon a quantitative empirical longitudinal study of small trade and service businesses that participated in a coaching program initiated by the Ministry of Industry, Trade and Labor in Israel. The purpose of the study is to improve our understanding of the ways public assistance programs affect small businesses and improve their business results. A mediating model developed during the research enables the evaluation of the direct and indirect effects of public assistance programs on small businesses. Findings show that public assistance programs have a significant direct positive effect on small businesses performance. The indirect effect is mainly due to the reinforced market orientation induced by the assistance program, and to a lesser degree the result of the level of entrepreneurship demonstrated by the business owner.

Keywords: small business; assistance program; strategic planning; entrepreneurship; human resources; financial resources; market orientation

INTRODUCTION

Sassone and Schaffer (1978) differentiate between primary and secondary benefits that public assistance programs have on the assisted organization or business. Primary benefits are those benefits inherent to the services provided by the assistance program. Secondary benefits include an increase in human resources or in revenues that constitute a new addition to the economy. In line with the existing research, the present paper examines the effects of public assistance programs at the firm level (primary benefits).

Shapira et al. (1996) states that the implementation of assistance programs begins by transferring inputs from the assistance program to the client, then

through a series of intermediate steps, actions are taken by the client that subsequently lead to business and economic outcomes. It is therefore possible to look at the assistance program (i.e., the consultant providing that assistance), its gist and input, as one entity, where the other entity is the client, its capabilities, aspirations and willingness. The assistance program's effectiveness relies on both parties as well as the quality of interaction between them. In the present research a longitudinal assessment of the assistance program's effect on performance of small businesses was conducted. The effect on performance was examined directly and indirectly through four mediating variables – strategic planning, entrepreneurship, human and financial resources usage and market orientation - that were found in previous studies to affect performance of small businesses. This approach enables the identification of both direct and indirect effects of assistance programs on business performance. Moreover, the utilization of operational measures in addition to financial measures enables the measurement of the assistance program's effect, not only in retrospect; but also in the changes seen in the business operation throughout the assistance process and the chances of future success.

LITERATURE REVIEW

Public Assistance Programs and Small Business Performance

Following the framework of Shapira et al. (1996), the public assistance program's effect on performance of small businesses is examined taking into account the program and the client, and the interaction between them.

The Program. According to Beach (1980) learning is a human process where skills, knowledge and attitudes are acquired and changed in a way that changes behavior. The notion of "learning" suggests that outside assistance can influence behavioral related parameters.

A number of studies examined the effect of public assistance programs on firm performance where the only difference between the small businesses that receive assistance and those that do not, is the assistance itself (Chrisman, 1999; Felsenstien et al., 1999; Chrisman and McMullan, 2000). Chrisman (1999) found that performance in firms that received assistance from the Small Business Development Center (SBDC) in the U.S. was significantly better than performance of firms that did not participate in any kind of assistance program.

Several studies examined the components of assistance and the type of training provided by assistance programs. Jang and Lee (1998) indicated the consultant's capabilities and the manner of consultation, as well as the defined objectives and structural procedures of assistance programs, have an impact on performance. Kaplan et al. (2000) examined the quantitative characteristics of assistance programs, such as the number of seminar days and workshops a business was allotted, and the number of formal and informal consultations. Rice (2002) examined the nature of instruction, the amount of time allotted to assistance, the intensity of assistance (frequency and encounters duration), the range of assistance activities, and whether the consultation was reactive or proactive. Wren and Storey (2002) found that of the three assistance components – the size of the grant available to the firm, the cost of consultation per day and number of consultation days – only the last one had a significant effect on performance.

Chrisman and McMullan (2004) found significant positive correlation between the number of consultation hours provided to small businesses during the initial phases of their operation and their ability to survive. Chrisman et al. (2005) found a positive, but not significant, correlation between the number of consultation hours and performance. Luria and Wiarda (1996) noted improvement in performance by firms that participated in assistance training (three types were examined), but here too, the statistical significance was low.
The findings of these studies enable the differentiation between technical and material characteristics of assistance programs. Technical characteristics are defined by the type and structure of the assistance program and material characteristics indicate the manner in which assistance is given (e.g., the period of time allotted to assistance, the intensity of assistance, the range of implemented assistance activities and the consultant's capabilities). We may conclude that the effect an assistance program has on a firm's performance is more evident when there are differences in the material characteristics of the assistance programs, rather than in their structure.

The Client. A theoretical study by Jang and Lee (1998) enumerates three fundamental parameters which affect the success of consultation programs: consultants' capabilities, manner of consultation and organizational characteristics of the client. According to Fleming (1989), the keys to a successful consultation process are the successful implementations of the consultant's recommendations and the abilities of the client. Shapiro et al. (1993) assert that successful implementation of assistance programs depends on the level of cooperation between consultant and client. Rice (2002) found that entrepreneurs that show a greater willingness to cooperate are more influenced than others in the process of business support.

Program-Client Interaction. Billington et al. (2009) findings resonate with Devins et al. (2005) conceptual model, suggesting that an intervention approach founded on the relationship between the business manager and the intervention agency is crucial to the successful design and delivery of a relevant service. Luborsky et al. (1997) found that a true measurement of the interaction intensity should include both the interaction and its outcomes. It is impossible to learn about the interaction intensity by measuring only the contents provided by the participating parties (Smith and Glass, 1977; Garfield, 1988; Shapiro et al., 1989). How does one measure an interaction? Sharpley et al. (2000) selected the level of rapport that the client experienced. The basis for choosing this measure is a wide agreement in the literature that therapeutic alliance is of paramount importance in the client's appraisal of the consultation outcome. Horvath and Greenberg (1989) disassembled the therapeutic alliance into three components, bond – the level of trust and emotional closeness experienced by the client and consultant is one of them.

Assuming that assistance programs are in fact executed according to the principles discussed above, it is possible to formulate a general hypothesis concerning the extent to which assistance programs contribute to the success of small businesses.

> *Hypothesis 1: Assistance programs directly contribute to the level of performance of small businesses..*

Indirect Effects of Public Assistance Programs on Small Business Performance

In order to suggest an indirect effect of the assistance program on small businesses performance, we first identify possible relations between assistance programs and the potential mediating variables: strategic planning, entrepreneurship, human and financial resources and market orientation.

Strategic Planning and Performance. Empirical studies show a correlation between strategic planning and the small business performance, however the findings are mixed. A survey of twenty-six experimental studies done by Miller and Cardinal (1994) has identified a significant positive correlation between strategic planning and small business performance. A significant improvement in the rate of sales was found by Rue and Ibrahim (1998) in small businesses that prepared written plans (basic or sophisticated) as opposed to businesses that did not. Wijewardena et al. (2004) used three levels of planning: no written plans at all, basic planning, and detailed planning. Their findings indicate that the level of planning correlates with increase in sales. Yusuf and Saffu (2005) also used three levels of planning in their study: low, moderate, and high. A correlation was found only between the increase in sales and the low level of planning. No correlation was found between strategic planning and the increase in market share or profitability. Hodges and Kent (2007) support the conclusion that planning improves performance, while Kraus et al. (2006) findings only partially support previous findings. They show a significant correlation between planning formalization and small enterprises performance, whereas other aspects of strategic planning (time horizon, strategic instruments, and control) did not contribute to performance. Some researchers found that non-executive directors can also have an important role in the strategic planning process of small business (Rosenstein, 1988; Mileham, 1995; Deakins et al., 2000). Finally, Allred et al. (2007) conclude that both formal and informal planning is vital for small businesses success.

Entrepreneurship and Performance. Entrepreneurship as a characteristic of the organization, or a process within the organization, that has been identified by scholars as a crucial element in a firm's success (Davis et al., 1991). Several empirical studies have used the definition of Miller and Friesen (1982) which relies on three dimensions: innovativeness, risk-taking, and proactiveness and found a significant positive correlation between entrepreneurship and small businesses performance (Covin and Slevin, 1989, 1990; Smart and Conant, 1994; Wiklund, 1999; Wiklund and Shepherd, 2003, 2005). Consultation as a part of the decision-making process was found by Harvey and Fischer (1997) to enhance risk-taking. Outside assistance can also influence the long-term abilities of the venture to innovate (Chrisman and Mcmullan, 2000). Sullivan (2000) states that effective intervention that assists entrepreneurs to grow and develop, will help them learn how to deal with complex problems and not just use prescribed solutions. And Deakins et al. (2000) argue that external directors can have an influence through modification of entrepreneurial behavior.

Human and Financial Resources and Performance. Thompson (1996) defines human resources development as one of three activities which will benefit the most out of assistance programs. Chrisman and Mcmullan (2000) argue that the entrepreneur can develop tacit knowledge

through consulting processes. Outside assistance is presented as an important source for developing the entrepreneur's knowledge and experience (Robinson, 1982; Deakins et al., 2000) and accordingly, the main assistance provided by the Counseling Assistance to Small Business (CASE) organization is in hiring experienced businessmen in order to help inexperienced entrepreneurs acquire necessary skills and knowledge (Ready, 1983).

Cooper et al. (1994) found that human resources, and especially the owner's education, are correlated with growth. Moreover, knowledge of the industry and financial resources contribute to growth as well as to the firm's survival. According to Westhead (1995), the founder's experience affects performance and contributed to the survival of high-tech enterprises over a period of six years from the day of foundation. Brush and Chaganti (1999) examined small trade and service-oriented businesses. Their study differentiates between two dimensions of human resources – owner resources and owner commitment. A significant positive correlation was found between the two dimensions and net cash flow, but no correlation with the log of employment growth. Westhead et al. (2001) found that firms with founders that had considerable industry-specific knowledge, as reflect in starting businesses in the same industry as their last employers, are significantly more likely to report above-average profit performance relative to competitors. Chrisman et al. (2005) utilized the owner's education and prior experience as control variables. A correlation was found between prior experience and an increase in the number of employees and in sales. No such correlation was found with education. Saffu et al. (2008) have shown a positive and significant correlation between the entrepreneur's education and previous experience and tourism ventures' performance. No such relation was found with the entrepreneurs' family background. In regard to financial resources, Premaratne (2001) indicates a correlation between subsidies granted to the firm and an increase in sales. However, he did not find a correlation between subsidies and profitability. Wiklund and Shepherd (2005) found a significant positive correlation between access to capital and performance. Ready (1983) also claims that the counselor can help the small business owner in preparing adequate loan requests. Moreover, outside assistance can develop the abilities to raise capital (Bygrave and Timmons, 1992). Ehlan (2001) found that the most commonly reported economic impact directly attributable to the assistance program was a change in the ability to raise capital investments.

Market Orientation and Performance. The concept of market orientation places the customer at the center of the firm's activity (Dalgic, 1998; Pelham, 2000). Market orientation enables that customer's needs are met more efficiently, customers' satisfaction levels are improved, and it retains a higher commitment of the employees (Narver and Slater, 1990). Luukkonen (2002) who studied the EU assistance program, argues that the desire for enhancing market orientation motivates small businesses to participate in such programs. Research conducted by Kohli and Jaworski (1990) enables a better understanding of the concept of market orientation and the types of behavior associated with this concept. Their study focused on the market orientation of large businesses and laid the theoretical foundation for the expectation that market orientation leads to better performance.

Studies of small businesses support this assertion and show similar results, a positive correlation between market orientation and performance (Appiah-Adu and Singh, 1998; Shun-Ching and Cheng-Hsui Chen, 1998; Pelham, 2000; Homburg et al., 2002; Kara et al., 2005; Green et al., 2008; Baker and Sinkula, 2009). Boussouara and Deakins (2000) suggested that non-executive directors can improve acquiring capabilities in order to achieve sustained competitive advantage through the development of market analysis and costumer relations.

The empirical findings about the relation between the proposed mediating variables and business performance enable to formulate the second general hypothesis.

Hypothesis 2: The assistance program's contribution to small businesses performance is mediated by strategic planning, entrepreneurship, resources (human and financial) and market orientation.

METHOD

Sample

A quantitative empirical longitudinal study was conducted among small trade and service businesses that participated in the Standard Coaching program initiated by the Ministry of Industry, Trade & Labor (ITL) in Israel, for small and medium businesses employing between 5 and 100 workers. According to the standard coaching program regulations, a business with five to ten employees is allotted up to 100 coaching hours, while a business employing between eleven and one hundred workers is allotted up to 150 hours. The coaching program finances 75% of the cost of coaching and 25% is financed by the business. The program is operating across the entire country using a pool of thousands of counselors. Each business that employs less than 100 employees is entitled to apply to participate in the program. ITL is operating several other assistance programs, such as programs directed to micro businesses that employ one to four employees, or to businesses in the agriculture industry. The Office of the Chief Scientist (OCS) in the Ministry of Industry, Trade and Labor is also assisting in the development of new technologies in Israel using a range of support programs, such as technological incubators for start-ups in the pre-seed stage.

In order to better assess whether the coaching program intervention contributes to the participant firm's performance, data on the firms were gathered in two disparate surveys at the time of contact between the firm and the coaching program (time (0)) and a year after the firm entered the project (time (1)). All firms in the sample are small trade and service businesses. Sampling was restricted to trade and service industries in order to control the disparities between the various industries with respect to performance and the firm's profitability (Beard and Dess, 1981; Miller and Tolouse, 1986). The investigated unit in this research is the small business, defined by four parameters:

(a) Number of employees – five to fifty
(b) Age – over two years
(c) Independent business (subsidiaries or units of large companies were excluded)
(d) Business which is not dominant in the market in which it operates.

During the period between March 2004 and March 2005, 183 trade and service businesses from all parts of Israel filled in the questionnaire at designated time (0). At time (1), 135 of those filled in the second

questionnaire. The descriptive statistics of the small businesses in the sample are: Age at time (0): Min, 2 years, Max, 63 years, Average, 14.3 years and Standard Deviation 12.8 years. Size at time (0): Min, 3 employees, Max, 50 employees, Average, 10.7 employees and Standard Deviation 7.2 employees. Forty-eight small businesses did not remain with the study to its completion: Age at time (0): Min, 3 years, Max, 56 years, Average, 15.2 years and Standard Deviation 13.5 years. Size at time (0): Min, 5 employees, Max, 50 employees, Average, 14.2 employees and Standard Deviation 11.8 employees. Of these, 27 dropped out of the coaching program. Eleven could not be contacted or had been shut down and 10 declined to continue their participation in the study.

Three stages preceded the creation of the final form of the questionnaire. The initial stage consisted of a brainstorming session with scholars having considerable experience in empirical research and construction of questionnaires. The second stage consisted of interviews with the owners of five small businesses, as well as with the Ministry of Industry, Trade and Labor's official responsibility for the Standard Coaching program. Issues addressed during the interviews were, for example, the clarity of the questionnaire, how it corresponded to the specific industry in question, the clarification of ambiguous ideas or wording and the length of the questionnaire. An exploratory research was conducted in the third and last stage; twenty-seven questionnaires were distributed among small businesses participating in the Standard Coaching program. Preliminary statistical checks were carried out within this framework. The final questionnaires were distributed among small business owners through fax or e-mail, followed by a phone contact. Initial phone contact took place immediately after the first interaction with the firm and prior to entering the Standard Coaching program.

Measures

Independent and Mediating Variables.

Strategic planning: The level of strategic planning was evaluated by one primary criterion – whether the plans had been written down; and two secondary criteria – the detail and scope of strategic planning and the period of time it covers. The evaluation of strategic planning is based on a measurement instrument formulated by Robinson and Pearce (1983). In order to better grasp the secondary criteria we defined five levels of planning replacing the two levels of the original questionnaire. Three possible time scales were introduced: up to a year, up to two years, and up to three years, instead of one time scale of three years in the original questionnaire (see Appendix A). The overall score for the level of strategic planning is a product of the level of detail and the time scope.

Entrepreneurship: Based on the instrument developed by Covin and Slevin (1989, 1990), entrepreneurship level was measured by six items, using a 7-point semantic differential type scale anchored by descriptive phrases (see Appendix A). Cronbach alpha coefficients were calculated for both measurements: time (0) $\alpha = 0.68$; time (1) $\alpha = 0.56$.

Human resources: The level of human resources was measured using five items, capturing owner resources (Brush and Chaganti, 1999). Human resources measurement was done only at time (0). Three items were specified by years of experience: prior managerial experience, previous business ownership and owner's industry experience. The remaining two

items examine the owner's education: formal education – a four-point ordinal scale from 1, no formal education, to 4, Ph.D. degree, and business education – a four-point ordinal scale from 1, no business education, to 4, regularly and consistently participates in various business management courses (see Appendix A). The overall score for the human resources is the individual grades' average. Factor analysis has identified two dimensions: owner experience (three items, $\alpha = 0.77$), and owner education (two items, $\alpha = 0.36$). The last two items were omitted from the research due to the low internal consistency.

Financial resources: Previous research indicates that financial resources are defined as any source of capital – cash, stocks and assets of various levels of liquidity. Furthermore, the capacity of raising funds is itself a financial resource. The measurement instrument applied to financial resources includes three items, each scored by the respondents on a Likert scale ranging from 1 = low extent to 5 = high extent (see Appendix A). Cronbach alpha coefficients were calculated for both measurements: time (0) $\alpha = 0.76$; time (1) $\alpha = 0.81$.

Market orientation: Based on the measurement instrument developed by Pelham (2000), market orientation level was measured using six items. For each of these items the respondents gave a score using a 5-point semantic differential type scale anchored by descriptive phrases (see Appendix A). Cronbach alpha coefficients were calculated for both measurements: time (0) $\alpha = 0.78$; time (1) $\alpha = 0.67$.

Public assistance programs: The definitions and measurement of public assistance programs are based on a description of the programs' modus operandi by means of three characteristics: the program itself, the client, and the interaction between the client and program (see Appendix B). In the construction of the measurement instruments, we used ideas from previous theoretical and empirical studies whose subject matter was relevant to the current study. Public assistance programs content was measured by twenty-one items, using a 7-point semantic differential type scale anchored by descriptive phrases and was carried out only at time (1). A varimax rotated factor analysis[1] of the twenty-one public assistance programs measures elicited the following factors:

1. *The program; Quantitative component* – This constitutes three measures with $\alpha = 0.73$, after omitting two measures, the nature of consultation encounters and the extent to which all the issues on the agenda are addressed, and number of areas addressed within the coaching framework.
2. *The program; Qualitative component – This constitutes eight measures with $\alpha = 0.91$. Location of consultation was omitted from the initial dimension of qualitative component. Following this, three of the four measures constituting the dimension communication between program and client were added. The fourth measure, relationship between consultant and firm owners, was omitted.*
3. *The client (*i.e.*, firm)* – This consists of three dimensions. The initial dimension of client's willingness was divided into two sub-dimensions: submitting information (submitting information on firm activity and study and diagnosis of

[1] *Orthogonal rotations* produce uncorrelated factors; the best orthogonal rotation is widely believed to be Varimax (DeCoster, 1998).

firm activity, α = 0.93) and commitment to change (changes in manpower and changes in salaries, α = 0.84). The measure of firm representatives working with consultant was omitted. The dimension of implementation of consultant recommendations includes only one measure.

Dependent Variable – Small Business Performance. Firm performance is a multi-dimensional concept in which measurement is complex (Brush and Vanderwerf, 1992). According to Venkatraman and Ramanujam (1986), financial performance represents the narrowest conceptualization of firm performance and is measured through an examination of financial indicators. Operational performance consists of those key parameters which may lead to an improvement in financial performance.

Objective performance measures are most often financial ones. Nevertheless, even when they are available, scholars face difficulties in obtaining exact measurements (Dess and Robinson, 1984). Gathering objective data is a difficult task when small private businesses are concerned, as these data are not available to the general public (Dess and Robinson, 1984; West and Meyer, 1998). Moreover, small businesses are very sensitive regarding the disclosure of information on a firm's performance (Bantel, 1998; Covin and Slevin, 1989, 1990). Reichel and Haber (2005) utilize both objective and subjective measurement in their study.

We have therefore defined the structure of small business performance to include financial and operational measures, while using both subjective and objective measurements (see Appendix C).

Subjective assessment: For subjective assessment of performance we referred to the second part of a questionnaire modified by Covin and Slevin (1989) from an instrument developed by Gupta and Govindarajan (1984) which measures satisfaction. In both times [(0), (1)] respondents were asked to indicate on a Likert-scale ranging from 1 = highly dissatisfied to 5 = highly satisfied, the extent to which they are currently satisfied with their small business performance in each of the financial and operational performance criteria.

Objective assessment: Respondents were asked to indicate at time (1) the rate to which the business' performance changed throughout the previous year, with relation to each of the performance criteria. For example, Cash flow: below -20%, -20%, -15%, -10%, -5%, 0, 5%, 10%, 15%, 20%, above 20%.

The measurement instrument initially included 13 subjective items and 5 objective items. A Varimax rotated factor analysis carried out on the 13 subjective performance measures and the 5 objective performance measures elicited the following factors:

1. *Financial performance; subjective measurement* – This consists of seven measures. Cronbach alpha coefficients were calculated for both measurements: time (0) α = 0.86; time (1) α = 0.79. The measure increase in number of employees was omitted.
2. *Operational performance; subjective measurement* – This consists of two sub-dimensions: creating new opportunities and Human resources. Creating new opportunities includes two measures, opportunities within the firm's existing market and opportunities within new

markets. Cronbach alpha coefficients were calculated for both measurements: time (0) α = 0.78; time (1) α = 0.80. The measure customer satisfaction was omitted. Human resources included two measures. Cronbach alpha coefficients were calculated for both measurements: time (0) α = 0.77; time (1) α = 0.77.

3. *Financial performance; objective measurement* – This consists of three measures: cash flow, rate of increase in sales and earnings before interest and tax (EBIT). A Cronbach alpha coefficient was calculated once, for the change from time (0) to time (1); α = 0.81. The measure increase in number of employees was omitted.
4. *Operational performance; objective measurement* – This consists of one measure, Fluctuation in market share, measuring the change from time (0) to time (1).
5. *Overall success; subjective measurement* – This is an overall subjective performance measure of the small business, taken twice at time (0) and time (1).

Control Variables. *Age and size of the small business:* Age and size are the two control variables most commonly used. In most cases, the two variables are treated as one comprehensive control unit. Firm age and size can affect both its management techniques and the accuracy of the firm's performance measurement. In this study *age* is measured by the number of years a business exists and *size* is measured based on the number of full-time employees.

Environment: This study relies on a measurement instrument used by Lumpkin and Dess (2001) and includes two variables: dynamism, developed by Miller and Friesen (1982) and hostility, developed by Covin and Slevin (1989). Both dynamism and hostility were measured by three items, using a 7-point semantic differential type scale anchored by descriptive phrases. Cronbach alpha coefficients were calculated for both measurements: dynamism – time (0) α = 0.23, time (1) α = 0.52; hostility – time (0) α = 0.41, time (1) α = 0.50.

In light of these findings, the control variable environment was not incorporated into subsequent analyses. Note that the importance of control of environmental influence is greatly reduced in this study as the research population is highly homogeneous and the business environment is clearly defined.

RESULTS

Descriptive statistics and correlations among the research variables are presented in Table 1-3. Research variables were encoded in order to simplify subsequent presentation of data:

Mediators: Entrepreneurship (E); Market Orientation (MO); Strategic Planning (SP); Human Resources - Owner Experience (OE); Financial Resources (FR).
Independent variables: Public Assistance Programs (PA); Program, Quantitative (P_QN); Program, Qualitative (P_QL); Client, Data (C_D); Client, Change (C_C); Client, Implementation (C_I).
Dependent variables: Performance (P); Financial Performance, Subjective (FP_S); Operational Performance, New Opportunities, Subjective (NO_S); Operational Performance, Human Resources, Subjective (HR_S); Financial Performance, Objective (FP_O); Operational Performance, Objective (OP_O); Overall Success, Subjective (OS_S).

Table 1: Means, Standard Deviations, and Correlations for Mediating Variable E, MO, SP, OE, FR, and Dependent Variable P in Measurement Time (0)

	Mean	S.D.	N	E	MO	SP	OE	FR	FP_S	NO_S	HR_S	OS_S
E	3.70	1.0069	183	1.000	.223**	.108	.061	.037	.222**	.212**	-.015	.292**
MO	3.63	.7675	183		1.000	.174*	.015	.031	.382**	.252**	.382**	.268**
SP	1.34	3.1503	183			1.000	.018	.068	.062	.176*	.070	0.10
OE	5.61	6.6210	183				1.000	.148*	.142	.036	.005	.030
FR	1.99	.9299	183					1.000	.394**	.236**	.084	.275**
FP_S	2.67	.7708	183						1.000	.387**	.312**	.685**
NO_S	2.67	1.0403	183							1.000	.195**	.397**
HR_S	3.30	.8709	183								1.000	.202**
OS_S	3.06	.9645	183									1.000

*P < 0.05; **P < 0.01

Table 2: Means, Standard Deviations, and Correlations for Mediating Variables E, MO, SP, OE, FR, and Dependent Variable P in Measurement Time (1)

	Mean	S.D.	N	E	MO	SP	OE	FR	FP_S	NO_S	HR_S	FP_O	OP_O	OS_S
E	3.83	.9183	135	1.000	.335**	.281**	-.005	.068	.227**	.337**	.063	.289**	.302**	.329**
MO	3.78	.6425	135	.	1.000	.169	.082	.032	.382**	.267**	.302**	.334**	.257**	.419**
SP	1.88	3.6786	135			1.000	.017	-.016	.097	-.017	-.069	.165	.171	.095
OE[a]	5.61	6.6210	135				1.000	.055	.130	.096	.285**	.073	.037	-.002
FR	2.13	1.0163	134					1.000	.218*	.182*	.099	.207*	.188*	.179*
FP_S	3.00	.7363	134						1.000	.362**	.393**	.503**	.317**	.627**
NO_S	2.86	1.0820	134							1.000	.329**	.328**	.318**	.453**
HR_S	3.36	.9378	134								1.000	.241**	.169	.195*
FP_O	7.27	2.4314	117									1.000	.544**	.492**
OP_O	7.64	2.4859	118										1.000	.354**
OS_S	3.23	.9251	134											1.000

*P < 0.05; **P < 0.01

[a] OE was measured only at measurement time (0).

Table 3: Means, Standard Deviations, and Correlations for Independent Variable PA, Mediating Variables E, MO, SP, OE, FR, and Dependent Variable P in Measurement Time (1)

	Mean	S.D.	N	E	MO	SP	OE[a]	FR	FP_S	NO_S	HR_S	FP_O	OP_O	OS_S
P_QN	4.24	1.5687	132	.170	.258**	.159	-.025	-.075	.227**	.127	.093	.080	-.007	.214*
P_QL	5.35	1.2927	132	.110	.200*	.125	.087	-.048	.211*	.052	.031	.243**	.013	.174*
C_D	6.47	1.1756	133	.126	.301**	.044	-.023	-.011	.166	.026	.155	.205*	.101	.071
C_C	4.44	1.9058	132	.206*	.123	.046	.068	.025	..209*	.058	.066	.104	-.126	.119
C_I	4.84	1.6960	133	.167	.227**	.086	.073	-.046	.083	.074	.137	.178	.096	.105

*P < 0.05; **P < 0.01

[a] OE was measured only at measurement time (0).

The analytic method employed for testing hypothesis 1 and 2 and capturing both direct and indirect impacts of public assistance program on performance was Structural Equation Modeling (SEM) using AMOS 5 software.

Latent constructs of public assistance programs and performance were explored. Five parceled indicators (P_QN, P_QL, C_D, C_C, C_I) were used to specify the public assistance program's latent construct. Six parceled indicators (OP_O, FP_O, OS_S, HR_S, NO_S, FP_S) were used to specify performance latent construct at measurement time (1), and four parceled indicators (OS_S, HR_S, NO_S, FP_S) were used to specify performance latent construct at measurement time (0).

Analyses were conducted in three stages. In the first stage we established the measurement model of the latent constructs of public assistance program on performance – prior to examining the structural relations between them.

Since the manifested indicators - strategic planning, entrepreneurship, financial resources, owner's experience and market orientation were hypothesized to mediate the relationship between public assistance program and performance, we examined in the second stage the longitudinal structural relations between the public assistance program construct and the performance construct, controlling for age and size of the firm. Such a direct effect model constitutes a prerequisite for testing more complex mediating models (Baron and Kenny, 1986). In the third stage, the entire longitudinal mediating model was tested, including the manifested indicators - strategic planning, entrepreneurship, financial resources, owner's experience and market orientation – again controlling for age and size of the firm.

In SEM analyses, model fit was estimated using four fit indices: the non-normed fit index (NNFI) –values above .90 represent an acceptable fit (Bentler and Bonett, 1980), the comparable fit index (CFI) – values above .90 represent an acceptable fit (Bentler, 1990), the incremental fit index (IFI) – values above .90 represent an acceptable fit, and the root mean square error of approximation (RMSEA) – values below .08 represent an acceptable fit (Steiger, 1980). We did not use the chi-square fit index because of its extreme sensitivity to large sample sizes.

Stage 1: Measurement Model

Factor loadings and correlations among the latent constructs of public assistance programs and performance are presented in Tables 4 and 5, and 6 and 7, correspondingly.

Table 4:Factor Loadings of Latent Construct (PA), Measurement Time (1)

	P_QN	P_QL	C_D	C_C	C_I
PA	.519	.818	.477	.418	.685

Table 5: Latent Construct Correlations (PA), Measurement Time (1)

	P_QN	P_QL	C_D	C_C	C_I
P_QN	1.000	.443**	.279**	.162	.346**
P_QL		1.000	.390**	.352**	.552**
C_D			1.000	.136	.336**
C_C				1.000	.330**

*P < 0.05; **P < 0.01

Table 6: Factor Loadings of Latent Construct (P), Measurement Time (1)

	FP_S	NO_S	HR_S	OS_S	FP_O	OP_O
P	.771	.543	.401	.760	.662	.504

Table 7: Latent Construct Correlations (P), Measurement Time (1)

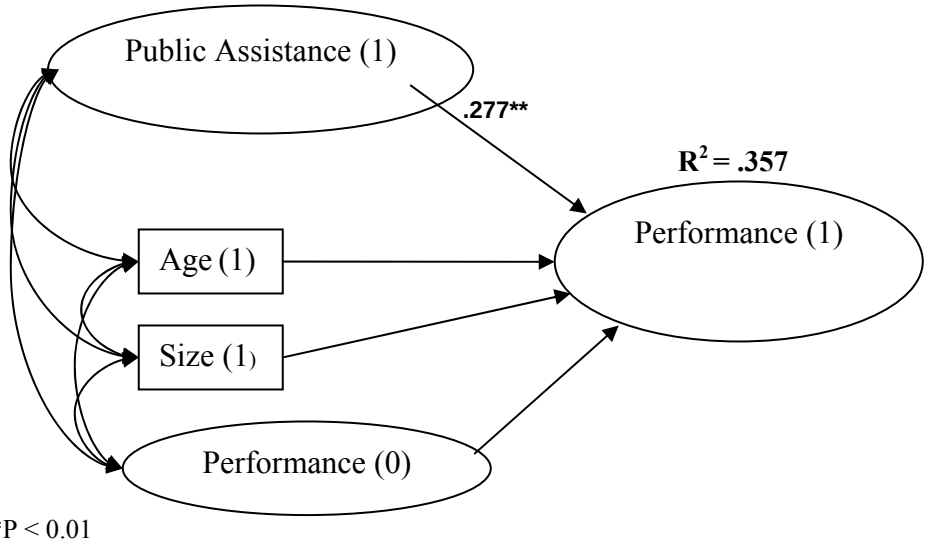
	FP_S	NO_S	HR_S	OS_S	FP_O	OP_O
FP_S	1.000	.362**	.393**	.627**	.503**	.317**
NO_S		1.000	.329**	.453**	.328**	318**
HR_S			1.000	.195**	.241**	.169
OS_S				1.000	.492**	.354**
FP_O					1.000	.544**

*P < 0.05; **P < 0.01

Stage 2: Direct Effect Model

Before testing the mediating properties of the manifested indicators - strategic planning, entrepreneurship, financial resources, owner's experience and market orientation - we analyzed a direct effect model to examine the patterns of unique longitudinal associations between public assistance programs and performance, controlling for age and size of the firm. The model fit the data well (TLI = .911, CFI = .937, IFI = .942, RMSEA = .043). The results are presented in Figure 1. Public assistance programs have a significant positive effect on performance (β = .277, p < .01). Hypothesis 1 is supported; public assistance programs do positively contribute to the level of small business performance.

Figure 1: Direct Effect Model: Standardized Parameters of the Longitudinal Effect of Public Assistance on Performance in Measurement Times (0) and (1), Controlled for Firm Age and Size



**P < 0.01

Stage 3: Indirect Effect Model

The manifested indicators – strategic planning, entrepreneurship, financial resources, owner's experience and market orientation were added to the direct effect model in order to examine whether they mediate the longitudinal association between public assistance programs and performance. As in stage 2, the model controlled for age and size of the firms. The model fit the data marginally well (TLI =

.796, CFI = .846, IFI = .858, RMSEA = .055); the results are presented in Figure 2.

Public assistance programs have a modest positive direct effect on performance (β = .172, p < .092), significant positive correlation with entrepreneurship (β = .225, p = .05) and market orientation (β = .335, p < .01), low and insignificant positive correlation with strategic planning (β = .168, p < .1), insignificant correlation with owner's experience (β = .078) and insignificant negative correlation with financial resources (β = -.032). Three mediating indicators have significant positive correlations with performance: entrepreneurship (β = .202, p < .005), market orientation (β = .321, p < .001), and financial resources (β = .241, p < .001). The other two have insignificant negative correlations with performance: Owner's experience (β = -.001), strategic planning (β =-.026).

A Sobel test was conducted to indicate whether the mediating variables carry the influence of public assistance programs on performance: Mediating effect of entrepreneurship through public assistance program, PA(1) >> entrepreneurship E(1) >> performance P(1) found to be not significant; P = 0.094. Mediating effect of market orientation through public assistance program, PA(1) >> market orientation MO(1) >> performance P(1) found to be significant; P = 0.014. No mediating effects were found through strategic planning, financial resources and owner's experience.

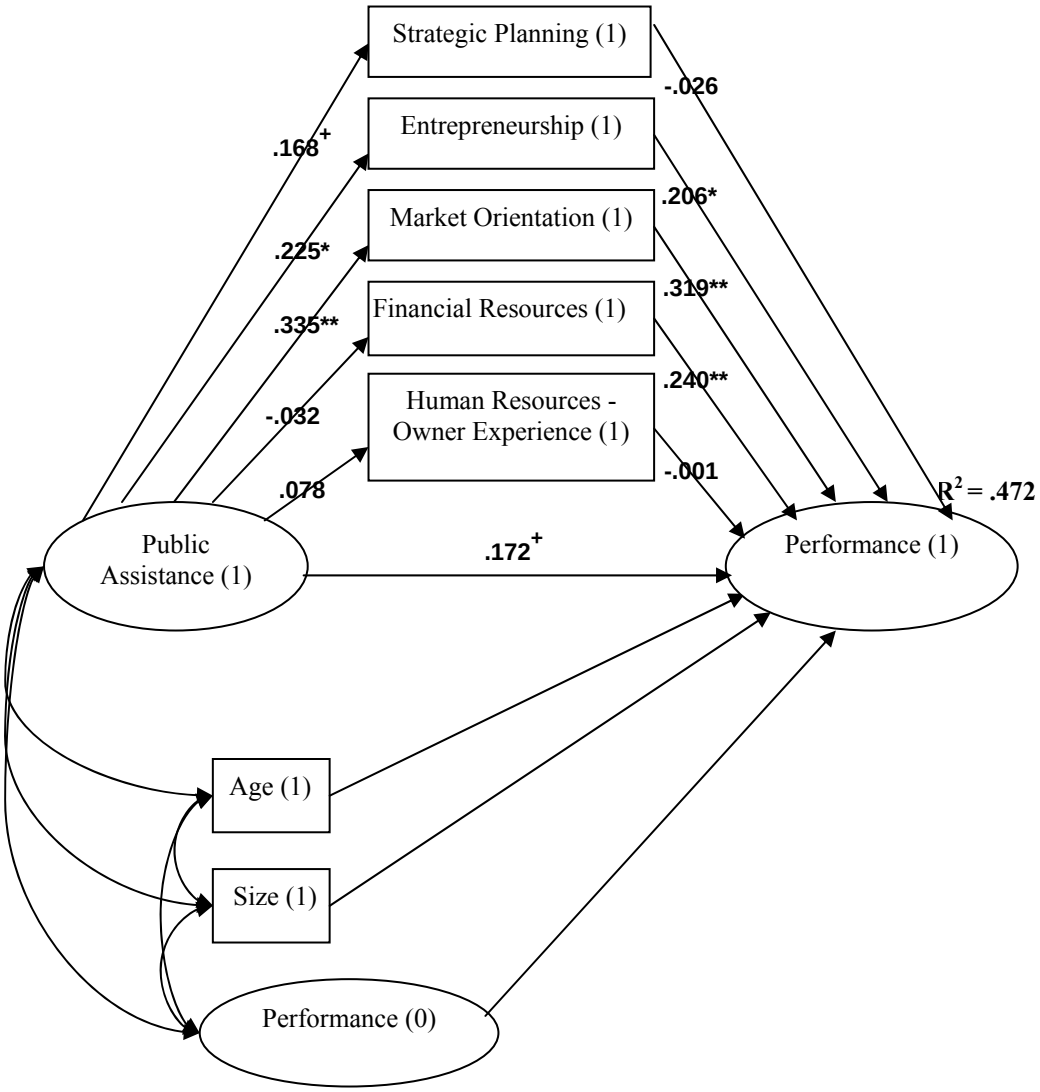
Hypothesis 2 was partially supported; public assistance programs do contribute positively to the level of small business performance. The significant positive direct effect of public assistance programs on performance becomes more moderate when the indirect model is applied and reveals that the effect of public assistance programs on performance originates mainly from the mediating effect of market orientation, and to a lesser degree is the result of entrepreneurship.

DISCUSSION AND CONCLUSIONS

The direct effect model supports Hypothesis 1 and strengthens previous research findings, such as Chrisman (1999), which claims that the mere presence of public assistance programs is sufficient for establishing a higher level of performance in small businesses. The correlation matrix (Table 3) suggests some interrelations between the indicators used to define public assistance and performance. The positive significant correlation between the quantitative elements of the program (P_QN), financial performance (FP_S) and overall success (OS_S) support the empirical findings of Chrisman et al. (2005) and Wren and Storey (2002) and also justifies the inclusion of quantitative assistance components when assessing the contribution of assistance programs to performance (Kaplan et al., 2000; Rice, 2002). Similarly, the positive significant correlation between the qualitative elements of the program (P_QL), financial performance (FP_S and FP_O) and overall success (OS_S) reinforces the relevance of including qualitative components in the discussion on the contribution of assistance programs to performance (Jang and Lee, 1998; Rice, 2002). These findings support the claim that a more accurate and profound examination of the public assistance programs' effect on the performance of small business should include both quantitative and qualitative elements of assistance. It is possible that findings of previous studies such as those of Luria and Wiarda (1996) were not conclusive, due to the fact that the examination of the

differences between various assistance courses has not been detailed enough to adequately incorporate all inputs of the assistance program that could affect performance. Moreover, the longitudinal nature of the study and the control for firm age and size enhance the credibility of the findings.

Figure 2: Indirect Effect Model: Standardized Parameters of the Longitudinal Effect of Public Assistance on Performance in Measurement Times (0) and (1), Through Strategic Planning, Entrepreneurship, Market Orientation, Financial Resources, Human Resources–Owner Experience and Controlled for Firm Age and Size



0.1 > $^{+}$P ≥ 0.05; 0.05 > *P ≥ 0.01; **P < 0.01

The indirect effect model partially supports Hypothesis 2. The decrease in level and significance of the assistance program's effect on performance in the indirect effect model in comparison with the direct effect model illustrates the routes through which public assistance programs affect performance. Outside assistance is presented as an important source for developing the entrepreneur's knowledge and experience (Robinson, 1982; Deakins et al., 2000). However, contrary to expectations, owner experience (OE) does not have significant correlation with performance, showing that the mediating effect of that variable does not exist as well. Strategic planning is one of the activities which can benefit the most out of assistance programs (Thompson, 1996); our study's outcomes partially support this statement, public assistance programs have a modest positive correlation with Strategic planning. However, the lack of evidence for correlation between Strategic planning and performance, contradicts Miller and Cardinal's (1994) findings, which found a significant positive correlation between strategic planning and small business performance. Our findings also contradict more recent findings (Hodges and Kent, 2007 and Allerd et al., 2007), claiming that both informal and formal planning is vital and necessary for small business success.

Our findings indicate that financial resources have a significant positive correlation with performance, but do not mediate between the public assistance program and performance. If access to capital is itself a financial resource (Wiklund and Shepherd, 2005), it is possible that high expectations on the part of clients that the assistance program will improve their access to capital and/or lack of attention by the consultant to that issue, may explain this finding. According to the indirect effect model, more financial resources result from efforts to improve fundraising capabilities of the client and thus contribute to performance.

One important contribution of this study is revealing that the effect of public assistance programs on performance originates mainly from the mediating effect of market orientation and, to a lesser degree, is the result of entrepreneurship. These findings support numerous studies suggesting a significant positive correlation between market orientation and performance (Appiah-Adu and Singh, 1998; Shun-Ching and Cheng-Hsui Chen, 1998; Pelham, 2000; Homburg et al. 2002; Kara et al. 2005). Findings of more recent studies (Green et al., 2008; Baker and Sinkula, 2009) single out market orientation as one of the most important factors in improving intervention programs' results. The study also supports previous findings on the positive correlation between entrepreneurship and business performance (Covin and Slevin, 1989, 1990; Smart and Conant, 1994; Wiklund, 1999; Wiklund and Shepherd, 2003, 2005). Moreover, the positive correlation between public assistance programs, market orientation and entrepreneurship enhances our ability to address the notion of learning (Beach, 1980) as a vital ingredient of outside assistance programs.

The public assistance program's effect on small business performance is measured in most studies by means of two financial performance measures: increase in number of employees and increase in sales. Adding financial and operational measures allows a more comprehensive and accurate assessment of the effect on performance. Increase in number of employees, used in both types of measurements, subjective and objective, was omitted by the factor analysis. The question regarding whether or

not an increase in number of employees does in fact serve as a relevant measure of performance deserves further investigation.

Based on Venkatraman and Ramanujam's (1986) statement that financial performance represents the narrowest conceptualization of firm performance, we tried to establish a more comprehensive performance construct adding Operational performance measures. Findings, however, do not support the relationship between the five indicators of public assistance program and operational performance. This may suggest that operational performance measures are limited while trying to measure changes in small businesses performance or that consultants should focus not only on improving basic financial parameters such as cash flow and level of sales, but also on operational parameters.

On a practical level, the study can help better allocate budgets to assistance programs that support economic activity of the important sector of small businesses.

The basic research model shows that a greater amount of the quantitative elements of the assistance (hours of consultation; frequency of consultation; range of issues incorporated into the consultation) and the quality of the assistance program (professional understanding of the subjects of consultation; organization and planning of the consultation process; level of trust, commitment and understanding between the consultant and the business owner), may increase performance of small businesses. When adding the indirect effects, we can learn that small businesses' performance is primarily affected by encouraging the business owner to take risks, be attentive to their customers, understand the changes in their preferences and the need to keep them satisfied and respond to the their complaints. The consultant should raise the small business owner's awareness of the need to innovate and make the necessary changes required to stay competitive in today's turbulent environment.

The client's capital raising capabilities are vital for expanding the business and improving performance. Learning about the possibilities of raising capital from banks or other financial institutions should be an integral part of assistance programs. The research also emphasizes the important role of the client (business owner) in the intervention process. As we have seen, the relationship between the business manager and the intervention agency is crucial to the successful design and delivery of relevant services. The more involved and active the business owner becomes in the intervention process, the more beneficial will be the assistance he gets.

Since our findings do not support the claim that both informal and formal planning is vital and necessary for small business success, the effort invested in preparing formal strategic plans of high detail should be limited, and consultants need to mainly focus on those factors found to affect performance directly and indirectly, namely market orientation, entrepreneurship and improving accessibility to financial resources.

Finally, assistance organizations and governments should pay attention to the way they assess effectiveness of assistance programs. A more accurate and profound examination that includes both quantitative and qualitative elements of assistance should be applied to screen out the less efficient programs and consultants, and thus better utilize the limited public resources.

LIMITATION AND FUTURE RESEARCH

This study is based on a quantitative empirical longitudinal research of small trade and service businesses that participated in a coaching program initiated by the Ministry of Industry, Trade and Labor in Israel. Its findings must be interpreted with care, as it was conducted only within specific industries and focused on a specific coaching program conducted in Israel; therefore, it is uncertain whether its findings on assistance programs for small businesses can be applied outside Israel.

The measurement instrument applied to public assistance programs is based on ideas from theoretical and empirical studies and was not validated in previous empirical studies. The latent constructs of public assistance programs and performance used in the SEM analysis, have not been used in previous research.

Theoretical and empirical literature usually mentions operational performance in relation to large businesses. It is possible that operational performance measures that are suitable for large businesses do not fully fit for small businesses.

Results indicate that only 23% to 30% of subjects implemented some form of strategic planning. The significant positive correlation between strategic planning and financial performance (FP_O) in this population in measurement time (1) ($N = 35$, $P = 0.037$, $\beta = .354$) suggests the need in future research to take into consideration the effect of strategic planning on performance, despite mixed results in literature (Yusuf and Saffu, 2005).

Previous research findings in regard to the effect of human resources on performance are inconclusive (Pena, 2004; Chrisman et al., 2005; Haber and Reichel, 2007). We believe that this study's findings that have not shown a very significant correlation with human resources are a result of technical problems of clarity and structure of the questions, and the manner of data gathering and, therefore, further investigation is needed in order to establish a more accurate measurement instrument that will allow the assessment of the effect of human resources on the small business performance.

Although we used a valid instrument for the measurement of environment as a control variable, we had to omit environment from the statistical analysis due to poor internal consistency, which could have been a result of the homogeneous research population. Environment should not be dismissed from the research models of future research on public assistance programs.

The research outcomes pose several questions to be answered in future research: First - is it advisable to incorporate operational measures for measuring performance in small business? Second - should the construct public assistance programs include the client's dimensions (C_D, C_C, C_I)? If so, are the measures used in this research the most suitable? Third - subsequent to the factor analysis, interaction between program and client was embedded into the qualitative elements of the program (P_QL). It is important to investigate what is the effect of the interaction between program and client as an independent variable on small business performance. Fourth - a longitudinal research approach was used in order to grasp the temporal effect of public assistance programs on performance. Future

research may examine the need for maintenance coaching to preserve the positive results of the initial coaching provided by the assistance program.

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Rami Schayek is managing and coaching small trade and service businesses. His current research interests include critical success factors and organizational performance in small- and medium-sized businesses.

Dov Dvir is a professor of management at the Ben Gurion University of the Negev. His research interests include project management, entrepreneurship, technological innovation and management of technology oriented organizations.

APPENDIX A

Mediating variables questionnaire:

Strategic Planning

Does your firm have a written strategic plan (Circle the correct answer)?

Yes **No**

If "Yes":

The following are five **different** possible descriptions of strategic planning **(A-E)**. Circle **only** the description which best represents the strategic plan implemented by your firm -

A. Our firm's strategic plan includes
1. Specification of objectives and goals.

B. Our firm's strategic plan includes
1. Specification of objectives and goals.
2. Selection of strategies required for achieving objectives.

C. Our firm's strategic plan includes
1. Specification of objectives and goals.
2. Selection of strategies required for achieving objectives.
3. Assessment of resources required for implementation of strategies.

D. Our firm's strategic plan includes
1. Specification of objectives and goals.
2. Selection of strategies required for achieving objectives.
3. Assessment of resources required for implementation of strategies.
4. Procedures for identifying and preventing failure of the plan implementation on a continuing basis.

E. Our firm's strategic plan includes
1. Specification of objectives and goals.
2. Selection of strategies required for achieving objectives.
3. Assessment of resources required for implementation of strategies.
4. Procedures for identifying and preventing failure of the plan implementation on a continuing basis.
5. An attempt to account for factors outside the immediate environment of the firm.

|→ Indicate the **period of time** covered by the strategic plan indicated by you. Circle one option –

Up to one year Up to two years Up to three years

Entrepreneurship

How many new lines of products or services has your firm marketed in the past 3 years?

No new lines of products or services	1 2 3 4 5 6 7	Very many new lines of products or services
Changes in product or service lines have been mostly of a minor nature	1 2 3 4 5 6 7	Changes in product or service lines have usually been quite dramatic

In dealing with its competitors, my firm ….

Typically responds to actions which competitors initiate	1 2 3 4 5 6 7	Typically initiates action which competitors then respond to
Typically seeks to avoid competitive clashes, preferring a 'live and let live' posture	1 2 3 4 5 6 7	Typically adopts a very 'undo-the-competitors' posture

In general, in my firm, there is …

A strong proclivity for low-risk projects (with normal and certain rates of return)	1 2 3 4 5 6 7	A strong proclivity for high-risk projects (with chances of very high returns)

When confronted with decision-making situations involving uncertainty, my firm…

Typically adopts a cautious, 'wait-and-see' posture in order to minimize the Probability of making costly decisions	1 2 3 4 5 6 7	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities

Human Resources

Does the firm owner (present director) have:

A. Prior management experience (indicate **number of years** in management, except for the current firm) _____.

B. Prior ownership of a firm (indicate **number of years** as other firm/firms' owner) _____.

C. Prior experience in the industry (indicate **number of years** that the owner has worked in the industry which the firm's operates in, except for the current firm) _____.

D. An academic degree (**circle one of four options**):

1 - none.

2 - first degree.

3 - second degree.

4 - third degree.

E. A business education (**circle one of four options** which best describe the owner's business education):

1- None.

2- Attended lectures on business management related issues.

3- Participated in a business management course.

4- Regularly and consistently participates in various business management courses (at least once a year).

Financial Resources

For each of the three following descriptions, indicate the extent that your firm possesses financial capability (1 = 'very little', 5 = 'very much'), **Circle only one option** –

A. Compared to the competitors, has better financial resources – money; stock; assets	1	2	3	4	5
B. Addressed by banks or other financial institutions for fund raising through them	1	2	3	4	5
C. Compared to the competitors, capable of raising funds with relatively low interest	1	2	3	4	5

Market Orientation

A. Our firm gives a (moderate 1 2 3 4 5 extreme) amount of attention to after-sales service.

B. Our firm is (somewhat slow 1 2 3 4 5 very fast) in detecting fundamental changes in customer preferences, competitive strategies, and other major changes in our industry.

C. Our firm responds (somewhat slowly 1 2 3 4 5 very fast) to negative customer satisfaction information.

D. Our firm measures customer satisfaction (occasionally 1 2 3 4 5 frequently).

E. We (occasionally 1 2 3 4 5 frequently) take advantage of targeted business opportunities to take advantage of competitors' weaknesses.

F. In our firm we understand how the entire business can contribute to creating customer value (disagree 1 2 3 4 5 agree).

APPENDIX B

Public assistance program structure prior to factor analysis

Structure	Multi-dimensional Cluster	Dimension	Item
Public Assistance Program	Program	Quantitative Components	Number of encounters
			Intervening periods of time between consultation encounters
			Sum total of coaching hours
			Nature of consultation encounters and the extent to which all the issues on the agenda are addressed
			Number of areas addressed within the coaching's framework
		Qualitative Components	Consultant's level of knowledge in the field of consultation
			Consultant's contribution to success of coaching
			Definition of objectives in the process of coaching
			Creating a procedure framework of issues addressed in the process of coaching
			Order and plan of operation in the process of coaching
			Location of consultation
	Client	Client's Willingness	Submitting information on firm activity
			Study and diagnosis of firm activity
			Changes in manpower strength
			Changes in salaries
			Firm representatives working with consultant
		Implementation of Consultant's Recommendations	Extent of implementation of consultant's recommendations
	Interaction between Program and Client	Communication between Program and Client	Mutual trust between consultant and firm owners
			Relationship between consultant and firm owners
			Commitment to the success of coaching
			Degree of agreement between coaching objectives and the methods of attainment

APPENDIX C

Performance structure prior to factor analysis

Structure	**Multi-dimensional Cluster**	*Dimension*	**Item**	**Measurement Method**
Performance	Financial Performance	Profitability	Return on investment (ROI)	Subjective
			Earnings before interest and tax (EBIT)	Objective
		Efficiency	Return on sales (ROS)	Subjective
			Sales to number of employees ratio	Subjective
		Growth	Rate of increase in sales	Subjective; Objective
			Increase in number of employees	Subjective; Objective
		Solvency Rate	Level of sales	Subjective
			Cash flow	Subjective; Objective
	Operational Performance	Creating New Opportunities	Customer satisfaction	Subjective
			Opportunities within the firm's existing market	Subjective
			Opportunities within new markets	Subjective
		Human Resources	Correspondence between skills and tasks of employees	Subjective
			Quality of employee professional development	Subjective
		Market Share	Fluctuation in market share	Objective
	Other		Overall success	Subjective