

PD-AAV-866 68

in 50719

THE IDENTIFICATION AND ASSESSMENT OF COMPETENCIES  
AND OTHER PERSONAL CHARACTERISTICS OF  
ENTREPRENEURS IN DEVELOPING COUNTRIES

Final Report

Project No. 936-5314  
Entrepreneurship and Small Business Development  
Contract No. DAN-5314-C-00-3065-00

Submitted to

The United States Agency for International Development  
Washington, D.C. 20523

By

Richard S Mansfield, Ed D  
David C. McClelland, Ph.D  
Lyle M. Spencer, Jr., Ph.D.  
Jose Santiago, Ph D.

McBer and Company  
137 Newbury Street  
Boston, Massachusetts 02116

April, 1987

## TABLE OF CONTENTS

<u>Page</u>	<u>Heading</u>
1	INTRODUCTION
3	OVERVIEW OF PROJECT ACTIVITIES AND RESULTS
3	Task I. Conduct Research to Identify and Validate PECs That Facilitate Entrepreneurial Success in Developing Countries
5	Task II: Use the PECs to Identify and Develop Selection Instruments (Surveys, Tests, Interview Procedures, Application Forms) That Can Be Used to Screen Potential Entrepreneurs
10	Task III. Identify and Assess Behavioral Training Approaches That Can Be Used to Improve Entrepreneurial Effectiveness
10	Task IV: Disseminate the Project's Findings to Inter- ested Groups Around the World, Through Publications and Annual Network Meetings
12	THE INITIAL RESEARCH STUDY
12	Overview of the Research Design
15	Project Planning and Site Selection
16	Identification of Samples of Entrepreneurs
17	Training Native-Language-Speaking Interviewers
17	Overview of the Data Analyses
18	Thematic Analysis of the Critical Incident Data
19	Systematic Coding of Interview Transcripts
28	Coding of Background Data
28	Statistical Analysis of the Competency Data
38	Analyses of Relationships Among Competencies
38	Discriminant Analyses
43	Statistical Analysis of Background Variables About the Business

<u>Page</u>	<u>Heading</u>
44	Relationships Among Business Variables and Success Rating
45	Statistical Analyses of Background Data on the Entrepreneur
47	Additional Statistical Analyses of the Phase I Data
47	Data Description and Univariate Analyses
53	Multiple Regressions
56	Factor Analyses of the Standardized Competency Scores
59	Factor Analysis of the Business Data
59	Experience in Business and Personal Entrepreneurial Characteristics
65	Supplemental Analyses
66	Conclusions
70	DEVELOPING SELECTION AND ASSESSMENT INSTRUMENTS BASED ON THE PERSONAL ENTREPRENEURIAL CHARACTERISTICS
70	Identification of the PECs to be Assessed by the Instruments
72	Considerations in the Development of Selection Instruments
73	Descriptions of the Instruments
73	Information Interview
74	Focused Interview
75	SYMLOG Scoring of Focused Interview
78	Self Rating Questionnaire
79	The Business Situations Exercise
80	The Picture Story Exercise

<u>Page</u>	<u>Heading</u>
82	General Comments on the Battery of Selection Instruments
83	Initial Pilot Testing of the Instruments
83	Pilot Administration of the Selection Instruments in Malawi
83	Pilot Administration of the Selection Instruments in India
85	Preparation of the Instruments for Administration in Ecuador
86	PHASE II RESEARCH IN MALAWI: ADMINISTRATION OF THE SELECTION INSTRUMENTS
86	The Sample
86	Original Sampling Plan
89	The Actual Sampling Process
90	Administration of the Instruments
91	Issues in the Administration of Specific Instruments
91	Information Interview
92	Focused Interview
93	Self Rating Questionnaire
93	Business Situations Exercise
93	Picture Story Exercise
94	Overview of the <u>Results</u> of the Phase II Validation Study in Malawi
95	Analysis of Background and Demographic Data About the Entrepreneur and the Business
102	Comparisons of the Sample Groups on the Thirteen Competencies

<u>Page</u>	<u>Heading</u>
102	Focused Interview: Comparison of Successful and Average Groups
104	Focused Interview: Comparison of the Four Sample Groups
105	Self Rating Questionnaire: Comparison of Successful and Average Groups
105	Self Rating Questionnaire: Comparisons of the Four Sample Groups
108	Business Situations Exercise Comparison of Successful and Average Groups
108	Business Situations Exercise: Comparison of the Four Sample Groups
111	Summary of Between-Group Differences on the Competency Scores
113	Correlational Analyses of the Competencies
113	Intercorrelations Within and Among Scales
113	Factor Analyses of the Competency Scores
121	Analyses of the Business Performance Data
129	Additional Analyses
129	Picture Story Exercise and SYMLOG Coding of the Focused Interview
129	Multiple Regression Analyses
129	Summary and Conclusions
129	Question 1: Do the successful entrepreneurs differ significantly from the average entrepreneurs on the competencies?
130	Question 2: Are there differences between and among the groups, and if so, which groups are different from each other?

<u>Page</u>	<u>Heading</u>
131	Discussion
136	Revision of the Validation Study Plan
136	Revision of the Information Interview for Administration in India
136	Revision of the Focused Interview for Administration in India
137	Additional Interview Training, and Monitoring of Sample Selection and Initial Data Collection in India
138	PHASE II RESEARCH IN INDIA. ADMINISTRATION OF THE SELECTION INSTRUMENTS
138	Overview
138	Consultation on the Field Data Collection Procedures
139	Revision of the Information Interview
140	Revision of the Focused Interview
141	Interviewer Training
142	Sample
142	Procedures for Selecting the Sample Groups
144	Administration of the Instruments
145	Monitoring the Field Data Collection
145	Overview of the Results
145	Main Analyses Comparing Successful and Average Groups
145	Descriptive Data: Background Variables
148	Analyses of Differences on the Competency Scores
150	Analyses of Relationships Among the Competency Scores
152	Analysis of the Business Performance Data

<u>Page</u>	<u>Heading</u>
152	Analysis of SYMLOG Scores
177	Additional, Subsidiary Analyses of the Data for Successful and Average Entrepreneurs
177	Analyses Using an Index of Socioeconomic Status
178	Additional Analyses Relating the Competency Factor-Scores to the Business Performance Variables
179	Additional Analyses Using the Factor Scores Derived from the Business Performance Variables
179	Analyses Using Indices of Business Growth
180	Discriminant Analysis Comparing the Successful and Average Groups on All Composite Scores
180	Analyses Investigating Consistency of Business Performance
183	Summary of Differences Between the Average and Successful Groups
202	Analyses of the Data from Potential Entrepreneurs
202	Demographic and Background Variables
203	Analyses of the Competency Scores
205	Analysis of Relationships Among the Competencies
206	Analyses Involving an Index of Socioeconomic Status
207	Analyses of the SYMLOG Scores for Power, Affiliation, and Achievement
207	Additional Research Questions About the Acquisition of Personal Entrepreneurial Competencies (PECs)
233	DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH
233	Summary of Key Findings
234	Patterns in the Findings

<u>Page</u>	<u>Heading</u>
237	Comparisons with Other Competency Studies
238	Unanswered Questions
238	Are the Findings Applicable to Other Cultures?
239	Is There a Causal Relationship Between the Competencies and Entrepreneurial Success?
241	Do the Competencies or PECs Differentiate Entrepreneurs from Persons in Other Types of Jobs?
242	How Are the Competencies Acquired?
242	Implications of the Results for the Selection of Entrepreneurs
245	Implications of the Results for Entrepreneurship Training
247	LIST OF TABLES

## INTRODUCTION

The Entrepreneurship and Small Enterprise Development Project, financed by the United States Agency for International Development (USAID), was a four-year effort with three main goals: to identify the personal characteristics that facilitate entrepreneurs' success in developing countries, to develop methods for selecting entrepreneurs with high-success potential, and to develop improved methods of training existing and potential entrepreneurs. The project was intended to improve the state of the art in selecting and training entrepreneurs. The project was assisted by collaboration from the ILO and UNIDO, and by the advice of a Technical Review Committee organized by the National Science Foundation (NSF). On-site experimentation took place in India, Malawi, and Ecuador.

The basic strategy of this project was to investigate the personal entrepreneurial characteristics (PECs) that facilitate entrepreneurial success and to use the resulting knowledge to create better ways to select and train entrepreneurs in developing countries. The project encompassed four main tasks:

- Task I      Conduct research to identify and validate PECs that facilitate entrepreneurial success in developing countries.
- Task II:    Use the PECs to identify and develop selection instruments (surveys, tests, interview procedures, application forms) that can be used to screen potential entrepreneurs.
- Task III.   Identify and assess behavioral training approaches that can be used to improve entrepreneurial effectiveness
- Task IV    Disseminate the project's findings to interested groups around the world, through publications and annual network meetings.

The project was implemented collaboratively by McBer and Company, of Boston, Massachusetts, and Management Systems International, of Washington, D.C. (hereafter referred to in this report as McBer and MSI, respectively). McBer was responsible for Tasks I and II, and MSI, for Task III. Task IV was a joint responsibility.

The report begins with an overview of the main project activities. In the following sections, the research activities, methods, and analyses conducted as part of Tasks I and II are described in detail. The report concludes with a discussion of the findings and their implications for future work in the selection of entrepreneurs.

---  
Copies of instruments used in the research can be found in Appendices A - D, which are contained in a separate document. Each instrument, however, is described in detail in this document.

## OVERVIEW OF PROJECT ACTIVITIES AND RESULTS

### Task I. Conduct Research to Identify and Validate PECs That Facilitate Entrepreneurial Success in Developing Countries

This task began with a review of the literature relating personal entrepreneurial characteristics (PECs) to entrepreneurial success in developing countries. Previous research had identified a number of characteristics associated with entrepreneurial behavior. The PECs were divisible into three general categories: (1) background demographic variables, (2) personality variables, and (3) sociological variables. The PECs in some studies differentiated entrepreneurs from non-entrepreneurs; other PECs were associated with entrepreneurial success within samples of entrepreneurs. Most of the research was done with American samples. For these reasons the previous literature did not provide the primary basis for the present research; the literature did allow us to develop some hypotheses about which PECs we might find in the entrepreneurs from developing countries.

Most of the previous studies investigating PECs have been conducted by psychologists and sociologists. PECs have received very little attention from economists theorizing about economic development. The reasons for this omission are the subject of a paper prepared by Harvey Leibenstein, a Harvard University economist, as part of this project.<sup>1</sup>

The main effort of Task I was a research study comparing successful and average entrepreneurs from three developing countries: India, Ecuador, and Malawi. The samples were identified by obtaining nominations from a variety of knowledgeable sources (e.g., banks, chambers of commerce, ministries of trade and finance, trade organizations) within each country. Seventy-two entrepreneurs were interviewed in each country. The sample was evenly divided among manufacturing, marketing/trading, and service businesses; within each type of business, half of the entrepreneurs were identified as successful and half as average.

Each entrepreneur was given an in-depth interview of two to three hours. The first and shorter part of the interview consisted of a standard set of questions about the entrepreneur's personal background and about the business. The rest of the interview used a critical incident method developed by McBer to

---

<sup>1</sup> Leibenstein, Harvey "Entrepreneurship, Entrepreneurial Training, and Economics," unpublished manuscript, Harvard University, 1985

obtain detailed accounts of the entrepreneur's involvement in starting the business and in four other key situations (high points and low points) encountered while running the business. The interviewers conducted the interviews in a language that the entrepreneurs knew well. They were trained to elicit, in a nonleading way, a detailed account of what the entrepreneur had done, thought, and said in each key situation.

The interviews were tape-recorded, transcribed, translated, and then subjected to thematic analysis to identify behaviors, skills, abilities, and traits associated with effectiveness. A team of McBer researchers compiled and organized these themes into a preliminary competency model, which may be viewed as an initial working hypothesis about the PECs. The next step was to validate the preliminary competency model by systematically coding each transcript to determine the frequency of occurrence of each competency.

The competency scores were then analyzed statistically. Of primary interest was the difference between the successful and average groups, which was marginally significant overall. Statistically significant differences were found on a number of the competencies. Several different analyses were conducted, and the most consistent differences were obtained for the following competencies:

- Sees and Acts on Opportunities
- Concern for High Quality of Work
- Monitoring
- Recognizing the Importance of Business Relationships

Statistically significant differences were also obtained for six other competencies on at least one of the two most critical statistical tests. These competencies were

- Initiative
- Commitment to Work Contract
- Efficiency Orientation
- Systematic Planning
- Problem Solving
- Assertiveness

There were also some differences in competency frequency by country and type of business.

In contrast to the results for the competency scores, almost no statistical differences were found between successful and average groups of entrepreneurs on the background and demographic variables assessed in the first part of the interviews.

Thus Task I did identify some PECs that differentiated successful from average entrepreneurs. Perhaps because of some

problems in field data collection, especially in the identification of successful and average entrepreneurs and in the conducting of interviews, the results were not as strong as might have been wished. The research identified some PECs that might be used as a basis for entrepreneurial selection and training. But further validation of the PECs was also needed.

Task II: Use the PECs to Identify and Develop Selection  
Instruments (Surveys, Tests, Interview Procedures,  
Application Forms) That Can Be Used to Screen  
Potential Entrepreneurs

The aim of Task II was to use the PECs identified in Task I to develop instruments that might be used both to screen potential entrepreneurs and to provide diagnostic information when used as part of entrepreneurial training programs.

On the basis of the Task I findings, 13 competencies were identified for assessment with selection instruments:

- Initiative
- Sees and Acts on Opportunities
- Persistence
- Information Seeking
- Concern for High Quality of Work
- Commitment to Work Contract
- Efficiency Orientation
- Systematic Planning
- Problem Solving
- Self Confidence
- Persuasion
- Use of Influence Strategies
- Assertiveness

These 13 were selected because they either discriminated the successful from the average groups or had face validity as skills needed to start or run a business. In addition, all 13 seemed capable of being demonstrated by persons who had not yet started businesses. Thus these competencies might be used to assess potential entrepreneurs. Two additional PECs, Achievement Motivation and Pre-startup Exposure to Entrepreneurs, were added on the basis of research outside of this project.

The next step was to develop the instruments. Because of the variety of PECs to be assessed, the variety of intended uses, and the potentially conflicting requirements of assessment validity and ease of administration and scoring, no single instrument was likely to be ideal. Therefore, two categories of instruments were developed: (1) interview protocols and scoring systems and (2) paper-and-pencil tests.

The first instrument, the Information Interview, was meant to provide background information about the entrepreneur and the business and to set the stage for the administration of other selection instruments. Separate forms were developed for existing and potential entrepreneurs. Questions covered demographic background information on the entrepreneur and on the nature and success of the business. Of the PECs mentioned above, only Pre-startup Exposure to Entrepreneurs was assessed through this interview.

A second interview, the Focused Interview, was a simplified version of the behavioral event interview that was used in the research phase of the project. In this interview persons recounted their involvement in several situations. The interviewer was required to look for and recognize evidence of the 13 competencies identified for assessment.

On an experimental basis, the Focused Interview was also scored using a scheme derived from the SYMLOG system developed by Robert F. Bales of Harvard University and the Union of Concerned Scientists, for the assessment of interpersonal behavior. The interviewer rates how often the interviewee expresses any of 26 concerns related to interpersonal relations. The concerns are selected to tap three underlying personality dimensions: Power (dominant vs. submissive), Affiliation (friendly vs. aloof), and Achievement (task-focused vs. emotional). The SYMLOG Rating Form yields three overall scores corresponding to the above dimensions. The main PEC assessed through the SYMLOG scoring system was Achievement Motivation.

Besides the interview protocols and scoring systems, three paper-and-pencil tests were developed. The first of these, the Self Rating Questionnaire, was developed to provide a self-assessment on the 13 competencies identified as selection criteria. The instrument comprises 70 behavioral statements, a person notes the degree to which each is a self-description. There are 5 items reflecting each of the 13 competencies and an additional 5 items composing a social desirability scale. Because of its vulnerability to faking, this instrument was intended for self-assessment in entrepreneurship training programs rather than for screening.

The second paper-and-pencil test, the Business Situations Exercise, poses hypothetical business situations followed by pairs of alternative actions. In each pair, one action reflects demonstration of one of the 13 competencies, and the other alternative represents a plausible action unrelated to any of the competencies. Respondents must select the alternative that better reflects what they would do. The instrument comprises 52 items, 4 to assess each of the 13 competencies.

The last instrument, the Picture Story Exercise, is a projective test that has been used extensively to measure Achievement Motivation, one of the PECs that was added to those identified for assessment in the selection instruments. The Picture Story Exercise consists of six pictures depicting one or more persons in a variety of situations. Persons taking this test are asked to look briefly at each picture and then to write (or tell orally) a brief story based on the picture. It is assumed in projective tests like this one that the stories people write will reflect some of their own underlying motivations.

McBer has developed an elaborate scoring system for the Picture Story Exercise. But it was clear that this scoring system, which requires extensive training to master, would not be practical for potential users of the test.

Therefore, we developed for this project a simplified scoring system analogous to the one developed for the Focused Interview. Nine themes (behaviors or thoughts) were identified, three associated with each of the three motives. These nine themes are the basis of a checklist to be completed for each story. The person administering the test (or the scorer) checks those themes that are present in each story. The scores for each motive are summed across stories to yield overall scores for Achievement, Affiliation, and Power.

The selection instruments were presented to the in-country research contractors from the three countries at the Annual Network Meeting held at Oxford, England, in July of 1985. A full day of training in the administration and scoring of these tests was provided. At least two representatives of the in-country research contractor in each of the three participating countries were present. Comments at the training session led to minor revisions of items on some of the instruments.

The next step was to pilot test the instruments with 12 existing entrepreneurs in each of the three countries (India, Malawi, and Ecuador). This process was completed first in Malawi. There were no serious problems in administering any of the tests, but the process was time consuming, since in most cases all tests had to be administered orally in Chichewa. There was some difficulty in administering the Picture Story Exercise, because many persons limited their responses to descriptions of what they saw in the pictures. But no further revisions were indicated for any of the tests.

We therefore decided to proceed with the administration of the instruments to the full validation sample in Malawi. The sampling plan called for 90 existing entrepreneurs (including 45 successful and 45 average entrepreneurs who were not interviewed in the initial research), 30 start-up entrepreneurs in business for fewer than six months, and 30 potential entrepreneurs.

(persons who had expressed an interest in starting a business but had not actually done so). Within each group the sample was equally divided among manufacturing, marketing/trading, and service businesses. The successful and average groups of existing entrepreneurs were identified through a process of converging nominations identical to that used in the research conducted in Task I.

The results were analyzed by comparing the four groups on all measures obtained from all instruments. Of greatest interest were the comparisons between the successful and average groups of existing entrepreneurs on the competencies identified for selection. The results of these comparisons were disappointing. In general the groups did not differ on the competencies. The only exceptions were for Systematic Planning from the Focused Interview, Initiative from the Self Rating Questionnaire, and Persuasion from the Business Situations Exercise. The two groups did not differ on any of the background and demographic variables, but the successful group did score significantly higher, as expected, on most of the quantitative measures of business success.

It was not clear why the selection instruments produced so little evidence to validate the PECs. One possibility was that the two groups of existing entrepreneurs did not really differ in their business success. But the data on business success did indicate significant differences between these groups. Another explanation is that the instruments used may not have validly measured the PECs. Two of the paper-and-pencil tests, the Self Rating Questionnaire and the Business Situations Exercise, are vulnerable to social desirability effects. The Picture Story Exercise, which used pictures of western adults, may have been culturally inappropriate; in any event the respondents' stories tended to be quite short and centered on physical descriptions of things in the picture rather than on stories inspired by the pictures. It is also likely that there were problems in the administration and scoring of the Focused Interview. Analysis of interview tapes for a dozen interviews that were conducted in English indicated that the interviewers often failed to probe for sufficient detail. The competency scoring of the Focused Interview also showed errors of commission and omission.

By the time the data from Malawi had been analyzed, pilot data from the selection instruments were also available from India. As in Malawi, there were some problems in administering and scoring the Focused Interview, there was also resistance to taking the Picture Story Exercise. The Information Interview created even greater resistance because of its length. It had been left with entrepreneurs to complete in written form. The length of the whole battery of instruments was also creating problems, half the entrepreneurs who were approached about participating in the pilot study refused for this reason. In

terms of discriminating successful from average entrepreneurs, only the Focused Interview showed promise on the basis of data from the pilot sample.

After a formal Project Review, held just after the receipt of the pilot data from India, a decision was made to modify the original plan of replicating in India and Ecuador the instrument validation study that had been carried out in Malawi. Questions were added to the Information Interview and Focused Interview in order to provide additional data of interest to USAID and the Technical Review Committee. The other selection instruments were not used in further validation efforts. The questions added to the Information Interview provided more background and demographic information about the entrepreneurs and their businesses. The questions added to the Focused Interview asked about the entrepreneurs' perceptions of when they had developed competencies demonstrated in the interview and other skills they viewed as important to their business success. Another change to the Focused Interview was the addition to the competency rating form of two competencies (1) Monitoring and (2) Concern for Others' Welfare. These two competencies had differentiated successful from average entrepreneurs in the initial research.

It was decided to focus the remaining validation efforts in India and to strengthen the field data collection procedures. A consultant was sent to India for three weeks, to train interviewers to administer and score the revised Focused Interview, and to monitor the sample selection process and the initial interviews for this phase of the project.

The results of greatest interest concerned the comparison between the successful and average groups of existing entrepreneurs. On the background variables, the two groups of entrepreneurs were strikingly similar. On most questions about their businesses, the groups were also very similar. The successful group did have significantly higher sales and profits and more positive perceptions of how their businesses were doing.

The competency scores from the Focused Interview showed strong evidence for differentiation between the successful and average groups of existing entrepreneurs. Multivariate analyses yielded significant differences between the two groups. Follow-up analyses of individual competency scores revealed significant differences on the following competencies:

- Sees and Acts on Opportunities
- Persistence
- Information Seeking
- Commitment to Work Contract
- Systematic Planning
- Self-Confidence
- Use of Influence Strategies

The SYMLOG scoring of the Focused Interview also yielded highly significant differences between the two groups. The successful group was higher on Achievement Motivation and Power Motivation. Overall, these data from India replicate the findings of the research conducted in Task I.

Task III Identify and Assess Behavioral Training Approaches That Can Be Used to Improve Entrepreneurial Effectiveness

Although this task was mainly the responsibility of Management Systems International (MSI), some of the training was based on the competencies identified in Task I, and McBer worked with MSI on the development of these curriculum modules.

Task IV: Disseminate the Project's Findings to Interested Groups Around the World, Through Publications and Annual Network Meetings

This has been an ongoing task. The main publications have been two annual reports and this final report of the project's activities. In addition David McClelland has presented a paper based on the findings from Task I. Dr. Harvey Leibenstein prepared and presented a paper, "Entrepreneurship, Entrepreneurial Training, and Economics," analyzing the concept of personal entrepreneurial characteristics in terms of the economic theory of entrepreneurial behavior.

Since the inception of the project, McBer has responded to inquiries about the project and has welcomed visits from representatives of countries interested in replicating the research and in applying the results.

The first Annual Network Meeting was held at Oxford, England, in July of 1985. Among the participants were representatives of USAID, the National Science Foundation, McBer, MSI, the ILO, UNIDO, the in-country research contractors (EDII, FUNDEC, and the University of Malawi's Centre for Social Research), the in-country training contractors (EDII, FUNDEC), and other interested groups.

McBer and MSI presented project findings one and one-half days of the three-day meeting. The remaining time was spent in working sessions to introduce the in-country research and training contractors to the selection instruments and training materials to be used in the next steps for Tasks II and III.

The remaining sections of this report provide more-detailed descriptions of the research carried out by McBer as part of Tasks I and II. The first description is of the initial research carried out in Task I, to identify PECs in India, Ecuador, and Malawi. It is followed by a description of the instruments

developed as part of Task II to assess the PECs. The final two main sections of the report describe the validation studies using the selection instruments, first in Malawi and then in India.

---

## THE INITIAL RESEARCH STUDY

### Overview of the Research Design

The plan of the initial research study was to conduct the initial research in at least three developing countries that were geographically and culturally different from one another. India, Malawi, and Ecuador were selected, and the same research design was replicated in each country. On the basis of nominations by banks, ministries of trade and finance, business groups, and other local institutions, 36 successful and 36 average entrepreneurs were selected within each country. Each group was evenly divided among three types of businesses: manufacturing, marketing/trading, and service. Table 1 displays the sampling plan.

TABLE 1  
 SAMPLING PLAN FOR THE INITIAL RESEARCH

<u>Country</u>	<u>Type of Business</u>			<u>Totals</u>
	<u>Manuf</u>	<u>Mktg</u>	<u>Svce</u>	
India				
Successful	12	12	12	36
Average	12	12	12	36
Malawi				
Successful	12	12	12	36
Average	12	12	12	36
Ecuador				
Successful	12	12	12	36
Average	12	12	12	36
Totals	72	72	72	216

Each entrepreneur had to be an owner or partner in the business and involved in starting the business. Each also had to have been in business for at least three years.

McBer staff members trained interviewers provided by the in-country research contractors. The training was conducted in English in India and Malawi, and in Spanish in Ecuador. The interviewers also spoke local languages to be used in the areas where they would be interviewing (e.g., Hindi in India, Chichewa in Malawi). The training involved a week of instruction, observation, practice, and coaching.

The interview, which was the source of all data about the entrepreneurs, took about two and one half hours to administer. The initial part of the interview provided background information about the business and the entrepreneur. The questions about the business provided data on these topics:

- Products and services
- How long the entrepreneur had owned the business
- Sales volume in the past year
- Change in sales volume over the past three years
- How much the business earned in the past year
- Change in business earnings over the past three years
- Changes in products or services over the past three years
- Locations of business offices, plants, or shops
- Major equipment owned or leased
- Number of employees and their jobs
- Sources from which financing has been obtained

The questions about the entrepreneur provided data on these topics:

- Education
- Work history
- Other experiences relevant to present business
- Number of other businesses started
- Father's and mother's education
- Number of other family members who own businesses
- Regular business activities
- Number of hours worked in a typical week and whether this is greater or fewer than the hours worked in previous jobs as an employee in someone else's business

The remaining part of the interview, lasting about two hours, used a critical incident methodology developed by McBer to obtain detailed accounts of the entrepreneur's thoughts, actions, and other involvement in starting the business and in two successful and two less successful situations encountered during the previous two years of running the business.

The interviewers conducted the interviews in a language that the entrepreneurs knew well. They were trained to elicit, in a nonleading way, a detailed account of what the entrepreneur had done, thought, and said in each key situation. The complete interview protocol appears in Appendix A.

This interviewing technique, which combines open-ended questions with a structured strategy for follow-up probing, has been used extensively in job analysis studies. It identifies the competencies, and the more specific behaviors through which they are demonstrated, that differentiate outstanding from average performers in a particular job and organization. Thus the present study was an application of that methodology to the identification of competencies differentiating successful from average entrepreneurs in developing countries.

The interviews were tape-recorded, transcribed, and translated into English if necessary. Most of the interviews in India and Malawi were conducted in local languages and translated into English. Most of the interviews in Ecuador were conducted in Spanish, and Spanish transcripts were used in the subsequent analyses.

#### Project Planning and Site Selection

The first step was a meeting on September 26, 1983, of representatives of the contractor, McBer, and MSI to plan visits to potential sites. The three countries initially selected as potential project sites were India, Ecuador, and Malawi. It was necessary to find in-country organizations with the capability of identifying entrepreneurs, conducting interviews, and implementing entrepreneurial training programs. It was unclear initially whether such cooperating organizations could be found in each of the originally targeted countries. It was therefore decided to make site visits to a fourth country, Zimbabwe, where the local USAID Mission had also expressed interest in the project.

A joint visit to Ecuador by McBer and MSI staff members established the feasibility of carrying out the project in that country. The Foundation for Educational, Economic, and Social Development (Fundación para el Desarrollo Educativo, Económico y Social -- referred to as FUNDEC in the rest of this report) was identified as an organization with the required capability and interest to conduct the initial research interviews with entrepreneurs. Preliminary negotiations between McBer and FUNDEC during this initial visit eventually led to a contract for this work.

A similar joint visit by McBer and MSI staff members was planned for Malawi and Zimbabwe. In Zimbabwe the McBer and MSI

staff members met with staff members from the local USAID Mission and with representatives from a wide number of interested groups. The University of Zimbabwe was identified as an organization capable of conducting the research; however, an in-country organization capable of implementing entrepreneurial training programs was not identified during this initial trip. Unfortunately, the McBer and MSI representatives were not granted permission to enter Malawi during this trip, although they did talk by telephone with representatives of the USAID Mission in Lilongwe.

On a second trip three months later, a McBer representative was able to visit both Zimbabwe and Malawi. In Zimbabwe, preliminary negotiations were carried out with the local USAID Mission, the University of Zimbabwe, and the Small Enterprise Development Corporation (SEDCO), regarding the initial research with entrepreneurs.

In Malawi the McBer representative met with representatives from the USAID Mission, the University of Malawi's Centre for Social Research, the International Labor Organization (ILO), and other groups interested in small-business development. A preliminary agreement regarding the initial interviews with entrepreneurs was reached with the Centre for Social Research, which had already carried out an extensive study of entrepreneurs in Malawi. Shortly after this visit, McBer and the Centre for Social Research signed a contract for the initial research interviews with entrepreneurs

In Zimbabwe problems arose in meeting the requirements of the different organizations to be involved, so no satisfactory agreement could be reached for conducting the initial research. Therefore, several months after the second site visit, it was reluctantly decided to abandon Zimbabwe as a potential project site.

In India an initial site visit by representatives of McBer and MSI established the feasibility of using the Entrepreneurship Development Institute of India (EDII) both to conduct the initial research and to implement entrepreneurial training programs. McBER and EDII soon afterward agreed to a contract for the initial research.

#### Identification of Samples of Entrepreneurs

The in-country researchers were instructed to solicit nominations of superior-performing entrepreneurs from knowledgeable persons in governmental councils, trade organizations, chambers of commerce, ministries of industry, banks, and other organizations with exposure to entrepreneurs. To be selected as a successful entrepreneur, an entrepreneur had to be nominated by at least two different sources. Once the successful entre-

preneurs were selected, average entrepreneurs were selected who were known to at least one of the nominating organizations but had not been nominated as superior performers. A further constraint in the selection process was that the successful and average groups had to be equally divided among three types of businesses: manufacturing, marketing/trading, and service. The sampling plan is displayed in Table 1.

All of the entrepreneurs had to have been in business at least three years, and all had to have been involved in starting their businesses. To the extent that it was practical, the selection strategy in each country was designed to sample a variety of geographical areas and cultural groups

A plan specifying the geographical distribution of interviews and the organizations from which to solicit nominations was agreed to by a McBer consultant and the head of the in-country research contractor in each country. The in-country research contractors obtained the nominations, selected the samples, and arranged the interviews.

#### Training Native-Language-Speaking Interviewers

Special interview-training materials were developed, including a workbook and a detailed interview guide. The interview guide is included in Appendix A of this report. For the work in Ecuador, these materials were translated into Spanish. McBer staff members visited each research site and trained from five to nine interviewers in four-day interview-training workshops. At each site entrepreneurs were brought in to be interviewed as part of the training. After the workshops the McBer staff members sat in on the interviewers' initial interviews or reviewed tapes of these interviews. They then provided feedback and coaching to the interviewers

#### Overview of the Data Analyses

The interviews provided three types of data (1) background information about the entrepreneur's business, (2) background information about the entrepreneur, and (3) detailed accounts from the entrepreneur of critical events in starting and running the business. For each type of data, some data preparation was necessary before analyses could be run. Preparation of the first two types of data required transferring information from the interview transcript or from a summary sheet provided by the interviewer onto a data summary sheet. Some information, such as responses to the question about the entrepreneur's education, had to be coded into standard response categories. Some consultation with the local research contractors was needed, to resolve how some responses should be coded.

The third source of data, the detailed accounts of critical events, required more work in preparation for data analyses. The first step was a thematic analysis of a subset of the transcripts, to generate hypotheses about personal entrepreneurial characteristics. Abilities, skills, motives, and other personal characteristics that were observed in the interviews (and plausibly related to entrepreneurial effectiveness) were identified and defined, by specifying categories of specific behaviors and thoughts expressed in the critical incidents. These themes were organized into a competency model that served as a working definition of the personal entrepreneurial characteristics emerging from the descriptions of critical incidents. The next step was to quantify the competencies by systematically coding their frequency in each entrepreneur's transcript. The resulting competency scores could then be used in the data analyses.

The analyses of most interest were those comparing the successful and average groups of entrepreneurs on the competency scores. Other important analyses compared these groups with respect to the background data about the entrepreneurs and their businesses. Many other analyses were conducted to examine relationships among all the variables studied

#### Thematic Analysis of the Critical Incident Data

Because the tasks of conducting, transcribing, and translating the interviews did not proceed at the same rate in the three countries, the process of thematic analysis was begun with the transcripts from India, which were available first. Each member of a five-person McBer analysis team individually read six to eight transcripts and noted any skills, behaviors, motives, or ways of approaching problems that seemed to contribute to effectiveness in the situations described by the entrepreneurs. Next, at a three-day concept formation meeting, these themes were discussed, and themes that were noted with some frequency were formulated into a preliminary competency model, which was included at the end of this project's First Annual Report. Twenty competencies occurring across the three countries were identified. Two additional competencies were observed in only one country each. Most of the competencies were defined by two to seven more specific behavioral indicators.

At this stage the goal was to cast a broad net and to include all themes potentially related to effectiveness, whether or not these themes appeared to differentiate the successful from the average entrepreneurs. Three competencies (Persuasion, Use of Influence Strategies, and Expertise) were included even though they did not appear to occur more frequently among the more successful entrepreneurs. We decided to track all potentially relevant types of expertise, although most of these occurred at a

very low frequency in the transcripts that we had analyzed at that point.

The thematic analysis was also guided by McBer's experience in competency analyses of over 150 jobs. We compared the themes we had noted in the transcripts of the Indian entrepreneurs with more than one hundred frequently occurring themes from previous research, to be sure that we were not overlooking potentially important themes. In a few cases, we included themes that had emerged often in previous research, but which we had seen only a few times in the Indian entrepreneurs' transcripts. For example, under Systematic Planning, we included the behavioral indicator, "plans by breaking a large task down into subtasks." Once again, the purpose was to include everything that might possibly relate to entrepreneurial effectiveness, and to be able to track the frequency of such behaviors systematically in the next phase of the research

As soon as we received a sufficient number of transcripts from Malawi and Ecuador, the process of thematic analysis was repeated for the interview transcripts from those two countries. Rather than develop separate, independent competency models for those countries, we were able to build upon what we had learned from our preliminary analysis of the data from India. The members of the analysis teams for Malawi and Ecuador were instructed to look for any new themes that had not previously been identified for the Indian entrepreneurs. Most of the themes identified in the Malawi and Ecuador transcripts had already been included in the Preliminary Competency Model for India. But several new behavioral indicators and competencies were identified. These were added to the Preliminary Competency Model for India, to form a Core Competency Model, which was used as the basis for coding the data from all countries

The Core Competency Model, together with two additional competencies found only in a single country, is displayed in Table 2.

#### Systematic Coding of Interview Transcripts

The next step was to use the Core Competency Model as a codebook and to systematically code interview transcripts, to determine how often each of the competencies was demonstrated. The original plan for the data analysis had been to use half of the interview transcripts from each country for thematic analysis, while retaining the remaining transcripts for systematic coding to cross-validate the Core Competency Model.

We decided to modify this plan because of two problems and issues that became apparent during the thematic analysis. The first problem was that a few transcripts, especially from Ecuador, had to be eliminated from the analysis because they did

not meet the criteria for inclusion in the study. Some of the people interviewed were managing a business but were not a partner or owner and had not been involved in starting the business. In a few other cases, there was no indication as to whether the entrepreneur had been nominated as successful or average. This lack of identification was especially frequent in Ecuador; because of the changing political and economic climate at the time of the interviews, it was very difficult to obtain nominations of successful entrepreneurs.

Another serious problem concerned the level of detail in the behavioral event interviews. To be useful for thematic analysis or coding, an interview transcript had to contain detailed accounts of the entrepreneur's thoughts and actions in starting the business and in four critical events encountered afterwards. Some of the transcripts, however, contained only sketchy descriptions of these events; the interviewers simply did not probe for sufficient detail.

A number of possible reasons exist for the inadequate probing. The interview section about the critical incidents was preceded by a fairly lengthy section on the entrepreneur's background. By the time they reached the critical incidents section of the interview, some interviewers, sensing impatience in some entrepreneurs, may have limited their probing. Another possibility is that the assertiveness required for probing during the Behavioral Event Interview was counter to a few interviewers' personalities or to their sense of culturally appropriate behavior. In addition it is possible that some of the interviewers simply failed to appreciate the importance of detailed accounts of critical events, even though this was stressed in feedback to them following their initial interviews. Finally, some interviewers may have lacked the commitment and motivation required to probe the incidents thoroughly. The problem occurred in all three countries, although it was greatest in Ecuador, where, because of logistical difficulties, many of the originally trained interviewers had been replaced with others who were not trained by McBer staff members.

TABLE 2  
THE CORE COMPETENCY MODEL

I. THE ACHIEVEMENT CLUSTER

1. Initiative

- a. Does things before being asked or forced to by events
- b. Acts to extend the business into new areas, products, or services

2. Sees and Acts on Opportunities

- a. Sees and acts on new business opportunities
- b. Seizes unusual opportunities to obtain financing, land, work space, or assistance

3. Persistence

- a. Takes repeated or different actions to overcome an obstacle
- b. Takes action in the face of a significant obstacle

4 Information Seeking

- a. Does personal research on how to provide a product or service
- b. Consults experts for business or technical advice
- c. Seeks information or asks questions to clarify a supplier's needs
- d. Personally undertakes market research, analysis, or investigation
- e. Uses contacts or information networks to obtain useful information

5 Concern for High Quality of Work

- a. States a desire to produce or sell a top or better quality product or service
- b. Compares own work or company's work favorably to that of others

TABLE 2 (SECOND PAGE)  
THE CORE COMPETENCY MODEL

6. Commitment to Work Contract

- a. Makes a personal sacrifice or expends extraordinary effort to complete a job
- b. Accepts full responsibility for problems in completing a job for customers
- c. Pitches in with workers or works in their place to get job done
- d. Expresses a concern for satisfying the customer

7 Efficiency Orientation

- a Looks for or finds ways to do things faster or at less cost
- b. Uses information or business tools to improve efficiency
- c. Expresses concern about costs vs. benefits of some improvement, change, or course of action

II. THE THINKING AND PROBLEM-SOLVING CLUSTER

8. Systematic Planning

- a. Plans by breaking a large task down into subtasks
- b Develops plans that anticipate obstacles
- c Evaluates alternatives
- d. Takes a logical and systematic approach to activities

TABLE 2 (THIRD PAGE)  
THE CORE COMPETENCY MODEL

9 Problem Solving

- a. Switches to an alternative strategy to reach a goal
- b. Generates new ideas or innovative solutions

III. THE PERSONAL MATURITY CLUSTER

10. Self-Confidence

- a. Expresses confidence in his or her own ability to complete a task or meet a challenge
- b. Sticks with his or her own judgment in the face of opposition or early lack of success
- c. Does something that he or she says is risky

11. Expertise

- a. Had experience in the same area of business
- b. Possesses strong technical expertise in area of business
- c. Had skill in finance before starting business
- d. Had skill in accounting before starting business
- e. Had skill in production before starting business
- f. Had skill in marketing/selling before starting business
- g. Had skill in other relevant business area before starting business

12. Recognizing Own Limitations

- a. Explicitly states a personal limitation
- b. Engages in activities to improve own abilities
- c. States learning from a past mistake

TABLE 2 (FOURTH PAGE)  
THE CORE COMPETENCY MODEL

IV. THE INFLUENCE CLUSTER

13. Persuasion

- a. Persuades someone to buy a product or service
- b. Persuades someone to provide financing
- c. Persuades someone to do something else (besides 13a or 13b) that he would like that person to do
- d. Asserts own competence, reliability, or other personal or company qualities
- e. Asserts strong confidence in own company's products or services

14 Use of Influence Strategies

- a. Acts to develop business contacts
- b. Uses influential people as agents to accomplish own objectives
- c. Selectively limits the information given to others
- d. Uses a strategy to influence or persuade others

V THE DIRECTING AND CONTROLLING CLUSTER

15. Assertiveness

- a. Confronts problems with others directly
- b. Tells others what they have to do
- c. Reprimands or disciplines those failing to perform as expected

16 Monitoring

- a. Develops or uses procedures to ensure that work is completed or that work meets standards of quality
- b. Personally supervises all aspects of a project

TABLE 2 (FIFTH PAGE)  
THE CORE COMPETENCY MODEL

VI. THE ORIENTATION-TO-OTHERS CLUSTER

17 Credibility, Integrity, and Sincerity

- a. Emphasizes own honesty to others (e g , in selling)
- b. Acts to ensure honesty or fairness in dealing with others
- c. Follows through on rewards and sanctions (to employees, suppliers)
- d. Tells customer he or she cannot do something (e g., complete a task) even if it means a loss of business

18 Concern for Employee Welfare

- a. Takes action to improve the welfare of employees
- b. Takes positive action in response to employees' personal concerns
- c. Expresses concern about the welfare of employees

19. Recognizing the Importance of Business Relationships

- a. Sees interpersonal relationships as a fundamental business resource
- b. Places long-term good will over short-term gain in a business relationship
- c. Emphasizes importance of maintaining cordiality or correct behavior at all times with the customer
- d. Acts to build rapport or friendly relationships with customer

20. Provides Training for Employees

TABLE 2 (SIXTH PAGE)  
THE CORE COMPETENCY MODEL

VII ADDITIONAL COMPETENCIES

21. Building Capital (Malawi Only)
  - a. Saves money in order to invest in business
  - b. Reinvests profits in business
  
22. Concern for Image of Products and Services (Ecuador Only)
  - a. Expresses a concern about how others see his or her product, service, or company
  - b. Expresses awareness that clients spread knowledge of the product or company by word of mouth

Because a significant proportion of the transcripts were sketchy, we decided to alter the original cross-validation plan and to use the best available transcripts both for thematic analysis and for coding. Although the coding would not constitute an independent validation of the Core Competency Model, it would permit determination of the frequency of occurrence of the competencies in successful and average entrepreneurs and in the three types of businesses. We also knew that in the next phase of the study, the validation of selection instruments that were developed to assess the competencies would provide another, better opportunity to validate the competency model.

In selecting the transcripts to be systematically coded, we eliminated all transcripts with fewer than 25 double-spaced typewritten pages. We also eliminated transcripts of persons who were not owners or partners of the businesses they were managing and persons who were not identified as successful or average. Because they were available, the 54 transcripts from India that met the above criteria were coded first. We attempted to select 36 transcripts each for Malawi and for Ecuador so that there were 12 transcripts for each type of business, evenly divided between the successful and average groups. A total of 126 transcripts were coded.

One difficulty we had not anticipated was that some of the entrepreneurs with multiple businesses or activities could not clearly be assigned to one of the three types of businesses. For example, a surprising number of businesses involved both manufacturing and trading.

Five coders were used, three of whom had participated in the thematic analysis. The fourth had extensive experience coding behavioral event interview transcripts in other McBer projects. The coders were trained with the same process that McBer has used in other competency coding projects. The coders were trained to count as demonstrations of a competency only those behaviors or thoughts from specific past situations in which the actor was clearly the entrepreneur. After a detailed review of the competencies and behavioral indicators, the coders independently coded one transcript and then met to review and discuss their coding. This process was repeated several times until the coders reached a satisfactory (75 percent) level of agreement. The Spanish transcripts from Ecuador were coded by two coders fluent in Spanish.

The process of coding involved noting and bracketing each separate instance in the transcript of a demonstration of a behavioral indicator from the Core Competency Model. The coders noted the number and letter of the behavioral indicator in the left margin of the transcript. The coders then recorded the page number of each demonstration of each behavioral indicator on a

coding sheet so that the number of demonstrations of each element of the model could be entered on data sheets. For each entrepreneur the competency data consisted of a profile of the number of times each competency was demonstrated in the interview. These frequencies were used as the basis for statistical analyses involving competencies.

#### Coding of Background Data

Besides analyzing the interview transcripts for demonstrations of competencies, we tabulated the responses to the questions in the initial part of the interview dealing with background information about the entrepreneur and the business. Several problems emerged.

First, although we had provided detailed interview guides, not all of the specified questions were asked in each interview. Second, it was very difficult for some entrepreneurs, especially those in Malawi, to answer questions about sales and profits, particularly from previous years. Many of the entrepreneurs in Malawi did not have written business records and did not clearly differentiate business and personal transactions. When pressed to provide answers, they would first resist and then offer some figure to satisfy the interviewer. But the accuracy of the figures, according to the staff of the University of Malawi's Centre for Social Research, was often questionable.

The responses to the questions on background information were coded to permit comparisons by group (successful vs. average) and type of business.

#### Statistical Analysis of the Competency Data

The primary research question of interest in this study was whether the core competencies differentiated the successful and average entrepreneurs. Secondary questions were whether the competencies differed by type of business and whether the demonstration of the core competencies differed across the three countries studied.

Table 3 displays mean competency frequencies for the successful and average groups in each country, and 4 displays the competency frequencies for the three types of businesses in each country.

The research design was factorial, with Success Level (Successful or Average), Type of Business (Manufacturing, Marketing, or Service), and Country (India, Malawi, or Ecuador) as Independent Variables, and Competency Frequencies for the Core Competencies as Dependent Variables.

A multivariate analysis of variance (MANOVA) was selected as the most appropriate statistical technique for this type of research design. The plan was first to test for overall effects across competencies and then to follow up significant overall effects using the method of simultaneous confidence intervals

The MANOVA revealed that none of the interaction effects among the three independent variables approached significance. The main effect of Success Level (Successful or Average) approached significance ( $F = 1.47$ ,  $p = .11$ ) by the Wilks' Lambda criterion. Although this effect was not quite statistically significant, we decided to conduct follow-up analyses of each competency, for the following reasons: First, the Core Competency Model was constructed to include any themes that might possibly differentiate the successful and average groups of entrepreneurs. Thus several competencies were included that had been observed during the thematic analysis primarily in one or two countries. Second, three competencies were included even though there was no evidence during the thematic analysis that they would differentiate entrepreneurs by success level. These three competencies (Expertise, Persuasion, and Use of Influence Strategies) may be helpful to anyone starting or running a business; they were noted often enough during the thematic analysis that we thought it important to track their frequency. Third, as has been noted earlier, there was some question about the validity of the designation of Success Level for the entrepreneurs in the sample from Ecuador. The inclusion of the data from Ecuador probably generated some "noise" in the data, which detracted from the chances of detecting overall significant differences by Success Level.

The method of simultaneous confidence levels was used to conduct follow-up tests of the effect of Success Level for each competency. This method minimizes the possibility of spurious effects arising from multiple comparisons and significance tests. Statistically significant differences, at the 95 percent level of confidence, were found for the following competencies:

- Sees and Acts on Opportunities
- Concern for High Quality of Work
- Commitment to Work Contract
- Efficiency Orientation
- Systematic Planning
- Recognizing the Importance of Business Relationships

Inspection of Table 3 shows that in each case the difference favored the more successful entrepreneurs.

The MANOVA revealed a statistically significant overall effect for the second independent variable, Type of Business ( $F = 1.56$ ,  $p = .026$ , by the Wilks' Lambda criterion). Follow-up tests, using the method of simultaneous confidence intervals for

each competency, showed statistically significant effects for three competencies:

Concern for High Quality of Work  
Monitoring  
Concern for Employee Welfare

Inspection of the means in Table 4 shows that Concern for High Quality of Work was demonstrated more often in Manufacturing and Service businesses than in Marketing businesses. The same pattern of results was found for Monitoring and for Concern for Employee Welfare.

The MANOVA also revealed a statistically significant overall effect for the third independent variable, Country ( $F = 3.27, p < .001$ , by the Wilks' Lambda criterion). The follow-up tests, again using simultaneous confidence intervals, showed significant effects for each of the following competencies

Initiative  
Sees and Acts on Opportunities  
Persistence  
Information Seeking  
Systematic Planning  
Problem Solving  
Self Confidence  
Expertise  
Persuasion  
Use of Influence Strategies  
Monitoring  
Credibility, Integrity, and Sincerity

Inspection of the competency means in Tables 3 and 4, by country, shows that the means for India are almost always higher than those for Ecuador and Malawi.

Although differences between countries were not of primary interest in this project, some observations may help to explain those differences. First, the country differences are confounded with differences in interviewing skill and thoroughness on the part of the in-country research teams. As has been noted previously, there is evidence that the interviewers from Ecuador were not as skilled as those from India and Malawi. The transcripts from Ecuador were shorter than those from the other two countries. Thus it is likely that the competency frequencies found for these entrepreneurs represent an underestimate of their true capacity, as compared to those found for the entrepreneurs from India and Malawi.

Second, the businesses of the entrepreneurs in Malawi tended to be smaller and less technologically sophisticated than those in the other two countries. The Malawian entrepreneurs also had less education than those sampled in India and Ecuador.

TABLE 3  
COMPETENCY FREQUENCY BY SUCCESS LEVEL

<u>Competency</u>	<u>Avg</u>	<u>Succ</u>
Initiative		
India	1 00	2.46
Malawi	0 38	1 24
Ecuador	0.76	0.50
Sees and Acts on Opportunities		
India	0.78	1.73
Malawi	0 19	0.52
Ecuador	0 12	0.36
Persistence		
India	1.15	2 09
Malawi	0.38	0 62
Ecuador	0.65	0 50
Information Seeking		
India	1 74	3.45
Malawi	1 19	1.00
Ecuador	0 59	0 64
Concern for High Quality of Work		
India	0.70	1.64
Malawi	0 38	0.76
Ecuador	0 71	1.93
Commitment to Work Contract		
India	1.48	2 42
Malawi	1.06	1.81
Ecuador	0 82	1.29
Efficiency Orientation		
India	0 59	1 58
Malawi	0 56	1 48
Ecuador	0.41	0 43
Systematic Planning		
India	1 37	2.39
Malawi	0 56	1.24
Ecuador	0 88	0.50
Problem Solving		
India	0.70	1.91
Malawi	0.31	0.52
Ecuador	0 88	0.50

TABLE 3 (SECOND PAGE)

COMPETENCY FREQUENCY BY SUCCESS LEVEL		
<u>Competency</u>	<u>Avg</u>	<u>Succ</u>
Self Confidence		
India	1.11	2 58
Malawi	0.19	0 43
Ecuador	0.82	0 43
Expertise		
India	1 89	1.94
Malawi	0 63	1.29
Ecuador	0.82	0.64
Recognizing Own Limitations		
India	1.11	1.55
Malawi	0.75	0 76
Ecuador	0.47	1 21
Persuasion		
India	2 33	3.24
Malawi	1 00	0 95
Ecuador	0 82	0 29
Use of Influence Strategies		
India	1.41	1.70
Malawi	0.69	0.67
Ecuador	0 24	0.21
Assertiveness		
India	1.07	1 76
Malawi	0.69	1 29
Ecuador	1.29	1 71
Monitoring		
India	0 30	1.10
Malawi	0 29	0 36
Ecuador	0 56	0 95
Credibility, Integrity, and Sincerity		
India	1.07	1 64
Malawi	0.81	0.62
Ecuador	0 24	0.79
Concern for Employee Welfare		
India	0.48	0 73
Malawi	0.13	0 19
Ecuador	0.59	0 57

TABLE 3 (THIRD PAGE)

COMPETENCY FREQUENCY BY SUCCESS LEVEL

<u>Competency</u>	<u>Avg</u>	<u>Succ</u>
Recognizing the Importance of Business Relationships		
India	0.70	1.39
Malawi	0.63	1.86
Ecuador	0.59	1.29
Provides Training for Employees		
India	0.27	0.42
Malawi	0.06	0.19
Ecuador	0.00	0.21

ADDITIONAL COMPETENCIES

<u>Competency</u>	<u>Avg</u>	<u>Sup</u>
Building Capital (Malawi only)	0.38	0.95
Concern for Image of Products and Services (Ecuador only)	0.65	1.00

TABLE 4

## COMPETENCY FREQUENCY BY TYPE OF BUSINESS

<u>Competency</u>	<u>Manf</u>	<u>Mktg</u>	<u>Svce</u>
Initiative			
India	2.22	1.86	1.38
Malawi	1.10	0.47	1.11
Ecuador	0.62	0.70	0.63
Sees and Acts on Opportunities			
India	1.35	1.64	1.10
Malawi	0.97	0.64	0.33
Ecuador	0.38	0.10	0.13
Persistence			
India	2.43	1.07	1.14
Malawi	0.20	0.73	0.67
Ecuador	0.62	0.50	0.63
Information Seeking			
India	3.04	2.29	2.19
Malawi	1.80	0.87	0.89
Ecuador	0.69	0.30	0.88
Concern for High Quality of Work			
India	1.30	0.71	1.14
Malawi	1.30	0.00	0.89
Ecuador	1.31	0.90	1.63
Commitment to Work Contract			
India	1.70	1.43	2.48
Malawi	2.70	0.73	1.67
Ecuador	1.15	0.90	1.63
Efficiency Orientation			
India	1.39	0.71	0.52
Malawi	1.60	0.60	1.56
Ecuador	0.23	0.50	0.63
Systematic Planning			
India	2.32	1.82	1.96
Malawi	1.30	0.33	1.67
Ecuador	0.77	0.50	0.38
Problem Solving			
India	1.74	1.00	1.14
Malawi	0.60	0.60	0.11
Ecuador	0.46	1.00	0.75

—  
—  
TABLE 4 (SECOND PAGE)  
COMPETENCY FREQUENCY BY TYPE OF BUSINESS

<u>Competency</u>	<u>Manf</u>	<u>Mktg</u>	<u>Svce</u>
<b>Self-Confidence</b>			
India	1.96	1 43	1 95
Malawi	0.50	0.07	0.56
Ecuador	0.62	0 70	0 63
<b>Expertise</b>			
India	2 22	1 36	1.90
Malawi	1 10	0 93	1.00
Ecuador	1.00	0 70	0.38
<b>Recognizing Own Limitations</b>			
India	1.91	0 50	1 29
Malawi	1 10	0.53	0 67
Ecuador	0 85	0 50	1.13
<b>Persuasion</b>			
India	2 86	3 48	3 21
Malawi	1.60	1.13	0.33
Ecuador	0.46	0.60	0 75
<b>Use of Influence Strategies</b>			
India	1 26	2 00	1.33
Malawi	1 10	0 47	0.56
Ecuador	0 15	0 20	0.38
<b>Assertiveness</b>			
India	1.22	0.64	2 14
Malawi	1.10	1.07	1 11
Ecuador	1.62	2 00	0 63
<b>Monitoring</b>			
India	0 61	0 29	0.90
Malawi	1.20	0 33	1.22
Ecuador	0.46	0.20	0 25
<b>Credibility, Integrity, and Sincerity</b>			
India	1 30	1 57	1.33
Malawi	1 10	0 27	1.00
Ecuador	0 62	0 60	0.13
<b>Concern for Employee Welfare</b>			
India	0.91	0 29	0 52
Malawi	0.30	0.13	0 11
Ecuador	0 77	0 10	0 88

TABLE 4 (THIRD PAGE)  
COMPETENCY FREQUENCY BY TYPE OF BUSINESS

<u>Competency</u>	<u>Manf</u>	<u>Mktg</u>	<u>Svce</u>
Provides Training for Employees			
India	0.48	0.43	0.19
Malawi	0.20	0 00	0.00
Ecuador	0.23	0 00	0.00
Recognizing Importance of Business Relationships			
India	0 78	1.86	0.67
Malawi	1.10	1.47	1.56
Ecuador	0.92	0 70	1.13

ADDITIONAL COMPETENCIES

<u>Competency</u>	<u>Manf</u>	<u>Mktg</u>	<u>Svce</u>
Building Capital (Malawi only)	0.50	0.73	1.00
Concern for Image of Products and Services (Ecuador only)	0 92	0 70	0.75

### Analyses of Relationships Among Competencies

For conceptual and training purposes, it may be useful to distinguish many different competencies, but we did expect to find numerous relationships among the core competencies.

Pearson correlations among all pairs of competencies were computed. All but one of these correlations were positive, and most were in the range of .20 to .50. The highest correlations all involved Self Confidence ( $r = .63$  with Initiative,  $.60$  with Persistence, and  $.64$  with Information Seeking). Only 13 correlations were .50 or higher.

To test for the possibility that the correlations among competencies might be an artifact of the length of the interview, we conducted analyses to control for this variable. The number of words per transcript was estimated by counting the number of words on two sample pages, computing an average number of words per page, and multiplying by the number of pages. Pearson correlations of number of words per transcript with the 20 competency scores ranged from .05 to .36, the mean correlation coefficient was .20. Next, the correlations among all possible pairs of competencies were recomputed, with number of words per transcript partialled out. Most of these partial correlations were only slightly lower than the corresponding correlations without number of words partialled out. For example the partial correlations of Self-Confidence with the variables mentioned above were  $.62$  with Initiative,  $.60$  with Persistence, and  $.62$  with Information Seeking. Eleven of the partial correlations remained .50 or higher.

Several factor analyses were conducted on the competency scores. An initial analysis revealed four factors with eigenvalues greater than 1. Subsequently, analyses were run to extract two, three, and four factors. A two-factor solution with varimax rotation provided the clearest factor structure. The first factor seems to reflect a proactive self-confidence, while the second factor reflects a systematic task orientation. The rotated factor structure matrix, showing the correlations between the competencies and the two factors, is displayed in Table 5

### Discriminant Analyses

A discriminant function analysis was conducted to test the extent to which the 20 competency scores could differentiate successful from average entrepreneurs. The discriminant analysis program selected variables by minimizing Wilks' Lambda. This stepwise procedure stopped after ten competency scores were entered into the analysis. At this point, the canonical correlation was  $.50$  ( $p < .0002$ ). When the results of this program were used to attempt classification of the sample into successful

and average groups, 81.4 percent of the average group, 65.2 percent of the successful group, and 72.7 percent overall were correctly classified.

A second discriminant analysis was conducted to test the power of the competency scores to add to the differentiation that could be achieved only from the background information about the entrepreneur. This discriminant analysis was programmed to select first any of the entrepreneur background variables that reduced Wilks' Lambda by at least .001 and then to select any competency scores that led to further reductions. The entrepreneur background variables used in this analysis were highest level of education completed, number of previous jobs held, number of businesses started, number of other family members who own businesses, and number of hours worked per week.

Table 6 provides a summary of the results of this analysis. Three of the background variables met the criterion for entry into the analysis and were entered in order: number of previous jobs held, number of businesses started, and number of other family members who own businesses. Yet none of these variables reduced Wilks' Lambda significantly on entry into the analysis. And after these three variables had been entered, a significance test of the Mahalanobis distance between the two criterion groups was not significant ( $F = 1.84, p = .14$ )

After the three background variables had been entered, the program allowed nine competency scores to be added. Recognizing the Importance of Business Relationships, Concern for High Quality of Work, Sees and Acts on Opportunities, Assertiveness, Use of Influence Strategies, Concern for Employee Welfare, Monitoring, Provides Training for Employees, and Persuasion. In each case the F value associated with the reduction of Wilks' Lambda on entry of the variable was highly significant.

With all variables in the analysis, the canonical correlation was .50 and highly significant ( $p = .0006$ ). This canonical correlation is no larger than the one obtained in the first discriminant analysis, which used only the competency scores.

When the results of the discriminant analysis were used to classify the entrepreneurs, 63.8 percent of the successful group and 78.0 percent of the average group were correctly classified. Overall, 70.3 percent of the entrepreneurs were correctly classified. These classification results are no better than the results obtained in the first discriminant analysis, which used only the competency scores.

As a further test of the power of the entrepreneur background variables to discriminate the successful and average groups of entrepreneurs, we ran a third discriminant analysis,

using only the five background variables. As in the previous analysis, only three of these variables met the tolerance requirement for entry. With these three variables in the analysis, the canonical correlation was only .21 and not statistically significant. A classification analysis showed that only 56 percent of the entrepreneurs were correctly classified.

The results of these discriminant analyses indicate that it is the competency scores and not the entrepreneur background variables that provide the power to discriminate between the successful and average groups of entrepreneurs.

TABLE 5

## VARIMAX ROTATED FACTOR STRUCTURE MATRIX FOR COMPETENCY SCORES

<u>Competency</u>	<u>Factor 1</u>	<u>Factor 2</u>
Initiative	.75	.31
Sees and Acts on Opportunities	.49	.07
Persistence	.59	.37
Information Seeking	.47	.46
Concern for High Quality of Work	.12	.65
Commitment to Work Contract	.24	.62
Efficiency Orientation	.13	.69
Systematic Planning	.43	.61
Problem Solving	.55	.37
Self Confidence	.64	.52
Expertise	.35	.41
Recognizing Own Limitations	.58	.03
Persuasion	.69	.17
Use of Influence Strategies	.44	.33
Assertiveness	.33	.29
Monitoring	.06	.75
Credibility, Integrity, Sincerity	.41	.42
Concern for Employee Welfare	.27	.28
Recognizing the Importance of Business Relationships	.15	.27
Provides Training for Employees	.42	.12

TABLE 6

SUMMARY TABLE FOR DISCRIMINANT ANALYSIS INCLUDING ENTREPRENEUR  
BACKGROUND VARIABLES (ENTERED FIRST) AND COMPETENCY SCORES

<u>Step</u>	<u>Variable Entered</u>	<u>Wilks' Lambda</u>	<u>Sig</u>
1	Number of Previous Jobs	985051	1692
2	Number of Businesses Started	970996	1589
3	Number of Other Family Members Who Own Businesses	957444	1439
4	Recognizing the Importance of Business Relationships	885104	0044
5	Concern for High Quality of Work	846813	0010
6	Sees and Acts on Opportunities	815277	0003
7	Assertiveness	801759	0003
8	Use of Influence Strategies	787808	0003
9	Concern for Employee Welfare	776777	0003
10	Monitoring	769080	0004
11	Provides Training for Employees	762267	0006
12	Persuasion	751482	0006

## Statistical Analysis of Background Variables About the Business

In the introductory part of the interview, entrepreneurs were asked a number of questions about their businesses. The entrepreneurs' responses were used to create the following business variables:

- Number of years the business has been operating
- Sales volume in the last complete year
- Percent increase/decrease in sales over the past three years
- Earnings of the business in the last complete year
- Percent increase/decrease in earnings over the past year
- Number of product changes over the past three years
- Number of business locations
- Number of employees
- Sources of financing

The data for all but two of these variables were treated as interval, for purposes of statistical analysis. Responses to the question about number of product changes were coded as zero, one, two, or three or more, and were treated as nominal data for purposes of statistical analysis. Similarly, responses to the question about sources of financing were coded for presence/absence of each of the following sources: own funds, banks, relatives, friends, investors, government programs, partners, and other. Each source of financing was therefore considered as a separate business variable.

Some problems with the data for the business variables should be mentioned. Some data were missing because interviewers failed to ask all of the questions about the business in each interview. Some entrepreneurs were reluctant to provide answers to the questions regarding sales and earnings. Comparisons between countries on sales and earnings figures are complicated by the presence of rapid changes in the value of money within and between countries.

The background data on the business were first analyzed for differences between the successful and average entrepreneurs. Because of the problem of random missing data, the data were analyzed with separate univariate analyses for each business variable, rather than a multivariate approach involving all the variables.

When the data were aggregated across the three countries, statistically significant differences, favoring the more successful group, were found for two of the business variables. The percentage of increase in sales over the previous three years was

significantly greater for the more successful group, as was the number of business locations.

When these comparisons were repeated within each country, only a few significant differences emerged. In India the average number of employees was higher for the successful entrepreneurs (29.56 vs. 18.39). In Ecuador the percentage increase in earnings over the previous year was higher for the average entrepreneurs. (This was not entirely surprising in light of the already-mentioned problems with the selection of successful and average groups in Ecuador.) In Malawi the successful entrepreneurs had a larger percentage increase in sales and higher earnings than the average groups. These findings must be interpreted cautiously in view of the small number of Malawian entrepreneurs who provided any answers to these questions.

The background business data were also analyzed for differences by type of business. The only statistically significant differences that emerged were for sources of financing. In India entrepreneurs with marketing and service businesses were more likely than those with manufacturing businesses to use their own funds. In Ecuador entrepreneurs in manufacturing and marketing businesses were more likely than those in service businesses to have obtained financing from banks. In Malawi bank financing was more common for marketing businesses than for manufacturing or service businesses.

#### Relationships Among Business Variables and Success Rating

Some of the background business variables reflect, at least in part, the success of the business. Therefore, we decided to examine the correlations of these variables with each other and with the dichotomous designation of the entrepreneur as successful or average. These correlations, which are displayed in Table 7, are mostly positive but low in magnitude. Note that these correlations are probably somewhat diminished as a result of aggregating the data from the three countries, since local conditions affect the meaning of these variables. For example, businesses studied in India tended to be much larger than those in Malawi. The highest correlations among the business variables involve number of employees ( $r = .41$  with sales volume in the last year and  $r = .42$  with number of business locations). The dichotomous success level variable showed low positive correlations with three of the business variables ( $r = .21$  with number of employees,  $r = .22$  with change in sales volume over the past three years, and  $r = .18$  with number of business locations), correlations with the other business variables were essentially zero.

## Statistical Analyses of Background Data on the Entrepreneur

In addition to questions about the business, the introductory part of the interview contained some specific questions about the entrepreneur's background. The questions were used to derive the following variables:

- Number of previous jobs held
- Number of businesses previously started
- Number of other family members who own businesses
- Number of hours worked per week
- Highest level of education
- Father's occupation
- Mother's occupation
- Whether hours worked now are fewer, the same, or more than before becoming an entrepreneur

Once again, univariate analyses were conducted for each of these variables. For purposes of statistical analysis, data for the first four of the above variables above were treated as interval and for the remaining variables as nominal.

No statistically significant differences between successful and average entrepreneurs emerged when the data were aggregated across the three countries. Comparisons within countries revealed only one significant difference: The successful entrepreneurs in Malawi had held more jobs before becoming entrepreneurs.

When the same background variables were broken down by type of business, there was a similar absence of statistically significant differences. There were no significant differences when the data were aggregated across countries. When analyses were conducted within countries, the only significant differences occurred for father's occupation. In Ecuador the entrepreneurs in marketing businesses were more likely than those in manufacturing or service businesses to have entrepreneur fathers. And in Malawi the entrepreneurs with service businesses were more likely than those with manufacturing or marketing businesses to have entrepreneur fathers.

TABLE 7

## CORRELATIONS AMONG BUSINESS OUTCOME VARIABLES AND SUCCESS LEVEL

<u>Variable</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1 No of Yrs in Business							
2 Sales Vol Last Yr	13						
3 Percent Increase in Earnings Last 3 Yrs	17	- 20					
4 No of Bus Locations	10	18	28				
5 No of Employees	08	41	17	42			
6 Change in Sales Vol in Last 3 Yrs	15	06	08	14	13		
7 No of Product Changes	00	05	- 11	08	16	20	
8 Success Level	02	- 05	- 01	18	21	22	06

### Additional Statistical Analyses of the Phase I Data

To clarify the results and determine whether alternative statistical methods could replicate and elaborate the original findings, a series of additional statistical analyses were conducted by Dr. Joseph DuCette. These analyses are summarized below.

Underlying all of the analyses was the primary question of the study: What variable or set of variables best differentiates the successful and average entrepreneurs? Several additional questions also guided the analyses:

1. Is there any evidence that experience as an entrepreneur influences the competencies?
2. What are the relationships among the various indicators of business success?
3. Within the limitations of the present data set, is there some alternative measure of business success that can either replace or validate the success rating?
4. Is there more than one pattern of competencies that can predict business success?

### Data Description and Univariate Analyses

Before alternative multivariate techniques were applied to the data set, it was decided to analyze the data in a less sophisticated manner to obtain a more basic understanding of their properties. As a first step in this process, each of the 20 competencies was submitted to a data description program across the entire sample, and then individually by country. These data were presented earlier and are presented again here, since they represent one of the essential components in the analyses that will follow. The means and standard deviations for each competency by group (successful vs. average) are presented in Table 8.

Several aspects of these data should be mentioned. First, all of the distributions, both across countries and within countries, are positively skewed. Of the 60 distributions investigated (20 competencies for each of the three countries), 53 of these exceed the value of +1 on the skewness test (where the value of -1 to +1 is considered an acceptable range). Clearly, positively skewed distributions would be expected in data of this type, since most subjects obtain low frequencies though a few subjects obtain higher scores. (As an indication, the modal score in 55 of the 60 distributions was zero, with the remaining 5 having a mode of one.) Since all of the distributions are skewed in the same direction, the non-normality of the

distributions is less troubling. It is still the case, however, that the distributions are not normal and that some distributions are highly skewed.

A second aspect of the data that should be mentioned is that any analysis using country as a factor will have some problem meeting the homogeneity of variance assumption. The Indian sample showed typically higher means and standard deviations, which are not unusual in data of this type; larger variances usually correspond to higher means. These factors are mentioned before the statistical analyses are presented, since both non-normality of distributions and lack of homogeneity of variance can affect the validity of parametric tests, especially the more sophisticated ones.

Since many of the problems relating to statistical assumptions resulted from the higher means and standard deviations within the Indian sample, and since variation between countries was not of primary interest, it was decided to attempt all the analyses in two ways. The first way was to use the data without any form of transformation -- the same method used in the original analyses. The second method was to transform the data to minimize the problems relating to statistical assumptions without seriously distorting the data. Of all the transformations available, the most straight-forward and preferable method was to standardize all competency scores within country. This transformation eliminates all variation in the data due to country and all problems with lack of homogeneity of variance, although it does not affect the problem with skewed distributions. Techniques are available to normalize distributions, but these techniques alter data sets in ways that can be misleading. Since all distributions were positively skewed, the decision was made to perform no additional transformations other than standardization within country.

As a first step in data analysis, t-tests between successful and average entrepreneurs were computed for each of the 20 competencies. It is recognized that these analyses are inappropriate because of alpha compounding and because separate t-tests do not consider correlations among the dependent variables. In addition to the application of a two-group MANOVA or a two-group discriminant analysis, a method of handling the problem of making multiple t-tests on a set of data is the computation of Hotelling's  $T^2$ . This analysis is similar to the two-group discriminant analysis used in the original analyses, although Hotelling's  $T^2$  makes fewer assumptions about the data and is generally more robust against violations to normality or homogeneity of variance. The results of the separate t-tests for both the untransformed data and the standardized data are reported in Table 9. It is evident from Table 9 that the successful entrepreneurs had significantly higher frequencies on 10 of the 20 competencies in both sets of data. (The competencies that

---

significantly differentiate the two groups vary somewhat between the two analyses, although the pattern is essentially identical in both cases.) It is also evident from Table 9 that the successful entrepreneurs have higher frequencies on all 20 competencies using the untransformed data, and are higher on 19 of the 20 using the standardized data. This fact is reflected in the Hotelling's  $T^2$ , which was significant in both analyses ( $T^2 = 40.75$ ,  $p = .039$  for the untransformed data;  $T^2 = 42.79$ ,  $p = .027$  for the standardized).

To ascertain whether the demographic and business data could differentiate the two groups, similar analyses were computed on these variables. Of these t-tests only two were significant, and then only slightly beyond the .05 level. For both analyses the Hotelling's  $T^2$  was insignificant. Moreover, when the demographic and business data were added to the competency scores, the two groups were no longer significantly different.

TABLE 8

MEANS AND STANDARD DEVIATIONS FOR THE 20  
COMPETENCIES FOR SUCCESSFUL AND AVERAGE ENTREPRENEURS

<u>COMPETENCY</u>	<u>SUCCESSFUL</u>		<u>AVERAGE</u>	
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>
1. Initiative	1.65	2.32	.78	1.07
2. Sees and Acts on Opportunities	1.06	1.53	.44	.75
3. Persistence	1.29	1.96	.81	1.08
4. Information Seeking	2.08	2.92	1.29	1.67
5. Concern for High Quality of Work	1.41	1.88	.63	1.08
6. Commitment to Work Contract	1.97	2.11	1.20	1.48
7. Efficiency Orientation	1.29	2.26	.54	.88
8. Systematic Planning	1.71	2.01	.85	1.45
9. Problem Solving	1.16	1.46	.66	1.17
10. Self-Confidence	1.43	2.02	.80	.99
11. Expertise	1.48	1.23	1.27	1.20
12. Recognizing Own Limitations	1.22	1.63	.85	1.74
13. Persuasion	1.88	2.59	1.59	2.04
14. Use of Influence Strategies	1.07	1.67	.90	1.62
15. Assertiveness	1.57	1.81	1.05	1.34
16. Monitoring	.88	1.22	.37	.74
17. Credibility, Integrity, and Sincerity	1.16	1.44	.78	1.15
18. Concern for Employee Welfare	.54	.90	.42	.70
19. Recognizing Importance of Business Relationships	1.48	1.68	.66	.90
20. Provides Training for Employees	.30	.63	.14	.39

TABLE 9

RESULTS OF t-TEST ANALYSES BETWEEN SUCCESSFUL AND AVERAGE  
ENTREPRENEURS ON THE 20 COMPETENCIES FOR  
UNTRANSFORMED AND STANDARDIZED DATA

<u>Competency</u>	<u>Untransformed</u> <u>Data</u>		<u>Standardized</u> <u>Data</u>	
	<u>t</u>	<u>signif.</u>	<u>t</u>	<u>signif.</u>
1. Initiative	2.79	.006**	2.91	.004**
2. Sees and Acts on Opportunities	2.96	.004**	3.06	.003**
3. Persistence	1.76	.081	1.45	.149
4. Information Seeking	1.93	.055*	1.31	.193
5. Concern High Quality of Work	2.92	.004**	3.01	.003**
6. Commitment to Work Contract	2.40	.018*	2.42	.017*
7. Efficiency Orientation	2.53	.013*	2.15	.034*
8. Systematic Planning	2.81	.006**	3.12	.002**
9. Problem Solving	2.14	.034*	1.74	.084
10. Self Confidence	2.31	.023*	1.70	.092
11. Expertise	.96	.339	.91	.365
12. Recognizing Own Limitations	1.24	.219	1.45	.149
13. Persuasion	.71	.479	-.14	.889
14. Use of Influence Strategies	.60	.550	.18	.855

Note All t values use the mean for the successful group minus the mean for the average group as the numerator, all t values are separate variance estimates.  
\* p < .05  
\*\* p < .01

TABLE 9 --CONTINUED

RESULTS OF T-TEST ANALYSES BETWEEN SUCCESSFUL AND AVERAGE  
ENTREPRENEURS ON THE 20 COMPETENCIES FOR  
UNTRANSFORMED AND STANDARDIZED DATA

<u>Competency</u>	<u>Untransformed Data</u>		<u>Standardized Data</u>	
	<u>t</u>	<u>signif.</u>	<u>t</u>	<u>signif.</u>
15. Assertiveness	1.84	.068	1.95	.053*
16. Monitoring	2.91	.004**	2.50	.014**
17. Credibility, Integrity and Sincerity	1.66	.099	1.81	.073
18. Concern for Employee Welfare	.76	.447	.87	.386
19. Recognizing Importance of Business Relationships	3.49	.001**	3.73	.000**
20. Provides Training for Employees	1.85	.066	1.92	.058

Note: All t values use the mean for the successful group  
minus the mean for the average group as the numerator,  
all t values are separate variance estimates  
\* p < .05  
\*\* p < .01

## Multiple Regressions

A series of multiple regression analyses were conducted on the data. Consistent with the univariate analyses already presented, the purpose of these analyses was to ascertain if the competencies could differentiate the successful from the average entrepreneurs. All data meeting the assumptions for parametric analyses (i.e., interval scales) were considered as potential predictors in these analyses.

The first analysis that was conducted to predict the rating variable from the competency scores. Since the success rating is a dichotomy (1 = the average entrepreneurs and 2 = the successful), this analysis is an analogue to the two-group discriminant analysis conducted previously and to the main effect for group analyzed in the three-factor MANOVA. Multiple regression analyses were conducted using forward, backward, and stepwise inclusion. The tolerance level for inclusion was set at .01. Since all of these methods produced identical results, only the stepwise solution is presented. The results of the two stepwise analyses are presented in Table 10.

It is evident from Table 10 that three competencies enter significantly into the regression equation. These are Competency 19 -- Recognizing the Importance of Business Relationships; Competency 2 -- Sees and Acts on Opportunities; and Competency 16 -- Monitoring. These results are essentially consistent with the t-test results presented in Table 9. In those analyses, Competency 19 was the one competency with the highest value of t, and Competency 2 was the variable with the next highest value. Competency 16 was also highly significant, although not in exactly the order presented in the multiple regressions. In the full regression models produced, the competencies with the next highest Beta weights were Competency 14, Competency 5, and Competency 11, although none of these reached statistical significance. The complete regression output is contained in Table 11.

In order to ascertain if the pattern shown in Table 10 would be obtained by adding country as a variable in the predictor list, dummy codes for country were created and added to the original predictor list. Neither this established pattern of variables nor the multiple R was affected by this inclusion.

As a final set of analyses, background and business data were added to the predictor list, and various combinations and types of multiple regressions were conducted. None of these analyses indicated that any of the additional variables would be added to the regression equation over and above the competencies already mentioned.

TABLE 10

STEPWISE MULTIPLE REGRESSIONS USING RATING AS THE CRITERION  
AND THE COMPETENCY SCORES AS PREDICTORS

Untransformed Data

<u>Step</u>	<u>Variable Entered</u>	<u>F to Enter</u>	<u>Sig.</u>	<u>Beta</u>	<u>r</u>	<u>R</u>
1	Competency 19	11 13	.001	.21	.28	.28**
2	Competency 2	5 39	.021	.20	.24	.34**
3	Competency 16	5 08	.026	.19	.28	.39**

Standardized Data

<u>Step</u>	<u>Variable Entered</u>	<u>F to Enter</u>	<u>Sig.</u>	<u>Beta</u>	<u>r</u>	<u>R</u>
1	Competency 19	12.78	.000	.30	.30	.30**
2	Competency 2	10.09	.001	.28	.27	.37**
3	Competency 16	8.44	.002	.25	.26	.41**

Note: \*\* p < .01

TABLE 11

REGRESSION EQUATIONS USING COMPETENCY SCORES AS PREDICTORS  
AND SUCCESS LEVEL AS THE CRITERION

I			II		
Standardized Competency Scores as Predictors			Untransformed Competency Scores and Dummy Code for Country		
<u>Variables in Equation</u>	<u>BETA</u>	<u>Sig.</u>	<u>Variables in Equation</u>	<u>BETA</u>	<u>Sig.</u>
Comp 19	.25	.0035	Comp 19	.21	.0157
Comp 2	.23	.0072	Comp 2	.20	.0208
Comp 16	.18	.0347	Comp 16	.19	.0259
<u>Variables Not in Equation</u>	<u>BETA</u>	<u>Sig.</u>	<u>Variables Not in Equation</u>	<u>BETA</u>	<u>Sig.</u>
Comp 1	.11	.20	Country	-.05	.59
Comp 3	.02	.76	Comp 1	.06	.52
Comp 4	.01	.86	Comp 3	.01	.95
Comp 5	.11	.25	Comp 4	.03	.76
Comp 6	.06	.53	Comp 5	.12	.19
Comp 7	.05	.57	Comp 6	.02	.85
Comp 8	.12	.20	Comp 7	.07	.49
Comp 9	.02	.75	Comp 8	.05	.46
Comp 10	.02	.82	Comp 9	.02	.61
Comp 11	-.03	.73	Comp 10	-.11	.82
Comp 12	.06	.51	Comp 11	-.10	.26
Comp 13	-.08	.32	Comp 12	.02	.82
Comp 14	-.08	.33	Comp 13	-.13	.42
Comp 15	.12	.17	Comp 14	.09	.15
Comp 17	.04	.62	Comp 15	-.03	.29
Comp 18	-.04	.62	Comp 17	-.06	.74
Comp 20	.10	.25	Comp 18	.08	.50
			Comp 20	.03	.36
			Interaction	.03	.76

## Factor Analyses of the Standardized Competency Scores

A factor analysis of the standardized competency scores was conducted as an attempt to reduce the data set and to ascertain if the factor pattern was different for the standardized data and the untransformed data used in the original analyses. A Principal Factoring with Iteration method was used followed by a varimax rotation. This analysis produced two factors with eigenvalues greater than one. The rotated factor matrix is presented in Table 12. If a cutoff criterion of .4 is used, Factor I consists of the following competencies:

Competency 4	Information Seeking
Competency 5	Concern for High Quality of Work
Competency 7	Efficiency Orientation
Competency 10	Self Confidence

This factor seems to reflect a goal-directed work ethic, coupled with self-confidence.

The competencies that load at the .4 level or beyond on Factor II are

Competency 1	Initiative
Competency 3	Persistence
Competency 9	Problem Solving
Competency 13	Persuasion

This factor seems to reflect an analytic, action-oriented personality.

Factor scores were created for all subjects on the two factors listed above. The successful and average entrepreneurs were then compared on their mean scores on these two factors. These data are presented in Table 13. It is evident from Table 13 that the successful entrepreneurs were superior to the average entrepreneurs on both factors.

TABLE 12

ROTATED FACTOR MATRIX ON THE STANDARDIZED COMPETENCY SCORES

<u>Competency</u>	<u>Factor I</u>	<u>Factor II</u>
1. Initiative	.27	.40*
2. Sees and Acts on Opportunities	.11	.18
3. Persistence	.02	.65*
4. Information Seeking	.76*	.27
5. Concern for High Quality of Work	.67*	-.05
6. Commitment to Work Contract	.32	-.00
7. Efficiency Orientation	.42*	.04
8. Systematic Planning	.28	.14
9. Problem Solving	.29	.59*
10. Self-Confidence	.55*	.39
11. Expertise	.00	.09
12. Recognizing Own Limitations	.11	.38
13. Persuasion	.03	.43*
14. Use of Influence Strategies	.19	.11
15. Assertiveness	.03	.26
16. Monitoring	.22	.17
17. Credibility, Integrity, and Sincerity	.06	.13
18. Concern for Employee Welfare	.11	.20
19. Recognizing Importance of Business Relationships	.10	-.04
20. Provides Training for Employees	.01	.22

Note: Competencies with factor loadings greater than .4 are indicated by an asterisk.

TABLE 13  
 MEANS AND STANDARD DEVIATIONS OF FACTOR SCORES  
 FOR SUCCESSFUL AND AVERAGE ENTREPRENEURS

	<u>Mean</u>	<u>SD</u>	<u>t</u>	<u>Sig of t</u>
<u>Factor I</u>				
Successful	.376	2.19	2.63	.010
Average	-.436	1.23		
<u>Factor II</u>				
Successful	.421	1.36	3.52	.001
Average	-.317	1.01		

Note: Separate variance t-tests were used due to lack of homogeneity of variance. Comparisons were between successful and average groups on each factor.

### Factor Analysis of the Business Data

A factor analysis of the variables relating to business success was conducted to ascertain if these variables could be reduced to a smaller set. The variables entered into the factor analysis were the following:

C	Sales Volume in the Last Year
D1	Change in Sales Volume
D2	Percent Increase or Decrease in Sales
E	Earnings Last Year
F1	Change in Earnings
F2	Percentage Increase or Decrease in Earnings
G	Number of Product Changes
H	Number of Business Locations
I	Number of Employees

(A list of the variables and data codes used in all the additional analyses is provided in Table 14.)

A Principal Factoring with Iteration method of factor analysis, followed by a varimax rotation, was employed. Two factors with eigenvalues greater than one were obtained. The rotated factor matrix is presented in Table 15. Factor I can be interpreted as reflecting the current size of the business, and Factor II seems to reflect recent growth. Factor scores for both factors were created. Correlations of the factor scores with the competency scores are displayed in Table 16. It is evident from Table 16 that none of the correlations with Factor I are significant. For Factor II, however, 10 of the 20 correlations are significant at the .05 level. All of these correlations are positive, indicating that higher scores on the competencies correspond to higher levels of recent growth in business. It should be recognized, however, that even the significant correlations typically account for less than 10 percent of the variance.

### Experience in Business and Personal Entrepreneurial Characteristics

A series of analyses was conducted to investigate the effect that business experience has on entrepreneurial competencies as well as on the other business variables. Pearson correlations were computed between the number of years the entrepreneur had been in business and the remaining variables. None of the correlations with the background or business data were significant. Of the 20 correlations with the competency scores, 19 were negative (indicating that entrepreneurs who had been in business longer had lower frequencies), although only three of these were significant at the .05 level. In general these correlations accounted for less than 5 percent of the variance. However,

since a consistent pattern did emerge, the original t-test analyses between the successful and average entrepreneurs were reanalyzed as analyses of covariance, using length of time in business as the covariate. None of the original results were affected by this modification.

d

---

---

TABLE 14  
 VARIABLES AND DATA CODES USED IN ADDITIONAL ANALYSES  
 OF PHASE I DATA

<u>Variable</u>	<u>Data Code</u>	<u>Values</u>
Rating		1 = Average 2 = Successful
Country		1 = India 2 = Ecuador 3 = Malawi
Type of Business	A1	1 = Manuf. 2 = Marketing 3 = Service
Number of years in Business	B	
Sales Volume in Last Year	C	
Change in Sales Volume	D1	0 = Decrease 1 = No Change 2 = Increase
Percentage Change in Sales	D2	0 = Decrease 1 = No Change 2 = Increase
Number of Product Changes	G	
Number of Business Locations	H	
Number of Employees	J	
Sources of Finance	K1 = Own Funds K2 = Banks K3 = Relatives K4 = Friends K5 = Investors K6 = Govt Project K7 = Partners K8 = Other	0 = No, 1 = Yes 0 = No, 1 = Yes

TABLE 14 -- CONTINUED

VARIABLES AND DATA CODES USED IN ADDITIONAL ANALYSES  
OF PHASE I DATA

<u>Variable</u>	<u>Data Code</u>	<u>Values</u>
Level of Education	L1 = Some School L2 = Elementary L3 = Some High School L4 = Completed H School L5 = Some College L6 = Completed Undergrad College L7 = Some Grad School L8 = Completed Grad. School L9 = Completed Std. Certif	
Number of Previous Jobs Held	M	
Number of Businesses Started	N	
Father's Occupation	01	1 = Blue Collar 2 = White Collar, not Professional 3 = White Collar, Professional 4 = Entrepreneur 5 = Other
Mother's Occupation	02	
Other Family Members Who Own a Business	P	
Number of Hours Worked per Week	Q1	
Number of Hours Worked per Day	Q2	
Are Hours Different from Past	Q3	1 = Less 2 = Same 3 = More

TABLE 15  
 ROTATED FACTOR MATRIX ON THE BUSINESS VARIABLES

<u>Variable</u>	<u>Factor I</u>	<u>Factor II</u>
Sales Volume Last Year	.79**	.01
Change in Sales Volume	.04	.68**
Percent Change in Sales	-.01	.42**
Earnings Last Year	.91**	-.16
Change in Earnings	.02	.40**
Percent Change in Earnings	-.02	.01
Number of Product Changes	.01	.06
Number of Locations	.29	-.08
Number of Employees	.45**	.08

Note: Variables with factor loadings greater than .4 are indicated by an asterisk.

TABLE 16

CORRELATIONS BETWEEN COMPETENCY SCORES AND FACTOR  
SCORES DERIVED FROM THE BUSINESS VARIABLES

<u>Competency</u>	<u>Factor I</u>	<u>Factor II</u>
1. Initiative	-.05	.23*
2. Sees and Acts on Opportunities	-.02	.25*
3. Persistence	.11	.21*
4. Information Seeking	-.08	.40**
5. Concern for High Quality of Work	.04	.26*
6. Commitment to Work Contract	-.12	.22
7. Efficiency Orientation	-.03	.14
8. Systematic Planning	.06	.28*
9. Problem Solving	.01	.31**
10. Self-Confidence	.01	.29*
11. Expertise	.04	.13
12. Recognizing Own Limitations	.02	.23*
13. Persuasion	-.01	.24*
14. Use of Influence Strategies	-.08	.16
15. Assertiveness	.06	.00
16. Monitoring	.05	.02
17. Credibility, Integrity, and Sincerity	-.03	.19
18. Concern for Employee Welfare	-.00	.14
19. Recognizing Importance of Business Relationships	-.08	.05
20. Provides Training for Employees	.07	.08

Note: \*  $p < .05$   
 \*\*  $p < .01$

## Supplemental Analyses

Several additional analyses were conducted that will not be described in detail, since they contribute very little to the analyses already presented. Each is described briefly below.

Discriminant analysis on the standardized competency scores As an attempt to see if standardizing the competency data within country affected the results, a stepwise and a direct discriminant analysis were conducted using the successful and the average entrepreneurs as the a priori groups. The results of both analyses were identical to the results of the original analyses.

MANOVA on the standardized competency scores A two-factor MANOVA (multivariate analysis of variance) was conducted on the 20 competency scores using the Rating variable (successful vs. average entrepreneurs) and the Type of Business (Marketing, Manufacturing, and Service) as factors. The main effect for success level was marginally significant ( $p = .086$ ), and the main effect for Type of Business was significant at the .05 level ( $p = .016$ ). The interaction was not significant. These are essentially the same results obtained in the original analyses. The competencies found to significantly discriminate between the two groups of entrepreneurs were the same as those found in the original analyses.

Other factor analyses on the competency scores In addition to the Principal Factoring with Iteration method of factor analysis presented in this report (PA-2 in the terms used by the SPSS statistical package), several other methods were attempted. Oblique rotations of the factors were also extracted (rather than the varimax rotation reported here). These methods did not produce identical results. It was decided to report the results of the PA-2 analysis because this analysis seems to be preferred in current discussions and because the factor structure obtained seemed simple and interpretable. This factor structure (Table 12) with the factor structure reported in the original analyses (Table 5) shows that the results are different (the only analysis that produced results different from the original analyses). It should be remembered that the factor analysis discussed in these additional analyses used data standardized within countries; the factor analysis used in the original analyses used untransformed data. It is possible that the difference between the two, therefore, is in the factoring method used, in the data analyzed, or both. Since the factor scores did not present any picture different from the other analyses, and since individual competencies rather than composites are the focus of interest in future studies, the issue of obtaining the "correct" factor structure is not critical.

## Conclusions

These additional analyses, together with the original analyses, confirm the central conclusion that the personal entrepreneurial competencies carried the major power in differentiating the successful from the average entrepreneurs. Specifically,

1. Successful entrepreneurs are significantly different from average entrepreneurs on 10 of the 20 competencies, and significantly different overall when the 20 competencies are treated as a unit (as demonstrated by the significant Hotelling's  $T^2$ ). The background and business data do not discriminate between the two groups.
2. In differentiating between the successful and the average entrepreneurs through multiple regression, only a subset of the competencies enter significantly into the regression equation. None of the background or business data contribute significantly to this equation.
3. Factor scores derived from the competencies significantly differentiate the successful from the average entrepreneurs.
4. The correlations among the background data and the measures of business success are generally low and insignificant.

In an attempt to elaborate the finding that it is higher competency scores that characterize successful entrepreneurs, a summary of four different analyses on the competencies is presented in Table 17. In this table the results of the MANOVA and the discriminant analysis from the original analyses and the t-test and multiple regression analyses from the additional analyses by Dr. DuCette are summarized.

Several patterns are evident in Table 17. First, though the order of the variables differs somewhat among the analyses, a fairly consistent picture emerges. Competency 2 (Sees and Acts on Opportunities), Competency 5 (Concern for High Quality of Work), Competency 16 (Monitoring), and Competency 19 (Recognizing the Importance of Business Relationships) appear in at least three of the four analyses and would have appeared in all four if a more liberal alpha level had been chosen. It is interesting that these competencies occur in three different clusters from the Core Competency Model (Competencies 2 and 5 in the Achievement Cluster, Competency 16 in the Directing-and-Controlling Cluster, and Competency 19 in the Orientation-to-Others Cluster). Moreover, these competencies characterize successful

ter). Moreover, these competencies characterize successful entrepreneurs in the same way in three different countries. It would seem that a finite set of characteristics or traits underlie successful entrepreneurship in varied settings, and that these characteristics are not strongly affected by the entrepreneur's background, expertise, or business experience.

Another observation about Table 17 is that some of the competencies do not differentiate between the two groups in any of the analyses presented (Competencies 3, 4, 10, 11, 12, and 17). Of these, however, Competencies 3, 4, and 10 were found to load highly on one of the two factors extracted from the competencies, and each of these factors significantly differentiated between the two groups. Therefore, most of the competencies are used somewhere in the data analysis.

TABLE 17

SUMMARY OF DIFFERENT ANALYSES ON THE COMPETENCY SCORES  
CONTRASTING SUCCESSFUL AND AVERAGE ENTREPRENEURS

<u>Competency</u>	<u>Discrim.</u>	<u>MANOVA</u>	<u>t-tests</u>	<u>Mult</u>	<u>R</u>
1. Initiative			5		
2. Sees, Acts on Opport.	3	X	2	2	
3. Persistence					
4. Information Seeking					
5. Concern H. Qual. Work	2	X	4		
6. Commit. Work Contract		X	7		
7. Efficiency Orientation		X	8		
8. Systematic Planning		X	2		
9. Problem Solving		X			
10. Self Confidence					
11. Expertise					
12. Recog. Own Limitations					
13. Persuasion	9				
14. Use of Influ. Strategies	5				
15. Assertiveness	4		9		

Note: For the discriminant analysis, t-tests, and Multiple R, the order of entry or the level of significance is indicated by a number (For example, Competency 19 is the first variable entered into the discriminant analysis and the stepwise multiple regression and is the most significant variable shown by the t-tests). For the MANOVA, variables that differentiate the successful from the average entrepreneurs are indicated by X.

TABLE 17 --CONTINUED

SUMMARY OF DIFFERENT ANALYSES ON THE COMPETENCY SCORES  
CONTRASTING SUCCESSFUL AND AVERAGE ENTREPRENEURS

<u>Competency</u>	<u>Discrim</u>	<u>MANOVA</u>	<u>t-tests</u>	<u>Mult R</u>
16. Monitoring	7		6	3
17. Credibil, Integr., Sincer				
18. Concern Employee Welfare	6			
19. Recog. Imp Bus Rels	1	X	1	1
20. Provides Training	8			

Note: For the discriminant analysis, t-tests, and Multiple R, the order of entry or the level of significance is indicated by a number (For example, Competency 19 is the first variable entered into the discriminant analysis and the stepwise multiple regression and is the most significant variable shown by the t-tests For the MANOVA, variables that differentiate the successful from the average entrepreneurs are indicated by X.

## DEVELOPING SELECTION AND ASSESSMENT INSTRUMENTS

### BASED ON THE PERSONAL ENTREPRENEURIAL CHARACTERISTICS

#### Identification of the PECs to be Assessed by the Instruments

The first step in developing the selection instruments was to identify the core competencies or PECs to be assessed by the selection instruments. In selecting those PECs, we wanted to draw primarily from the competencies found in the entrepreneurs studied in the initial research in Task I. In selecting from the Core Competency Model, we used the following criteria:

1. Evidence that the competency differentiates successful from average entrepreneurs
2. Evidence that the competency occurs with sufficient frequency to justify assessing its presence in existing or potential entrepreneurs
3. Opportunity for demonstration of the competency before starting the business or attaining a managerial position
4. Content validity of the competency and its behavioral indicators as skills needed in starting or running a business

The last criterion is important because our research uncovered some competencies that did not differentiate successful from average entrepreneurs but were demonstrated frequently and did help the entrepreneurs to accomplish their objectives. Some of these competencies (including Initiative, Persistence, Problem Solving, Self-Confidence, Persuasion, Use of Influence Strategies, and Assertiveness) have repeatedly been found by researchers at McBer to distinguish outstanding performers in a wide variety of jobs. Although these competencies did not statistically differentiate the more successful entrepreneurs in the present study, it is likely that these competencies do differentiate entrepreneurs from nonentrepreneurs. Indeed, these competencies are traits that other researchers have often identified as especially characteristic of entrepreneurs.

The competencies used as the basis for the development of selection instruments were as follows:

Initiative  
Sees and Acts on Opportunities  
Persistence  
Information Seeking  
Concern for High Quality of Work  
Commitment to Work Contract  
Efficiency Orientation  
Systematic Planning  
Problem Solving  
Self-Confidence  
Persuasion  
Use of Influence Strategies  
Assertiveness

We decided to include two additional PECs that have shown promise in predicting entrepreneurial success elsewhere. The first of these is Achievement Motivation, the desire to do things to a high standard of excellence. The concept of Achievement Motivation was developed by David McClelland and forms a central theoretical construct in the literature on entrepreneurship. Indeed, achievement-motivation training is a key component of many widely used entrepreneurship training programs today.

In the context of the present research, Achievement Motivation may be regarded as an underlying personality trait that is expressed behaviorally through competencies in the Achievement Cluster, such as Initiative, Sees and Acts on Opportunities, Persistence, Information Seeking, Concern for High Quality of Work, Commitment to Work Contract, and Efficiency Orientation.

The second additional PEC is Pre-startup Exposure to Other Entrepreneurs. Gene Ward, in his doctoral dissertation, showed that entrepreneurs were more likely than nonentrepreneurs to have had personal associations and friendships with other entrepreneurs. The research for this project did not specifically address the question of differential association with other entrepreneurs, although there was no evidence that the successful entrepreneurs whom we interviewed had more family members who were operating their own businesses. It is possible, however, that personal acquaintance with entrepreneurs helped influence many of the persons we studied to start out on their own.

To summarize, the PECs identified for use in the development of selection instruments are listed below.

Initiative  
Sees and Acts on Opportunities  
Persistence  
Information Seeking  
Concern for High Quality of Work  
Commitment to Work Contract  
Efficiency Orientation  
Systematic Planning  
Problem Solving  
Self-Confidence  
Persuasion  
Use of Influence Strategies  
Assertiveness  
Achievement Motivation  
Pre-Startup Exposure to Other Entrepreneurs

We anticipated that not all of these PECs would prove effective when used in entrepreneurial selection instruments. But we reasoned that we could easily delete items based on any PECs that proved ineffective.

#### Considerations in the Development of Selection Instruments

The next step was to develop selection instruments to assess the PECs we had identified. The primary application of such instruments would be to aid in making decisions about the allocation of resources: who should receive money or training to start or grow a business. For this application an instrument need only provide a summary score reflecting overall entrepreneurial potential. But in entrepreneurship training programs it is also important to give people feedback about their strengths and weaknesses on particular competencies and to identify particular competencies as areas for development. Thus for training applications, it was also important that the instruments provide separate scores on each of the key competencies and other PECs assessed.

Another major consideration was that the tests provide valid assessments of entrepreneurial potential. When people know that the results of a test will be used to decide who will receive a loan or grant, there is a strong tendency to fake responses and to present a socially desirable picture of oneself. Faking and social desirability are two threats to the validity of competency-based selection instruments.

A final consideration in developing selection tests was ease of administration and scoring. To be of practical use in diverse locations around the world, the tests would have to be easy to administer and score.

Because these various considerations work against each other, no single test format is ideal. Respondent measures, such as

paper-and-pencil tests in which people choose their answers from several alternatives, are subject to faking and social desirability effects. Operant measures, which provide a consistent stimulus and require persons to generate a unique response, are less susceptible to these effects but are more difficult to administer and score. In addition we were uncertain about the problems we might encounter using a single test format in diverse cross-cultural settings. Some test formats might not work in certain countries or cultures.

For these reasons we decided to develop a variety of selection instruments with different formats, in the hope that at least one instrument would prove to be both valid and practically useful.

Each of the instruments is described below. The instruments themselves, together with detailed instructions for administration and scoring, appear in Appendix B, "Manual for Selection and Impact Measures," McBer and Company, August, 1985, which was prepared for this project.

### Descriptions of the Instruments

#### Information Interview

The first instrument, the Information Interview, was meant to provide background information about the entrepreneur and the business and to set the stage for the administration of other selection instruments. Separate forms were developed for existing and potential entrepreneurs. Questions covered demographic background information on the entrepreneur and on the nature and success of the business. Both forms included questions about the entrepreneur's educational and technical training, previous business and entrepreneurial experience, age, marital status, occupations of parents, knowledge of entrepreneurial activity by other family members, pre-startup acquaintances with other entrepreneurs, and reasons for starting the business. Of the PECs mentioned above, only Pre-startup Association with Other Entrepreneurs was assessed through this interview. The form for existing entrepreneurs also included a section on the size and volume of the business. This section included questions on sales, profits, income, and number of employees. There was also a question requiring the entrepreneur to rate how well the business was doing compared with the previous year and with three years earlier. This section provided the basis for a measure of business success, to be used in the validation of the selection instruments.

The form for the Information Interview used in Malawi appears in Appendix B. The revised form used in India appears in Appendix

C The Information Interview takes about 30 minutes to administer.

### Focused Interview

A second interview, the Focused Interview, was a simplified version of the behavioral event interview that was used in the research phase of the project. This interview required persons to recount their involvement in several previously encountered situations. The situations were

1. a time when you accomplished something on your own
2. a time when you had to get somebody to do something
3. a time when you had difficulty getting something done
4. a time when you were pleased with something you accomplished
5. another time when you were pleased with something you accomplished

For each situation the interviewer's task was to obtain a detailed account of the sequence of the interviewee's actions and thoughts from initial involvement through the end of the situation. Specific follow-up questions for each situation were provided, to guide the interviewee's reconstruction of his or her involvement.

Before conducting any interviews, the interviewer had carefully studied the definitions and behavioral indicators for the competencies to be scored. During and immediately following the process of guiding the interviewee through the reconstruction of each situation, the interviewer noted any behavior or thoughts in the reconstruction that matched the competency definitions. Then, using the interview evaluation form that was provided, the interviewer put a check mark by each of the demonstrated competencies. A person's competency score was the number of situations in which he or she demonstrated the competency. Because there were five situations, individual competency scores had a possible range of 0 to 5.

The version of the Focused Interview that was used in Malawi appears in Appendix B. This version was scored for the 13 original selection competencies.

Several revisions were made before the Focused Interview was used in India. First, two competencies were added, bringing the total number of competencies to be scored to 15. The two added competencies (Monitoring, Concern for Others' Welfare) had distinguished successful from average existing entrepreneurs in the original research study. On an experimental basis during the administration of the Focused Interview in India, the interviewers noted the number of times each competency was demonstrated in each

situation, in addition to the presence/absence of each competency in each situation.

Four questions were added at the end of the interview, to help us gather subjective evidence about how and when the competencies were developed:

What are three personal characteristics, abilities, or skills that you feel are most important in helping a person to be successful at starting and running a small business?

Think about the three characteristics you have just mentioned. How and when did you first develop each of these?

In the situations you described earlier, you demonstrated \_\_\_\_\_ [Interviewer supplies the name of one demonstrated competency]. You demonstrated it by \_\_\_\_\_ [Interviewer cites an example from the Focused Interview] How and when did you first develop that characteristic?

In the situations you described earlier, you also demonstrated \_\_\_\_\_ [Interviewer supplies the name of one demonstrated competency]. You demonstrated it by \_\_\_\_\_ [Interviewer cites an example from the Focused Interview] How and when did you first develop that characteristic?

The manual developed for administration of the Focused Interview in India appears in Appendix D. The Focused Interview takes about one hour to administer.

This type of selection instrument is one that McBer has developed for a variety of selection applications, including selection of entry-level engineers and programmers, mid- and senior-level managers with high potential, and entering college and graduate students. Because scores depend on what the person has actually done in recent job-related situations, this type of selection instrument has high potential validity. The specific evidence it provides about the demonstration of each targeted competency constitutes useful diagnostic information. The focused interview also minimizes faking and social desirability effects.

The disadvantages of this instrument concern are in ease of administration and scoring. The interview must be individually administered and scored, a process that takes a full hour. Administration and scoring require some training. Inaccurate scoring is a potential threat to the validity of the test.

## SYMLOG Scoring of Focused Interview

On an experimental basis, the Focused Interview was also scored using a scheme derived from the SYMLOG system developed by Robert F. Bales of Harvard University, for the assessment of interpersonal behavior. The interviewer rates how often the interviewee expresses any of 26 concerns related to interpersonal relations. The concerns are selected to tap three underlying personality dimensions: Power (dominant vs. submissive), Affiliation (friendly vs. aloof), and Achievement (task-focused vs. emotional). Each of the concerns taps one, two, or three of the underlying dimensions. The SYMLOG Rating Form yields three overall scores corresponding to the three dimensions. The score of greatest interest in this project was Achievement Motivation.

SYMLOG is an acronym for Systematic Multiple Level Observation of Groups. It is a methodology for collecting and analyzing data from individuals and groups and is the product of a comprehensive theory of individual and group dynamics. SYMLOG was developed by Professor Robert F. Bales, a social psychologist, and his colleagues through over 40 years of research at Harvard University.

SYMLOG locates individuals' behaviors in a three-dimensional space derived from Bales's research on small-group interaction. The three dimensions are (1) the Positive/Negative (P/N) dimension, (2) the Forward/Backward (F/B) dimension, and (3) the Up/Down (U/D) dimension. It is helpful to think of each dimension as a scale defined by extreme behavior at either end.

The Positive/Negative (P/N) dimension is marked at the extreme N side of the scale by extremely negativistic, unfriendly behavior revealing an attitude of self-protection, self-interest first, and self-sufficiency. The other extreme of this dimension, the P side, is characterized by extremely friendly, egalitarian behavior, which denotes that the individual values equality and democratic participation in decision making. Behavior that is neither especially friendly nor unfriendly, neither exceedingly cooperative nor individualistic, would fall somewhere between the extremes.

The Forward/Backward (F/B) dimension is defined at the F end by behaviors that are analytical, task-oriented, and problem-solving, and by indications that the person values conservative, established, "correct" ways of doing things. Behaviors that are extremely emotionally expressive and indicate that the actor seeks to change to new procedures, has values that are different from the establishment's, and is flexible and creative are rated at the B end of the scale. Again, the scale is continuous, and behaviors can fall anywhere between these extremes.

On the Up/Down (U/D) dimension, persons scoring at the U end are active, dominant, and talk a great deal; their behavior indicates that they value personal prominence and power. Those who are passive, introverted, and say very little, or whose behavior indicates the giving up of personal needs and desires are rated at the D end of the scale.

Two of the SYMLOG dimensions were of especial interest in the present project, because they are theoretically related to some of the personal entrepreneurial characteristics (PECs) found in the initial research. The Forward/Backward (F/B) dimension reflects a behavioral manifestation of Achievement Motivation, a personal entrepreneurial characteristic measured by the Picture Story Exercise. The F end of the F/B dimension is consistent with nine of the entrepreneurial competencies assessed by the other instruments (Initiative, Sees and Acts on Opportunities, Persistence, Information Seeking, Concern for High Quality of Work, Commitment to Work Contract, Efficiency Orientation, Systematic Planning, and Problem Solving). The U end of the Up/Down (U/D) dimension is related to Power Motivation as measured by the Picture Story Exercise and to four entrepreneurial competencies: Self-Confidence, Assertiveness, Persuasion, and Use of Influence Strategies.

It should be noted not only that all three scales are continuous and that values and behaviors can fall anywhere on each of the three scales, but also that elements of the behaviors given as examples for each of the three dimensions can be combined. Through such combinations an entire three-dimensional space is utilized, not just the points along the axes.

It is possible, for example, to combine friendly (P) behavior with active, dominant (U) behavior to get positive, outgoing, extroverted, sociable behavior (UP); or with analytic, task-oriented, problem-solving (F) behavior to get friendly, cooperative work activity (PF). All three dimensions could be combined to reproduce the dominant, friendly, task-oriented behavior of a purposeful, democratic-egalitarian task leader (UPF) and so on for all 26 possible combinations of the three dimensions.

SYMLOG ratings are most often used with groups of people who have worked or otherwise interacted with each other extensively. Each person rates every other person with reference to 26 behavior statements corresponding to the 26 possible combinations of the three SYMLOG dimensions.

In the present study, we decided to try out a new approach to SYMLOG ratings, by having interviewers rate persons on the basis of behaviors and values expressed in the Focused Interview. When properly conducted, the Focused Interview provides a rich source of data about how individuals have thought and acted in key work-related situations. These accounts provide enough infor-

mation for interviewers to make ratings, although the ratings are based on people's detailed descriptions of their past behavior, rather than on actual observation of behavior

A special SYMLOG rating form was developed for this project. Like other SYMLOG rating forms that have been used elsewhere, it comprised 26 statements corresponding to the 26 possible combinations of the three SYMLOG dimensions. The statements were designed to reflect concerns that might emerge in the incidents or behavior recounted during the Focused Interviews. For example, the first three statements were as follows:

1. Power, status, making a lot of money
2. Being popular, liked, and admired
3. Active teamwork toward common goals

After conducting the Focused Interview, the interviewer rated how often (rarely, sometimes, or often) the interviewee expressed each of the 26 concerns. The SYMLOG rating form and scoring sheet can be found in Appendix B.

Because of the conceptual similarity of the SYMLOG scores to the motive scores from the Picture Story Exercise, we have used the motive names on both instruments. Thus the U/D dimension will be referred to as Power, the F/B dimension as Achievement, and the N/P dimension as Affiliation.

The SYMLOG Rating Form takes only about ten minutes to complete and score. The Achievement score can be regarded as a behavioral manifestation of Achievement Motivation, one of the PECs targeted for assessment with the selection instruments.

### Self Rating Questionnaire

Besides the interview protocols and scoring systems, three paper-and-pencil tests were developed. The first of these, the Self Rating Questionnaire, was developed to provide a self-assessment on the 13 competencies identified as selection criteria. The instrument comprises 70 behavioral statements. The person completing the instrument uses a five-point rating scale to rate how well each statement describes him or her. There are 5 items based on each of the 13 competencies and an additional 5 items composing a social desirability scale. The scoring for each competency scale includes a correction factor based on the social desirability score. One item on each of the competency scales is negative; that is, a high score on this item would indicate a low level of the competency. Because of its vulnerability to faking and responses based on social desirability, this instrument was intended for self-assessment in entrepreneurship training programs rather than for screening. The Self Rating Questionnaire and the scoring sheets for it appear in Appendix B.

The primary advantage of the Self Rating Questionnaire is that it is easy to administer and score. It can be administered in 30 minutes to a group

#### The Business Situations Exercise

The second paper-and-pencil test, the Business Situations Exercise, poses 20 situations that might be faced by someone starting or operating a small business. Each situation is described in a brief paragraph and is followed by two or more items. Each item consists of a pair of alternative thoughts or actions. Persons taking this test must choose which of the two alternatives better represents what they would do or think in the situation described. In each pair, one alternative reflects demonstration of one of the 13 competencies, and the other alternative represents a plausible action unrelated to any of the competencies. The instrument includes 52 items, 4 to assess each of the 13 competencies. A sample situation followed by two items appears below

- B. You have 14 employees working for you. You discover problems with the products they are making
4. Which would you do?
- a. Talk with your employees and emphasize the need for significant improvement in the quality of the product
- or
- b. Realize that problems with products frequently occur and feel certain they will straighten themselves out
5. In the same situation, which would you do?
- a. Tell your employees the problems their work is creating and tell them specifically what they must do to improve the quality of the products.
- or
- b. Tell your employees you know they have been working hard and that you would appreciate it if they could reduce the problems with the products in question

In item 4 selecting alternative "a" gives a point on the Concern for High Quality of Work Scale, in item 5 circling alternative "a" gives a point on the Assertiveness scale. The Business Situations Exercise and its scoring sheets appear in Appendix B.

Like the Focused Interview and the Self Rating Questionnaire, the Business Situations Exercise provides a profile of scores on the 13 targeted competencies. This test is thus potentially helpful in providing diagnostic information to entrepreneurs or potential entrepreneurs about their strengths on the targeted competencies.

In its written form, the Business Situations Exercise is easy to administer and score. It can be administered in group settings in 35 minutes. And unlike the other instruments, it can measure an aptitude for competencies that the person has had limited opportunity to demonstrate in real-life situations.

But the Business Situations Exercise is not without disadvantages. It is potentially subject to faking, since the more desirable alternatives can usually be recognized. Because of the amount of descriptive material, the test imposes reading or listening burdens on the test taker. When the test is administered orally, test takers must remember the situation and both alternatives in order to make a meaningful choice for each item. Finally, decision-making in the hypothetical situations is artificial, since the information about each situation is limited to two or three sentences.

#### The Picture Story Exercise

The last instrument, the Picture Story Exercise, is a projective test that has been used extensively at McBer to measure Achievement Motivation, Power Motivation, and Affiliation Motivation. The instrument is a projective test that is a variant of the Thematic Apperception Test developed by Henry A. Murray of Harvard University. The Picture Story Exercise consists of six pictures depicting one or more persons in a variety of situations. Persons taking this test are asked to look briefly at each picture and then to write (or tell orally) a brief story based on the picture. It is assumed that the stories people write will reflect some of their own underlying motivations. For example, people may attribute some of their own motives and concerns to the characters in the stories.

The main reason for using the Picture Story Exercise in this study was to provide a measure of Achievement Motivation, a personal entrepreneurial characteristic that previous research has often shown to be related to entrepreneurial activity and success. Achievement Motivation has also been a key focus of many entrepreneurial training programs. Achievement Motivation is defined as a basic need to succeed to a high standard of excellence, by doing things that have not been done before, or by outperforming others or oneself. People with a high need for achievement prefer situations in which they take personal responsibility for problem

solving. They tend to set challenging but realistic goals and to take calculated risks. They want concrete feedback on their performance. As noted earlier, eight of the competencies identified in the initial research for this project are conceptually related to Achievement Motivation.

An elaborate scoring system, initially developed by McClelland and Atkinson, and refined for use at McBer, is available for the Picture Story Exercise. But it was clear that this scoring system, which requires extensive training to master, would not be practical for potential users of the test.

Therefore, we developed for this project a simplified scoring system analogous to the one developed for the Focused Interview. Nine themes (behaviors or thoughts) were identified, three associated with each of the three motives Achievement, Affiliation, and Power. These nine themes are the basis of a checklist to be completed for each story. The person administering the test (or the scorer) checks those themes that are present in each story. The scores for each motive are summed across stories to yield overall scores for Achievement, Affiliation, and Power. The scoring manual used in this project appears in Appendix B.

A two-hour practice session was conducted to test whether naive persons could be trained to use this coding system reliably. Four McBer administrative and secretarial staff were trained as coders. At the end of this session, the four coders achieved satisfactory intercoder reliability and agreement with expert coders.

Achievement Motivation was one of the PECs targeted for assessment, and it is conceptually related to a number of the other competencies selected as primary PECs for assessment. Power Motivation, which is also assessed by the Picture Story Exercise, is also conceptually related to several of the competencies selected for assessment

The Picture Story Exercise is relatively easy to administer and score. With literate subjects, it can be administered in written form, although it must be individually scored. Administration takes 30 to 45 minutes; scoring takes about 10 minutes. This instrument is less testlike than the other measures and therefore potentially more fun to complete. Since it is not obvious what answers are "correct," effects due to faking and social desirability are lessened.

But the Picture Story Exercise does have some disadvantages. First, it measures only one of the targeted PECs. Second, some instruction or training is required to achieve reliable scoring. Third, there is considerable evidence that scores on the Picture Story Exercise are susceptible to situational influences. In a situation that the test taker sees as competitive, Achievement

Motivation scores are likely to be elevated over what would be obtained in a more neutral situation. Another problem is that some people may not take the test seriously and therefore not write enough to provide sufficient data for meaningful scoring.

Besides providing an additional selection instrument, the Picture Story Exercise helped to fulfill one of the research goals of the project. to link the extensive research on achievement motivation in entrepreneurs to the competency findings generated in the research phase of this project.

#### General Comments on the Battery of Selection Instruments

The battery of selection instruments included three instruments designed to assess each of the targeted competencies: the Focused Interview, the Self-Rating Questionnaire, and the Business Situations Exercise. There were also two measures of Achievement Motivation: the Picture Story Exercise and the SYMLOG coding of the Focused Interview. The Information Interview included several questions about Pre-startup Exposure to Other Entrepreneurs. Thus the selection instruments provided ways to assess each of the PECs we had identified for assessment.

We realized that all of these instruments might not work well enough to be of practical use in selecting entrepreneurs. But by testing a variety of instruments, we hoped to identify those with the greatest potential. Similarly, it was not clear that all of the PECs would show concurrent and predictive validity. But it would be a simple matter to delete from each instrument the items used to assess any PECs that we might decide to drop from the selection process

To supplement the assessment of the PECs, the Information Interview included a number of background questions about the entrepreneur and the business. The second section of the Information Interview included a set of questions to be used to assess the success of the business.

### Initial Pilot Testing of the Instruments

The battery of selection instruments was presented to the in-country research contractors from the three countries at the Annual Network Meeting held at Oxford, England, in July of 1985. A full day of training in the administration and scoring of these tests was provided. At least two representatives of the in-country research contractor in each of the three participating countries were present. Comments at the training session led to minor revisions of items on some of the instruments.

The first assignment for the in-country research contractors was to administer the entire test battery to 12 existing entrepreneurs in a pilot project, to identify any further revisions that might be needed in the administration or scoring of the instruments. It was assumed that the representatives of the in-country research contractors, who had attended the Oxford training session, would train any additional members of their staff who might be administering the instruments.

### Pilot Administration of the Selection Instruments in Malawi

Reports about the pilot administration were received first from Malawi. There were no serious problems in administering any of the instruments, although the process was time consuming. Because the instruments had to be administered orally in Chichewa to most subjects, the whole process took an average of five hours. There was some difficulty in administering the Picture Story Exercise because many persons limited their responses to descriptions of what they saw in the pictures. But no further revisions were indicated for any of the tests. We therefore decided to proceed with the administration of the instruments to the full validation sample in Malawi. Inspection of the scores on the pilot instruments showed that the Focused Interview had the greatest promise for differentiating successful from average entrepreneurs.

### Pilot Administration of the Selection Instruments in India

In India the pilot sample consisted of 12 entrepreneurs in manufacturing businesses: 6 persons nominated as "top performers" and 6 nominated as "average performers." Each entrepreneur was nominated by a single agency or organization. The Focused Interview was administered individually, and the entrepreneur was then handed the other instruments to complete on his or her own. The in-country research organization, EDII, experienced difficulty in obtaining the completed instruments from the entrepreneurs. As a result the pilot results were delayed for several weeks.

The in-country research team encountered problems in administering some of the instruments. In the Focused Interview, the wording of some questions created some misunderstandings for the Indian entrepreneurs. For example, in India words like "accomplishment" and "on your own" are commonly used to refer to childhood rather than adult activities. To eliminate these problems, we allowed the Indian research team to paraphrase the questions in language that is consistent English spoken in India.

The in-country research team also discovered some problems with the strategy that was suggested for probing the incidents. This strategy called for asking an initial probe to elicit an incident, listening to the account of the incident, and then asking a series of follow-up questions to fill in any gaps omitted in the initial account of the incident. The interviewers found it difficult and artificial to ask the follow-up questions. To eliminate these problems, we gave the Indian research team the flexibility to ask the follow-up questions at any appropriate point during the recounting of an incident.

As in Malawi, the Indian entrepreneurs showed resistance to taking the Picture Story Exercise. Many wrote only one or two sentences in response to each picture. Others wrote more but limited their stories to physical descriptions of what they saw in the pictures. Unless people write stories that involve fantasy and have at least 75 words, the Picture Story Exercise does not yield valid assessments of motivation. Because of these problems, we decided to drop the Picture Story Exercise from the battery of selection instruments to be used in India.

The Information Interview created resistance because of its eight-page length. It was difficult to get the entrepreneurs to complete and return this instrument. Since the background information on the entrepreneur and the business was critical to this study, we decided to have this instrument administered orally, in conjunction with the Focused Interview.

A final issue raised by the Indian in-country research team was the length of the whole battery of instruments. Half of the entrepreneurs who were approached about participating in the pilot study refused for this reason. Clearly, the battery of instruments needed to be reduced for the larger validation study. Fortunately, the data from the pilot sample provided direction about which instruments to drop.

Mean scores for the successful and average groups were computed for each instrument and for various items from the Information Interview. The number of entrepreneurs was too small to permit statistical analyses; inspection of the means, however, was instructive.

As in Malawi the Focused Interview showed the greatest promise of differentiating entrepreneurs by success level. The mean total score for the successful group was 39.5, as compared with 24.8 for the average group. The successful group scored higher on 12 of the 13 competency scores. This group also scored higher on all three SYMLOG rating scores (6.40 vs. 3.75 for Achievement, 8.20 vs. 3.75 for Affiliation, and 6.40 vs. 2.50 for Power).

The Picture Story Exercise showed no ability to differentiate the more successful entrepreneurs. The Achievement score was actually lower in the more successful group. But this result was not meaningful, because of the poor quality of the data obtained with this instrument.

Neither the Self Rating Questionnaire nor the Business Situations Exercise differentiated the more successful entrepreneurs. On both of these instruments, the two groups had virtually identical overall scores. In view of the similar, disappointing results with the pilot sample from Malawi, it seemed doubtful that these instruments would prove useful for selection. They may yet be of value in training programs, where they can be used to help students or trainees to understand and recognize the competencies. But we decided to drop these instruments from the validation study in India.

#### Preparation of the Instruments for Administration in Ecuador

Translation of the selection instruments into Spanish for use in Ecuador was delayed until after the pilot administration of the instruments in Malawi. When this piloting indicated that all instruments could be administered and that no major revisions of the instruments were needed, the instruments and manual for their administration were translated into Spanish.

PHASE II RESEARCH IN MALAWI:  
ADMINISTRATION OF THE SELECTION INSTRUMENTS

The first validation study using the selection instruments was conducted in Malawi, between August and November, 1985. The original battery of selection instruments, including the Information Interview, the Focused Interview, the Business Situations Exercise, the Self Rating Questionnaire, and the Picture Story Exercise, were administered to a sample of 161 existing, startup, and potential entrepreneurs. The data collection was carried out by the Centre for Social Research, of the University of Malawi. Dr. Wim Ettema, an anthropologist and senior faculty member at the Centre, supervised the effort, with the assistance of Wycliffe Chilowa, the Project Manager. These two researchers provided detailed accounts of the field data collection process. The issues that they reported are summarized in the sections that follow.

The Sample

Original Sampling Plan

The original sampling plan called for administering all tests to 45 existing successful entrepreneurs, 45 existing average entrepreneurs, 30 startup entrepreneurs, and 30 potential entrepreneurs. Each existing entrepreneur had to have started the business, alone or with partners. Each had to have been in business for at least three years and to have at least three employees. The successful and average groups each had to be evenly divided among three types of businesses: manufacturing, marketing/trading, and service.

To identify the successful and average groups of existing entrepreneurs, the field researchers were asked to obtain nominations from as many national and local organizations and institutions as possible that had knowledge about entrepreneurs in the geographical regions selected for sampling. The field researchers were directed to solicit nominations of successful entrepreneurs from each organization or institution. Entrepreneurs nominated by at least two different organizations or institutions could be selected for the successful group. Entrepreneurs not receiving any nominations could be selected for the average group.

To be selected for the startup group, an entrepreneur had to have been in business for less than one year. As with the two groups of existing entrepreneurs, the startup entrepreneurs were to be evenly divided among manufacturing, marketing/trading, and service businesses.

TABLE 18

## BACKGROUND AND DEMOGRAPHIC VARIABLES ON THE FOUR GROUPS OF ENTREPRENEURS

<u>Variable</u>	Group 1 Average <u>Entrepreneurs</u>	Group 2 Successful <u>Entrepreneurs</u>	Group 3 Startup <u>Entrepreneurs</u>	Group 4 Potential <u>Entrepreneurs</u>	
Sample Size	45	48	38	30	
Type of Business					
Manufacturing	11	11	11	9	
Marketing/Trading	14	14	8	10	
Service	10	12	12	3	
Manufacturing & Marketing	1	1	1	5	
Manufacturing & Service	4	2	3	0	
Marketing & Service	4	6	3	0	
Manufacturing, Marketing & Service	1	2	0	0	
No. of Years of Education					
Completed	Mean	6 73	7 52	8 66	12 79
	Range	0 13	0 19	0-14	8-17
Highest Level of Education					
None	4	6	1	0	
Some Primary	18	13	10	1	
Primary	13	8	13	3	
Some Secondary	6	12	10	6	
Secondary	3	6	2	13	
Some University	0	3	2	3	
University Degree	1	0	0	2	
Some Graduate	0	0	0	2	
Graduate Degree	0	0	0	0	
Age					
Mean	40 18	43 33	32 53	32 23	
Range	22-85	25 73	21-53	20-50	
Marital Status					
Single	3	0	6	7	
Married	41	48	32	22	
Divorced/Widowed	1	0	0		

TABLE 18 -- CONTINUED

DEMOGRAPHIC VARIABLES ON THE FOUR GROUPS OF ENTREPRENEURS

<u>Variable</u>	<u>Group 1</u> <u>Average</u> <u>Entrepreneurs</u>	<u>Group 2</u> <u>Successful</u> <u>Entrepreneurs</u>	<u>Group 3</u> <u>Startup</u> <u>Entrepreneurs</u>	<u>Group 4</u> <u>Potential</u> <u>Entrepreneurs</u>
No of Children (mean)	5 07	5 89	3 46	3 17
Range	0 - 9	0 9	0 9	0 - 9
<b>Father's Occupation</b>				
Unskilled	4	1	4	1
Semiskilled	32	36	24	18
White collar/Nonprofessional	1	7	1	4
White collar/Professional	2	1	2	<u>1</u>
Entrepreneur	2	0	3	1
Cannot Determine	1	3	3	5
<b>Mother's Occupation</b>				
Unskilled	0	1	1	0
Semiskilled	3	2	6	2
White Collar/Nonprofessional	1	0	0	2
White Collar/Professional	0	0	0	0
Entrepreneur	1	1	0	0
Housewife	38	44	30	26
Cannot Determine	2	0	1	0

To be selected as a potential entrepreneur, a person had to have enrolled in an entrepreneurship training course or applied for a loan to start a business. All potential entrepreneurs were to have had no previous experience as entrepreneurs.

Each group of entrepreneurs was to be drawn from several different geographical locations, so that there would be some geographical and cultural diversity in the samples.

### The Actual Sampling Process

The distribution of the actual sample is displayed in Table 18. The requisite numbers were achieved in each group. The sample was drawn from five diverse geographical regions: Zomba, Machinga, Dowa, Kasungu, and Mzimba. But there were some problems in selecting samples that would achieve the desired distributions by type of business and by level of success.

The field researchers reported some difficulty in finding entrepreneurs with only one type of business; many of the entrepreneurs, especially the successful ones, had multiple businesses, and these businesses spanned more than one of the three types identified for the samples.

The field researchers reported difficulty in finding service businesses meeting the requirement of at least three employees. Apparently, most of the larger service businesses were located in urban areas, where there were flourishing markets, rather than in the district centers, which were the focal points for sample selection within each geographical area. As a result, the requirement for the minimum number of employees was reduced to one (in addition to the entrepreneur). Many of the service businesses selected were restaurants.

It should be noted that a survey of small-scale industry in Malawi, which was conducted by the Centre for Social Research in 1983, revealed that only 4 percent of small businesses had three employees or more; 80 percent of the businesses consisted of self-employed individuals with no employees.

The goal of selecting businesses with at least three employees also created conflict with identifying successful and average groups of entrepreneurs. Dr. Ettema observed that since all of the target businesses were in the top 4 percent in number of employees, we were probably comparing businesses doing well (the average group) with those doing even better (the successful group).

For the actual selection of the samples, the field researchers relied heavily on DEMATT (Development of the Malawian Traders Trust), a cooperating entrepreneurship development

organization. A representative of DEMATT, who was trained to administer the selection instruments at the project's Annual Network Meeting in Oxford, England, in July of 1985, accompanied the project team in the field and also conducted some of the interviews. In Mzimba, one of the sampling districts, the ABA (African Businessmen's Association) assisted in the selection of the sample. But the field research team found that in a few of the more rural districts, organizations like DEMATT and the ABA, which might be knowledgeable about local entrepreneurs, were virtually absent. Thus in these districts the field research team ended up relying largely on peer assessments and their own impressions, in order to decide on the successful/average designation. In practice small and nonexpanding businesses were classified as average, and larger, growing businesses were classified as successful. Dr Ettema reported that the successful entrepreneurs normally had more than one business. Many in this group were former government officials

#### Administration of the Instruments

The battery of instruments was administered in the following order:

1. Information Interview
2. Focused Interview
3. Business Situations Exercise
4. Self Rating Questionnaire
5. Picture Story Exercise

It was important to administer the Information Interview first, to obtain background information that would set the stage for the Focused Interview. And it was important to administer the Focused Interview before the Business Situations Exercise and the Self Rating Questionnaire, since the content of the items on the two latter instruments might bias responses on the Focused Interview. Since pilot testing had raised some questions about the appropriateness of the Picture Story Exercise in Malawi, this instrument was administered last. In cases where the testing sessions exceeded six hours, the field researchers wanted to be able to drop this instrument.

The instruments, which were described in detail in an earlier section of this report, appear in Appendix B, together with their instructions and scoring sheets. All of these materials were translated into Chichewa for the project. The instruments were administered orally. Thirty-eight of the sessions were conducted in English and the remaining 123 in Chichewa

Two of the three interviewers who had been trained by McBer staff had to leave the project just as the data collection was getting underway, but they helped to train three new inter-

viewers. Of the team of four interviewers who conducted most of the interviews, only one had been trained by McBer staff. The interviewers were undergraduate students at the University of Malawi.

The field researchers reported that it usually took about 5 hours to administer the battery of tests, sessions ranged from 3.5 to 7.5 hours. Sessions took longer when conducted in Chichewa and when the person being tested and interviewed had little formal education.

The field researchers went to the entrepreneur's business premises to make appointments for the testing sessions. All testing was conducted at centers established in each of the sampling districts. On the appointed day, the entrepreneur was provided with transportation to and from the testing center. Tea and coffee were served during the sessions. At the conclusion of each session the interviewee was paid a stipend of ten kwacha.

During most of the data collection process, Dr. Ettema accompanied the research team and supervised the interviewers. Because he did not speak Chichewa, he could not provide immediate feedback to the interviewers about the quality of the interviews conducted in that language. For the same reason, he was usually unable to monitor the quality of the interviewers' coding of the Focused Interview and Picture Story Exercise.

#### Issues in the Administration of Specific Instruments

Although the field researchers succeeded in administering all of the instruments to most of the persons sampled, certain problems were noted in the administration of each instrument. These problems are summarized in the sections below.

#### Information Interview

The entrepreneurs sometimes reported inconsistent information about the sales and profits of their businesses. The field researchers suspected that the annual figures were the ones given to the tax inspector, but that the monthly figures better reflected reality. Some interviewees may have been reluctant to disclose true sales and profit figures because there was a tax inspection at about the same time of year as the administration of the instruments. The field researchers also noted that most entrepreneurs in Malawi do not have a fixed salary or wage and do not take home a fixed income.

Another problem in the administration of the Information Interview was the tendency of interviewers to accept the entrepreneur's responses without asking for specifics or clarification when needed.

## Focused Interview

The Focused Interview provided questions to trigger reconstructions of significant events in running the business, together with suggested follow-up questions to elicit details of the entrepreneur's involvement in each event. Unfortunately, the interviewers sometimes asked each of the follow-up questions, whether or not it was appropriate, they did not always use the follow-up questions strategically, to elicit a complete story of the entrepreneur's involvement in the event.

A McBer consultant listened to tape recordings of several of the Focused Interviews that were conducted in English. The consultant noted several recurring problems:

1. Interviewers sometimes failed to get the entrepreneurs to select events from the preceding two years. As a result, there was insufficient detail (e.g., reconstructed dialogue) to provide evidence for the presence of some competencies.
2. The interviewers sometimes failed to get the entrepreneur to focus exclusively on job-related incidents.
3. Interviewers sometimes used rote or ill-timed probing.
4. Interviewers sometimes interrupted the interviewee inappropriately.
5. Interviewers sometimes did not understand when to probe: when to ask for examples, when to ask for dialogue, when to ask for specific thoughts.
6. Interviewers sometimes did not understand how to probe effectively.

Other problems with the Focused Interview concerned the accuracy of the coding of interviews for the competencies and SYMLOG categories. Dr. Ettema reported that the initial group of interviewers coded some interviews together and that agreement among the interviewers appeared to be high.

But a McBer consultant's review of tape recordings of some of the interviews indicated significant problems in the field interviewers' coding, that is, the consultant would have coded the interviews differently. Part of the problem may have been the post hoc coding method that was used. Interviewers listened first to the complete recounting of an event and then placed check marks by the names of competencies for which they had heard evidence. This coding method placed a burden on memory. And if, as was possible, the interviewers delayed the coding until after

the entire interview was completed, the burden on memory would have been much more severe.

Another possibility is that the interviewers simply did not understand the definitions of the competencies or were unable to relate these definitions in a consistent way to the material in the interviews.

The McBer consultant's review indicated that some of the same problems may have extended to the SYMLOG coding. These problems were more difficult to determine, however, since the SYMLOG ratings may have been based on observation and interaction in addition to the Focused Interview.

Probably many of these problems would have been reduced by providing more extensive training and practice for the interviewers. We had hoped that all of the instruments could be administered and coded effectively without extensive training. This proved not to be the case for the Focused Interview in Malawi.

#### Self Rating Questionnaire

Only two minor problems were reported in the administration of this instrument. Three items with negative content were difficult to translate into Chichewa. The other problem was a tendency of some people to give the highest possible rating to each statement.

#### Business Situations Exercise

The field researchers reported that this test was difficult to administer because of its technical language and the low educational level of many of the interviewees. There was a tendency for interviewees to agree immediately with the first alternative without considering the second, or to agree with the second alternative without consciously contrasting it with the first.

#### Picture Story Exercise

Despite instructions to use each picture as the stimulus for an imaginative story, many people simply provided a physical description of what they saw in the picture.

Nineteen of the entrepreneurs refused to participate in this exercise. The field researchers suggested several possible reasons. The first was cultural bias in the pictures: The pictures were simply not appropriate for the average Malawian, who was unlikely ever to have seen settings such as a scientific laboratory. Another reason was that the religious practices and beliefs of a few individuals made them unwilling to make up

stories about romance or drinking. Finally, on one of the pictures, people may have reserved their comments because they thought the picture depicted a person of higher authority.

Overview of the Results of the Phase II Validation  
Study in Malawi

A large number of statistical analyses were conducted on the data gathered in this validation study. The analyses, conducted by Dr. Joseph DuCette, are summarized in the sections that follow. The analyses were conducted on the data from the four sample groups:

- Group 1 Existing Average Entrepreneurs
- Group 2 Existing Successful Entrepreneurs
- Group 3 Startup Entrepreneurs
- Group 4 Potential Entrepreneurs

Results of the first set of analyses will be presented below. These analyses were conducted to test for differences among these groups on background and demographic data about the entrepreneur and the business. All of these data came from the Information Interview. As will be seen, the main conclusion from these analyses was that the potential entrepreneurs (Group 4) and, to a lesser extent, the startup entrepreneurs (Group 3) were younger and had more education than the existing average and successful entrepreneurs (Groups 1 and 2). Otherwise, the four groups were very similar in background.

Following the analyses of the background data is the section of central interest analyses of differences among the four sample groups on the thirteen competencies identified in the initial research study. These analyses were based on data from the Focused Interview, Self Rating Questionnaire, and Business Situations Exercise. Two main questions were addressed:

1. Do the successful entrepreneurs differ significantly from the average entrepreneurs on the competencies? (That is, does Group 2 differ from Group 1?)
2. Are there differences between and among the four groups and, if so, which groups are different from each other?

As will be seen, the analyses revealed only a few isolated differences among the four groups. And there was no consistent pattern in the group differences.

Following the section on the competency differences among groups are analyses of the correlations among the competency scores, within and across instruments. The main conclusion was that the Focused Interview, Self Rating Questionnaire, and

Business Situations Exercise did not measure the thirteen competencies in a consistent way.

The next section presents analyses of data on the entrepreneur's business performance. This information comes from questions on the Information Interview dealing with sales, profits, number of employees, and perceptions of how the business is doing. The main conclusion of these analyses was that the successful entrepreneurs reported greater sales and profits than did the average or startup entrepreneurs.

Finally, some additional analyses are presented. The first set deals with the motives of achievement, affiliation, and power, as measured by the Picture Story Exercise and the SYMLOG coding of the Focused Interview. These analyses yielded no significant differences among the sample groups, and the motive scores showed few significant relationships with other measures. Other analyses used multiple regression to see whether the successful-versus-average designation of the existing entrepreneurs could be predicted from the competency scores. None of these analyses were significant.

#### Analysis of Background and Demographic Data About the Entrepreneur and the Business

For the Malawi Sample of Phase II, 161 existing or potential entrepreneurs were interviewed. These subjects were characterized as existing average entrepreneurs (Group 1, n = 45), existing successful entrepreneurs (Group 2, n = 48), startup entrepreneurs (Group 3, n = 38), and potential entrepreneurs (Group 4, n = 30). A summary of the demographic variables for each group is contained in Table 18. Various parametric and nonparametric analyses were conducted on the data presented in Table 18 to ascertain the similarities and differences among the four groups. These analyses indicated the following:

1. The four groups of entrepreneurs did not differ significantly in the type of business in which they were engaged or in the level of education of their fathers or mothers.
2. The group showed a marginally significant difference in marital status. As indicated in Table 18, Groups 3 and 4 had a higher proportion of single entrepreneurs.
3. The groups of entrepreneurs differed significantly in the average number of years of education and in the level of education attained. Post hoc analysis indicated that Group 4 was significantly different from the other three groups.

4. The four groups of entrepreneurs differed significantly in age, with Groups 1 and 2 being older than Groups 3 and 4.
5. The average number of children differed significantly among the groups, with Groups 3 and 4 being lower than Groups 1 and 2. This difference in the average number of children is probably due to the difference in age among the four groups.

It is evident from these data that the potential entrepreneurs (Group 4) and, to a lesser extent, the startup entrepreneurs (Group 3) were younger and better educated than the existing average and existing successful entrepreneurs.

Also assessed were a series of variables relating to the entrepreneur's experience and background in business. These data are presented in Table 19. It is evident from Table 19 that the four groups (or, where relevant, the first three groups) are similar on the business-related variables. Most of the entrepreneurs own their own business; most also manage the business and had started it. The two groups of existing entrepreneurs had been in business for approximately the same number of years and had added approximately the same number of products over the previous three years. Few of the entrepreneurs had owned other businesses, and approximately one other member in each entrepreneur's family had started a business. It is evident from the last two variables in Table 19 (both relating to exposure to other entrepreneurs) that the matrix of business acquaintances of the entrepreneurs in each of the four groups is fairly large. The only significant difference found among these business variables was the number of other businesses owned. As demonstrated in Table 19, the group of existing successful entrepreneurs, on average, owned about twice as many other businesses as the entrepreneurs in the other three groups. It should be noted, however, that even for the group of successful entrepreneurs, the average number of other businesses owned was less than one. Clearly, the major business for most of these entrepreneurs is the one business about which they are being questioned. (This is further demonstrated by the mode for all groups on this variable which is zero.)

The entrepreneurs were asked a series of additional questions about the reasons they had for starting the business, the sources of finance they used to start the business, and the problems they encountered (or anticipated encountering) in starting the business. These data (expressed as percentages of each group answering yes to the question) are presented in Table 20. The data in Table 20 indicate that the primary reasons for starting the business were (1) to earn a living; (2) to support a family; and, (3) to earn more money, improve own standard of living, or insure a better future. This pattern is consistent

for all groups, although significantly fewer potential entrepreneurs indicated that earning a living was a reason for starting the business

In summary, with the exception of age and education, the four groups of entrepreneurs were very similar in background. Since both age and education might be confounding variables, these variables were statistically controlled in all subsequent analyses.

TABLE 19

BUSINESS - RELATED BACKGROUND VARIABLES  
ON THE FOUR GROUPS OF ENTREPRENEURS

	<u>Group 1</u> <u>Average</u>	<u>Group 2</u> <u>Successful</u>	<u>Group 3</u> <u>Startup</u>	<u>Group 4</u> <u>Potential</u>
Ownership of Current Business:				
Yes	43	47	34	-
No	2	1	4	
Manage Business:				
Yes	44	46	36	-
No	1	2	2	
Started Business:				
Yes	39	45	37	-
No	6	3	1	
No. of Years Business Has Operated				
Mean	8.69	10.54	1.52	-
Range	2-26	3-48	0-2	
No. of New Products or Services Added in Last 3 Years:				
Mean	.69	.79	.28	-
Range	0-4	0-3	0-3	
No of Other Businesses Owned:				
Mean	.31	.79	.32	.30
Range	0-3	0-4	0-2	0-2
No of Other Family Members Who Have Started a Business.				
Mean	.77	.73	.76	.97
Range	0-6	0-3	0-2	0-3

TABLE 19 -- CONTINUED

BUSINESS - RELATED BACKGROUND VARIABLES  
ON THE FOUR GROUPS OF ENTREPRENEURS

	<u>Group 1</u> <u>Average</u>	<u>Group 2</u> <u>Successful</u>	<u>Group 3</u> <u>Startup</u>	<u>Group 4</u> <u>Potential</u>
Worked in Family Business:				
Yes	10	11	9	12
No	35	37	29	18
No. of Close Friends Who Have Started a Business				
Mean	3.32	5.19	4.08	4 00
Range	0-20	0-50	0-20	0-15
No. of People Person Knew Who Started a Business				
Mean	12.36	9.12	5.17	7 97
Range	0-30	0-30	1-20	0-40

TABLE 20

## REASONS FOR STARTING THE BUSINESS, SOURCES OF FINANCE, AND PROBLEMS IN STARTING THE BUSINESS

	<u>Group 1</u> <u>Average</u>	<u>Group 2</u> <u>Successful</u>	<u>Group 3</u> <u>Startup</u>	<u>Group 4</u> <u>Potential</u>
Reasons for Starting the Business:				
To earn a living	.69	.56	58	33
To support family	.40	.29	45	30
To be independent or self-employed	.24	.35	29	27
Because he/she admired other entrepreneurs	.11	.10	.03	07
To provide a service to others	.07	.04	16	27
To develop the country (Malawi)	.04	.08	13	23
To earn more money	.33	.42	37	50
Saw opportunity for the product	.00	.02	05	07
Sources of Finance:				
Banks	.00	.04	.03	40
Partners	.02	.00	03	00
Family	.24	.08	13	17
Self	.76	.92	74	67
Friends	.09	.00	00	10
Government	.02	.00	08	07
Other	.07	.06	11	23

NOTE: The numbers in the table represent the proportions of each sample answering the question positively.

TABLE 20 -- CONTINUED

REASONS FOR STARTING THE BUSINESS, SOURCES OF FINANCE, AND PROBLEMS IN STARTING THE BUSINESS

	<u>Group 1</u> <u>Average</u>	<u>Group 2</u> <u>Successful</u>	<u>Group 3</u> <u>Startup</u>	<u>Group 4</u> <u>Potential</u>
Problems in Starting the Business:				
Lack of suitable premises	.15	.15	13	.10
Lack of customers	.33	15	.32	.20
Difficulty obtaining tools	13	06	.13	.07
Difficulty obtaining supplies	00	21	34	.13
Problems obtaining electricity or water	00	00	.03	.03
Competitors	.02	02	03	.17
Problems with employees	04	13	03	.03
Problems with transportation	.07	15	08	.20
Problems with non- paying customers	.07	.06	07	.10
Lack of capital	57	54	61	.43
Lack of qualified workers	02	02	00	.03

NOTE           The numbers in the table represent the proportions of each sample answering the question positively.

## Comparisons of the Sample Groups on the Thirteen Competencies

There are two primary questions that underlie the analyses of the competencies derived from the Focused Interview, the Self Rating Questionnaire, and the Business Situations Exercise. These questions are

1. Do the successful entrepreneurs differ significantly from the average entrepreneurs on the competencies? (That is, does Group 2 differ from Group 1?)
2. Are there differences between and among the four groups and, if so, which groups are different from each other?

Each of the three instruments used to assess the competencies will be analyzed separately, with a summary of these analyses presented at the end.

### Focused Interview Comparison of Successful and Average Groups

Uncorrelated t-tests. This analysis is presented first, since it is a fairly liberal test of between-group differences in the two-group case, and because it is fairly robust against most violations to normality and homogeneity of variance. As was true in the data analysis for Phase 1, most of the distributions of the competencies are positively skewed, many extremely so. Moreover, many analyses violate the homogeneity of variance assumption. It was demonstrated in the data analysis for Phase I that eliminating or reducing these problems through data transformation did not significantly change the results. These transformations were also performed on the data presented in this report and, as before, most of the results were unaffected. Consequently, all statistical tests will be reported using the raw or untransformed data.

The means of all 13 competencies for the four groups are presented in Table 21. The results of the t-tests comparing the average and successful entrepreneurs indicated that the two groups differ on only one competency--Systematic Planning (Competency 8;  $t = 2.08$ ,  $p = .040$ ). As demonstrated in Table 21, the successful entrepreneurs had a significantly higher mean on this competency than the average entrepreneurs. Even this result must be qualified, however, since the multivariate Hotelling's  $T^2$  was insignificant. A conservative criterion shows therefore, that successful entrepreneurs do not differ from average entrepreneurs on the 13 competencies derived from the Focused Interview.

TABLE 21

## MEAN COMPETENCY SCORES FROM THE FOCUSED INTERVIEW

<u>Competency</u>	<u>Group 1 Average</u>	<u>Group 2 Successful</u>	<u>Group 3 Startup</u>	<u>Group 4 Potential</u>
1 Initiative	.89	1.09	1.00	.90
2. Sees and Acts on Opportunities	1.14	1.04	.92	.83
3. Persistence	.70	.79	.84	.83
4. Info. Seeking	1.77	1.74	1.61	1.77
5. Concern for High Quality of Work	.82	.55	.47	.57
6. Commitment to Work Contract	.91	.85	1.11	.70
7. Efficiency Orientation	.86	.79	.84	.53
8 Systematic Planning	1.06	1.57	1.58	1.17
9 Problem Solving	1.68	1.66	1.39	1.57
10. Self Confidence	.70	.72	.68	1.20
11. Assertiveness	.41	.66	.37	.70
12. Persuasion	.40	.47	.29	.50
13. Use of Influence Strategies	.23	.34	.50	.27

Two Way MANOVA A two way MANOVA (multivariate analysis of variance) was conducted on the 13 competencies. The factors in this MANOVA were Group (successful vs. average entrepreneurs) and Type of Business (manufacturing, marketing, service; other--any combination of these three types). This analysis indicated an insignificant main effect for Group (Wilks' lambda=.69, p=.31), a significant main effect for Type of Business (lambda=.62, p=.012) and an insignificant interaction between Group and Type of Business (lambda=.39, p= .43). Using the method of simultaneous confidence intervals as the post hoc procedure for the main effect for Type of Business, it was found that the four business groups differed significantly on Competency 6 (Commitment to Work Contract) and Competency 10 (Self Confidence) In both cases, the entrepreneurs engaged in marketing/trading had the lowest mean while those entrepreneurs engaged in manufacturing had the highest mean These differences between types of businesses, especially in light of the insignificant interaction, are largely irrelevant to the main purpose of this project.

Two Group Discriminant Analysis. A two-group discriminant analysis was conducted on the 13 competencies using both a direct and a stepwise procedure. The results of both analyses indicated that the two groups could not be discriminated (lambda for the direct method=.86, p=.48; for the stepwise, lambda=.88, p=.52)

All of the analyses comparing the two groups of existing entrepreneurs indicate that the two groups do not differ on the 13 competencies derived from the Focused Interview.

#### Focused Interview: Comparison of the Four Sample Groups

One-Way ANOVAs One-way analyses of variance were conducted on each of the 13 competencies comparing the four groups of entrepreneurs. None of these analyses were significant

Two Way MANOVA. A two way MANOVA using Group and Type of Business as the factors was conducted on the data. As before, only the main effect for Type of Business was significant. The post hoc procedure using simultaneous confidence intervals was consistent with the results reported above.

Four Group Discriminant Analysis A four group discriminant analysis was conducted on the data None of the functions derived from the data were significant

In summary, no relevant significant differences were found in any of the analyses using the 13 competencies derived from the Focused Interview. The one exception to this was the significant t-test for Competency 8 between the successful and the average entrepreneurs. As mentioned in that section, this result may be qualified by the insignificant Hotelling's  $T^2$ .

### Self Rating Questionnaire: Comparison of Successful and Average Groups

The means of the four groups on each of the 13 competencies derived from the Self Rating Questionnaire are presented in Table 22.

Uncorrelated t-tests. A series of uncorrelated t-tests followed by the Multivariate Hotelling's  $T^2$  were computed for the Self Rating data. Only one of these t-tests was significant: the one for competency 1, Initiative ( $t= 2.77, p= .007$ ). As before, the successful entrepreneurs had the higher mean. The Hotelling's  $T^2$  was not significant. If the same decision rule applied previously is applied here, the two groups do not differ.

Two Way MANOVA. A two factor MANOVA (Group by Type of Business) was conducted on the 13 competencies. This analysis produced a marginally significant main effect for Group ( $\lambda=.77, p=.077$ ), an insignificant main effect for Type of Business ( $\lambda=.60, p=.42$ ), and an insignificant interaction ( $\lambda=.60, p=.22$ ). The post hoc procedure for the main effect of Group indicated that none of the comparisons were significant.

Discriminant Analysis. A two group discriminant analysis was conducted on the data. The results indicated that the two groups could not be discriminated.

### Self Rating Questionnaire Comparisons of the Four Sample Groups

One Way ANOVAs One way ANOVAs were conducted on the 13 competencies derived from the Self Rating Questionnaire for the four groups. These analyses indicated that the groups differed significantly on Competency 1 (Initiative), Competency 4 (Information Seeking), and Competency 11 (Assertiveness). The post hoc procedure (Newman-Keuls at the .05 level) indicated the following: For Initiative, Group 2 differed from Group 1; for Information Seeking and for Assertiveness, Group 4 differed from Groups 1 and 3.

TABLE 22

## MEAN COMPETENCY SCORES FROM THE SELF RATING QUESTIONNAIRE

	<u>Group 1</u> <u>Average</u>	<u>Group 2</u> <u>Successful</u>	<u>Group 3</u> <u>Startup</u>	<u>Group 4</u> <u>Potential</u>
1. Initiative	15.53	17.46	16.24	15.73
2. Sees and Acts on Opportunities	17.31	17.90	17.84	19.03
3. Persistence	18.71	19.46	19.13	19.93
4. Info. Seeking	20.36	21.04	20.87	22.93
5. Concern for High Quality of Work	20.51	20.04	20.66	20.10
6. Commitment to Work Contract	20.33	20.67	20.71	20.67
7. Efficiency Orientation	20.02	21.08	19.82	20.87
8. Systematic Planning	18.67	19.17	19.16	20.13
9. Problem Solving	19.82	19.19	18.87	19.53
10. Self-Confidence	15.20	15.46	15.71	16.97
11. Assertiveness	17.70	19.17	17.82	20.63
12. Persuasion	18.31	17.85	18.13	19.87
13. Use of Influence Strategies	19.40	18.81	19.26	19.47

Two Way MANOVA. The two way MANOVA (Group by Type of Business) produced a significant main effect for Group ( $\lambda=.65$ ,  $p=.017$ ), an insignificant main effect for Type of Business ( $\lambda=.80$ ,  $p=.85$ ), and an insignificant interaction ( $\lambda=.43$ ,  $p=.42$ ). The post hoc procedure using simultaneous confidence intervals indicated that the groups differed on Competencies 1 and 11.

Discriminant Analysis. The four-group discriminant analysis conducted on the data produced one significant function ( $\lambda=.67$ ,  $p=.017$ ). The canonical correlation for this function was .43, indicating that approximately 17 percent of the variance was accounted for. The standardized canonical discriminant function coefficients, together with the function scores for each group, are contained in Table 23. With a cut-off of .4, the function consists of Competencies 4, 10 and 11. The group centroid matrix indicates that this function differentiates the group of potential entrepreneurs (Group 4) from Groups 1 and 3. Group 2 (successful entrepreneurs) is more similar to Group 4 than it is to the other two groups. Overall, 47 percent of the cases were correctly classified into their group of origin. The group with the highest correct classification was Group 4 (70 percent correct).

To verify the group discrimination in another way, discriminant function scores were computed for each subject and were analyzed through a one-way ANOVA. The post hoc Newman-Keuls test indicated that Group 4 was significantly different from Groups 1 and 3, but not significantly different from Group 2. Group 2 did not differ significantly from Groups 1 and 3.

In summary, the results from the Self Rating Questionnaire indicate that the potential entrepreneurs are superior to the average and the startup entrepreneurs on several of the competencies, and are superior overall according to both multivariate tests. Moreover, the potential entrepreneurs, though descriptively superior to the successful entrepreneurs, are not significantly different from them.

One caution should be noted in interpreting the results from the Self Rating Questionnaire. A correction factor measuring the tendency to "fake good" was calculated from the data. The potential entrepreneurs were significantly higher on this factor than all other groups. When this factor was eliminated from the competency scores, the difference between the potential entrepreneurs and the other groups decreased, although the difference was still significant. Moreover, when the number of years of education was covaried, the difference between the groups decreased even further, although once again statistical significance was obtained. Overall, the data derived from the Self Rating Questionnaire indicate that the potential entrepreneurs are superior to the average and the startup entrepreneurs, and

somewhat better than the successful entrepreneurs. It should be remembered, however, that some of this superiority is due to the potential entrepreneurs' better education and stronger tendency to give socially acceptable answers.

#### Business Situations Exercise: Comparison of Successful and Average Groups

The means of the four groups on the Business Situations Exercise are contained in Table 24.

Uncorrelated t-tests. The uncorrelated t-tests comparing the successful and average entrepreneurs indicated that the two groups differed significantly on Competency 12 Persuasion ( $t = 2.73$ ,  $p = .008$ ). The Hotelling's  $T^2$  was not significant. These data, therefore, are consistent with the other two instruments in producing only a minimal difference between the successful and the average entrepreneurs.

Two-Way MANOVA. The Group by Type of Business MANOVA conducted on the 13 competencies indicated that both main effects and the interaction were not significant.

Discriminant Analysis. The discriminant analysis indicated that the two groups could not be discriminated.

#### Business Situations Exercise: Comparison of the Four Sample Groups

One Way ANOVAs The one way ANOVAs conducted on the 13 competencies indicated that significant differences existed between the groups on Competency 1 (Initiative), Competency 4 (Information Seeking), Competency 8 (Systematic Planning) and Competency 12 (Persuasion). Except on Competency 12, the potential entrepreneurs had the highest mean. The post hoc procedure did not produce a consistent or easily summarized pattern. In all cases, Group 4 significantly differed from whatever group had the lowest mean. For Competency 12, the successful entrepreneurs were significantly different from the average entrepreneurs, with all other comparisons being insignificant.

Two Way MANOVA The two factor MANOVA indicated that both main effects were significant ( $\lambda$  for Group=.63,  $p = .009$ , for Type of Business,  $\lambda = .65$ ,  $p = .022$ ). The interaction was insignificant. The post hoc procedure indicated that (1) for the main effect of Group, significant differences existed on Competencies 4 and 12; and (2) for the main effect of Type of Business, significant differences existed on Competency 2.

TABLE 23

RESULTS OF THE FOUR-GROUP DISCRIMINANT ANALYSIS  
ON DATA FROM THE SELF RATING QUESTIONNAIRE

A Standardized Discriminant Function Coefficients

Competency

1	-.12
2	.23
3	.07
4	.57*
5	-.38
6	-.08
7	-.08
8	.33
9	-.17
10	.39*
11	.46*
12	.03
13	-.15

B. Discriminant Function Evaluated at Group Centroids

Group

1	- 46
2	16
3	-.18
4	92

TABLE 24

## MEAN COMPETENCY SCORES FROM THE BUSINESS SITUATIONS EXERCISE

<u>Competency</u>	<u>Group 1 Average</u>	<u>Group 2 Successful</u>	<u>Group 3 Startup</u>	<u>Group 4 Potential</u>
1. Initiative	2.71	2.92	3.08	3.33
2. Sees and Acts on Opportunities	2.02	2.23	2.45	2.43
3. Persistence	2.91	2.92	2.89	3.20
4. Info. Seeking	2.78	2.98	2.87	3.33
5. Concern for High Quality of Work	3.07	3.21	3.16	3.80
6. Commitment to Work Contract	2.64	2.50	2.53	2.80
7. Efficiency Orientation	2.27	2.58	2.68	2.43
8. Systematic Planning	2.98	2.83	3.21	3.47
9. Problem Solving	2.34	2.25	2.00	2.47
10. Self-Confidence	2.49	2.85	2.89	2.87
11. Assertiveness	1.96	1.63	1.53	1.63
12. Persuasion	3.13	3.63	3.47	3.47
13. Use of Influence Strategies	2.67	2.81	2.79	3.0

Discriminant Analysis The discriminant analysis produced one highly significant function ( $\lambda = .59$ ,  $p = .0001$ ; canonical correlation = .48) and one marginally significant function ( $\lambda = .47$ ,  $p = .03$ ; canonical correlation = .42). The standardized canonical discriminant function coefficients and the group centroid matrix are contained in Table 25. With a cutoff of 4, the first function consists of Competencies 5, 7, 8 and 12. This function is anchored at one end by Competencies 7 and 12 (Efficiency Orientation, Persuasion) and at the other end by Competency 5 (Concern for High Quality of Work). The group matrix indicates clearly that this function differentiates the potential entrepreneurs from the other three groups. This fact is verified by the one way ANOVA conducted on the discriminant function scores.

The second function consists of Competencies 9 and 11. The group matrix indicates that this function differentiates the average entrepreneurs from the other three groups. However, the one way ANOVA on the discriminant function scores indicated that the four groups did not differ significantly from each other. The results from the discriminant analysis show that 52 percent of the subjects were correctly classified. As before, the highest percentage of the correctly classified subjects was from the group of potential entrepreneurs (73 percent).

#### Summary of Between-Group Differences on the Competency Scores

Several conclusions can be drawn from the various analyses conducted on the competency scores:

1. The data derived from the Focused Interview were not capable of differentiating the successful from the average entrepreneurs (except for two specific comparisons), nor were these data able to discriminate among the four groups. These results are in marked contrast to the results from Phase 1, where the Focused Interview carried the major discriminating power in the data set.
2. Both the Self Rating Questionnaire and the Business Situations Exercise produced significant differences among the groups. Again, with the exception of one specific comparison, the successful entrepreneurs were not different from the average entrepreneurs. Most of the significant differences were produced by the group of potential entrepreneurs. In general, this group was superior to the other three groups, especially to the average and the startup entrepreneurs, on several of the competencies.

TABLE 25

RESULTS OF THE FOUR-GROUP DISCRIMINANT ANALYSIS  
ON DATA FROM THE BUSINESS SITUATIONS EXERCISEA. Standardized Discriminant Function Coefficients

<u>Competency</u>	<u>Function I</u>	<u>Function II</u>
1. Initiative	.28	.27
2. Sees and Acts on Opportunities	-.03	.27
3. Persistence	.27	-.26
4. Information Seeking	.26	.11
5. Concern for High Quality of Work	.72*	.22
6. Commitment to Work Contract	.03	-.19
7. Efficiency Orientation	-.45*	.37
8. Systematic Planning	.47*	-.01
9. Problem Solving	.16	-.54*
10. Self Confidence	-.19	.38
11. Assertiveness	-.02	-.44
12. Persuasion	.56	.27
13. Use of Influence Strategies	.15	.12

Note: \* denotes loadings exceeding  $\pm .40$

B. Discriminant Function Evaluated at Group Centroids

<u>Group</u>	<u>Function I</u>	<u>Function II</u>
1	-.034	- .732
2	-.431	.188
3	-.273	.449
4	.109	.227

## Correlational Analyses of the Competencies

### Intercorrelations Within and Among Scales

In addition to the between-group comparisons already presented, another question of interest concerns the relationships among the competencies. This question was answered by computing Pearson correlations among the competencies for each of the instruments used to assess them. Correlations were also computed for each competency among the three scales. The correlations among the competencies for the Focused Interview are presented in Table 26, for the Self Rating Questionnaire in Table 27, and for the Business Situations Exercise in Table 28. Table 29 contains the correlations across instruments.

Several aspects of the data presented in Tables 26-29 should be noted. First, it is clear from a simple observation of Tables 26, 27, and 28 that the Focused Interview is different from both the Self Rating Questionnaire and the Business Situations Exercise in the extent of intercorrelation among the competencies. To demonstrate this difference the correlations for each scale were averaged using the Fisher  $r$  to  $Z'$  transformation, and were then tested against each other to ascertain if the average correlations differed by scale. For the Focused Interview, the average correlation was .08; for the Self Rating Questionnaire and the Business Situations Exercise, the average correlation was .18 and .15 respectively. Moreover, the average correlation for the Focused Interview was significantly lower than the average correlation for the other two scales.

It is also evident from Table 29 that the three instruments do not measure the competencies in a consistent manner. Most of the correlations are insignificant, indicating that subjects do not respond in a similar fashion across the scales. (In an effort to ascertain if subgroups of the sample were more consistent than the entire sample taken as a whole, the correlational analyses presented above were computed for each of the four groups of entrepreneurs separately. These analyses produced essentially the same results as the data in Tables 26 - 29 )

### Factor Analyses of the Competency Scores

A factor analysis was conducted for each of the three instruments to see if the data set could be reduced and to ascertain if the factor pattern was similar across instruments. A Principal Factoring with Iteration method was used followed by a varimax rotation. All factors with eigenvalues greater than one were included in the factor solution. The solutions for each of the three instruments are presented in Table 30. It is evident from Table 30 that each scale produced only one factor with an eigenvalue greater than one after rotation. Consistent with the correlations presented above, both the Self Rating

Questionnaire and the Business Situations Exercise demonstrate more intra-scale consistency than the Focused Interview.

Since the factor analysis of the Focused Interview produced only one factor loading greater than .4, and since less than 50 percent of the variance was accounted for by the one factor with an eigenvalue greater than one, this factor will not be interpreted. The factor derived from the Self Rating Questionnaire, consisting of Initiative, Sees and Acts on Opportunities, Persistence, Self-Confidence, and Assertiveness, seems to reflect an assertive, proactive personality. The two competencies with factor loadings greater than .4 on the Business Situations Exercise (Sees and Acts on Opportunities, Information Seeking) seem to reflect an action orientation. It is evident that the factor solutions from the three tests are not similar

Factor scores were completed for all subjects on the factors derived from the Focused Interview and from the Business Situations Exercise. These scores were then entered into a one-way ANOVA. The results of these analyses are presented in Table 31. The results shown are essentially consistent with the between-group comparisons already presented. As before, the group with the highest mean is Group 4 (potential entrepreneurs). In both analyses, this group has a significantly higher mean than the group of average entrepreneurs.

TABLE 26

		CORRELATIONS AMONG COMPETENCIES						FOCUSED INTERVIEW					
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	-	11	12	11	12	06	05	03	- 02	- 02	15	14	06
2		--	17*	04	07	01	16*	16*	11	- 08	12	19*	06
3			--	15	04	02	10	12	13	05	18*	- 04	- 01
4				—	- 06	03	08	23**	09	02	05	02	19*
5					--	19*	14	09	- 06	10	- 00	03	- 07
6						—	04	07	02	20*	06	10	09
7							—	01	23**	05	09	10	- 02
8								—	06	- 08	05	24**	- 02
9									—	01	04	13	- 12
10										--	12	05	03
11											--		- 01
12												-	06
13													-

Note \* p < 05  
 \*\* p < 01

TABLE 27

CORRELATIONS AMONG COMPETENCIES													SELF RATING QUESTIONNAIRE
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	19*	22**	12	15	17*	11	09	17*	27**	28**	02	14	
2	-	32**	14	17*	09	16*	11	22**	24**	40**	25**	26**	
3		--	07	23**	26**	25**	28**	17*	26**	31**	28	18*	
4			--	08	20*	25**	25**	14	- 01	11	34**	09	
5				--	20**	31**	21**	10	21**	16*	12	06	
6					--	32**	32**	23**	13	11	19*	22*	
7						--	31**	12	18*	33*	19*	03	
8							-	19*	10	18*	22**	25**	
9								--	02	19*	35**	39**	
10									-	29**	12	07	
11										--	33**	14	
12											--	30**	
13												--	

Note \* p < 05  
 \*\* p < 01

TABLE 28

CORRELATIONS AMONG COMPETENCIES						BUSINESS SITUATIONS EXERCISE							
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	-	03	25**	04	28**	07	14	06	04	12	16*	27**	02
2		-	19*	46**	08	09	15	18*	23**	16*	07	22**	04
3			--	21**	09	13	12	17*	04	22*	- 05	22**	00
4				--	20*	18*	12	27**	27**	16*	- 07	30**	18
5					--	21**	19*	- 01	19*	14	12	28**	11
6						--	14	08	22**	09	- 03	08	15
7							-	07	25**	13	- 06	05	17*
8								-	09	28**	09	17*	16*
9									-	13	- 02	14	15
10										--	07	25**	14
11											-	- 09	04
12												-	16*
13													-

Note \* p < 05  
 \*\* p < 01

TABLE 29  
CORRELATIONS AMONG VARIOUS WAYS OF  
ASSESSING COMPETENCIES

<u>Competency</u>	<u>FI with SRQ</u>	<u>FI with BSE</u>	<u>SRQ with BSE</u>
1. Initiative	.00	.15*	.11
2. Sees and Acts on Opportunities	.03	.01	.15*
3. Persistence	.05	.03	.09
4. Information Seeking	-.01	-.11	.27**
5. Concern for High Quality of Work	-.01	.05	.05
6. Commitment to Work Contract	.15	.29**	.01
7. Efficiency Orientation	.01	-.09	.13
8. Systematic Planning	-.13	.04	.14
9. Problem Solving	-.07	.04	.14
10. Self-Confidence	-.08	-.03	.14
11. Assertiveness	.13	-.10	-.08
12. Persuasion	.12	.10	.03
13. Use of Influence Strategies	-.02	.09	-.04

Note: FI = Focused Interview; SRQ = Self Rating Questionnaire;  
BSE = Business Situations Exercise

\*  $p < .05$

\*\*  $p < .01$

TABLE 30

ROTATED FACTOR MATRICES FOR COMPETENCY SCORES DERIVED  
SEPARATELY FOR EACH OF THREE INSTRUMENTS

<u>Competency</u>	<u>FI</u>	<u>SRQ</u>	<u>BSE</u>
1 Initiative	.14	.40*	-.06
2. Sees and Acts on Opportunities	.16	.52*	.51*
3. Persistence	-.11	.41*	.18
4. Information Seeking	-.06	-.01	.78*
5. Concern for High Quality of Work	-.02	.24	.11
6 Commitment to Work Contract	-.01	.04	.11
7. Efficiency Orientation	.05	.27	.00
8. Systematic Planning	.03	.08	.22
9 Problem Solving	.11	.11	.20
10. Self-Confidence	.15	.47*	.05
11 Assertiveness	.03	.66*	-.07
12. Persuasion	.84*	.27	.28
13. Use of Influence Strategies	.07	.10	.08
Eigenvalue	1.26	2.74	2.15
Percent of Variance	30.4	57.3	48.6

Note: FI = Focused Interview; SRQ = Self Rating Questionnaire, BSE = Business Situations Exercise. Competencies with loadings greater than .4 are indicated by an asterisk.

TABLE 31

ONE-WAY ANOVAS ON FACTOR SCORES FROM  
 THE SELF RATING QUESTIONNAIRE AND  
 THE BUSINESS SITUATIONS EXERCISE

A Factor Scores from the Self Rating Questionnaire

Group 1 (Average)	- .50	
Group 2 (Successful)	.18	F = 3.92 p = .0099
Group 3 (Startup)	- .19	
Group 4 (Potential)	.70	

B. Factor Scores from the Business Situations Exercise

Group 1 (Average)	- .28	
Group 2 (Successful)	.00	F = 2.53 p = .048
Group 3 (Startup)	.00	
Group 4 (Potential)	.43	

### Analyses of the Business Performance Data

A number of questions posed to the existing and startup entrepreneurs dealt with their recent business performance. The list of these questions, along with the means for each group and the F or t-test result is presented in Table 32.

In general, the data in Table 32 demonstrate that the successful entrepreneurs are superior to the average entrepreneurs on most of the variables. Both sales and profits within the previous two years were higher for the successful entrepreneurs, as were monthly turnover and the number of full-time employees. It is interesting, however, that the groups did not differ in their perception of how well their businesses were doing compared with one and three years earlier. In general, both groups perceived that their businesses were doing a little better than in the recent past.

A factor analysis of these business-related variables was conducted in an attempt to reduce the data set. Only those variables with at least 40 responding subjects were included in the analysis. A Principal Factoring with Iteration method was used followed by a varimax rotation. This analysis produced two factors with eigenvalues greater than one. The rotated factor matrix is contained in Table 33. It is clear that Factor 1 represents the size of the business as reflected in the number of employees, and Factor 2 represents sales and profits.

Factor scores were computed for each subject on both factors. In addition a total score was computed by combining the data from both factors. This score is perhaps the strongest indicator of recent business success. Two sets of analyses were then conducted on these factor scores. First, the factor scores were correlated with the competency scores derived from the three scales. These correlations are presented in Table 34. As Table 34 demonstrates, few of the correlations between the factor scores and the competency scores are significant.

In an effort to elaborate these correlations further, three stepwise multiple regressions were computed using the total factor score as the criterion variable and the competency scores from the three tests as the predictors. The results of these multiple regressions are presented in Table 35. Consistent with the correlations presented in Table 34, the multiple regressions indicate that the business variables can be only marginally related to the competency scores. None of the competencies entered the equation for the Focused Interview. For the Self Rating Questionnaire, both Initiative and Self-Confidence entered the equation, although the multiple R with these two predictors was only .19. For the Business Situations Exercise, only Assertiveness entered the equation with the Multiple R being .18. Since most of the business data are from the existing average and

existing successful entrepreneurs, these results reflect once again the lack of significant differences between these groups on the competencies.

In addition to the correlations, t-tests were computed comparing the average and successful entrepreneurs on the two factor scores and on the total score. The results indicated that the two groups did not differ on Factor 1, but that they did differ on Factor 2 ( $t = 2.50, p = .02$ ) and on the total ( $t = 2.74, p = .01$ ). These results reinforce the data in Table 32, which indicate that the two groups of existing entrepreneurs do not differ in the size of their businesses, but do differ in sales and profits.

TABLE 32

## GROUP COMPARISONS ON THE BUSINESS PERFORMANCE VARIABLES

<u>Variables</u>	<u>Group 1</u> <u>(Average)</u>	<u>Group 2</u> <u>(Successful)</u>	<u>Group 3</u> <u>(Startup)</u>	<u>F or t</u>	<u>p</u>
Sales in Last Year	4043 (a)	79786	2844	5 54	006
Profits in Last Year	1552	10179	1220	2 91	061
Sales 2 Years Ago	2827	31485	b	2 54	023
Profits 2 years Ago	652	3533	--b	2 62	024
Sales 3 Years Ago	--b	- b	--b		
Profits 3 Years Ago	--b	-b	- b		
Monthly Turnover Dry Season	740	4467	--b	2 46	018
Monthly Turnover Rainy Season	439	2169	-b	2 48	017
Monthly Income Dry Season	104	988	-b	1 51	138
How Business Is Doing Compared to Last Year (c)	3 57	3 83	--b	1 12	264
How Business Is Doing Compared to 3 Years Ago (c)	3 69	3 74	b	17	864
How All Business Are Doing Compared to Last Year (c)	4 00	3 48	--b	1 29	211
How All Business Are Doing Compared to 3 Years Ago (c)	3 78	3 42	b	75	633

Note a All sales and profits are in kwacha  
b N too small for analysis  
c Likert scale used in which 5 = Much better and 1 = Much worse

TABLE 32 - CONTINUED

GROUP COMPARISONS ON THE BUSINESS PERFORMANCE VARIABLES

<u>Variables</u>	<u>Group 1</u> <u>(Average)</u>	<u>Group 2</u> <u>(Successful)</u>	<u>Group 3</u> <u>(Startup)</u>	<u>F o r t</u>	<u>p</u>
No of Full-Time Employees Now	2 25	8 93	- b	2 38	021
No of Full-Time Employees One Year Ago	4 94	8 50	--b	78	436
No of Full Time Employees Two Years Ago	2 54	5 98	--b	1 82	075
No of Part Time Employees Now	3 77	2 92	- b	38	71

- Note
- a All sales and profits are in kwacha
  - b N too small for analysis
  - c Likert scale used in which 5 = Much better and 1 = Much worse

TABLE 33

ROTATED FACTOR MATRIX ON THE  
BUSINESS PERFORMANCE VARIABLES

<u>Variable</u>	<u>Factor 1</u>	<u>Factor 2</u>
Sales last Year	.31	.82*
Profits Last Year	.03	.84*
Sales Two Years Ago	.28	.79*
Profits Two Years Ago	.06	.75*
Monthly Turnover· Dry Season	.04	.78*
Monthly Turnover: Rainy Season	.05	.83*
Monthly Income· Dry Season	-.01	.25
Monthly Income Rainy Season	.02	.07
How Business is Doing Compared with One Year Ago	-.03	-.10
How Business is Doing Compared with Three Years Ago	-.02	.14
Number of Full-Time Employees Now	.96*	.25
Number of Full-Time Employees One Year Ago	.97*	.02
Number of Full-Time Employees Two Years Ago	.99*	.05
Eigenvalue	4.12	2.59
Percent of Variance	47.60	30.00

Note: Variables with factor loadings greater than .4 are indicated with an asterisk.

TABLE 34

CORRELATIONS BETWEEN FACTOR SCORES FROM THE  
BUSINESS PERFORMANCE DATA  
AND COMPETENCY SCORES

<u>Competency</u>	<u>Focused Interview</u>			<u>Self Rating Questionnaire</u>			<u>Business Situations Exercise</u>		
	<u>Factor I</u>	<u>Factor II</u>	<u>Total</u>	<u>Factor I</u>	<u>Factor II</u>	<u>Total</u>	<u>Factor I</u>	<u>Factor II</u>	<u>Total</u>
1	13	- 09	16	01	32*	15	- 11	02	- 12
2	24*	01	34*	08	09	- 15	14	19	20
3	19	- 08	13	10	03	09	04	05	06
4	05	- 04	23	- 06	14	04	03	16	04
5	05	01	13	04	04	03	- 17	- 06	- 18
6	01	- 20	- 20	08	04	11	01	- 03	07
7	16	- 08	01	06	18	18	- 02	- 01	05
8	00	- 10	09	- 05	02	01	01	11	06
9	23*	02	01	- 09	08	05	16	- 07	21
10	20	- 13	- 09	04	- 02	02	17	23*	26
11	14	- 05	18	02	23*	03	12	09	29*
12	03	- 10	09	01	04	03	19	15	20
13	13	- 06	08	03	12	11	10	14	23*

Note \* p < 05

TABLE 35

STEPWISE MULTIPLE REGRESSIONS USING THE TOTAL FACTOR SCORE  
AS THE CRITERION AND THE COMPETENCY SCORES AS THE PREDICTORS

I Focused Interview

No variable entered the equation at the .05 level

II Self Rating Questionnaire

Step 1 Variable Entered: Initiative R = .17 p = .02

Step 2 Variable Entered: Self Confidence R = .19 p = .04

III Business Situations Exercise

Step 1 Variable Entered Assertiveness R = .18 p = .02

TABLE 36

MEANS FOR ACHIEVEMENT, AFFILIATION, AND POWER  
FOR THE FOUR SAMPLE GROUPS

Picture Story Exercise

<u>Motive</u>	<u>Group 1 Average</u>	<u>Group 2 Successful</u>	<u>Group 3 Startup</u>	<u>Group 4 Potential</u>
ACH	1.44	2.08	1.69	1.73
AFF	3.19	2.89	3.22	3.00
POW	1.97	1.58	1.78	1.23

SYMLOG Coding of Focused Interview

<u>Motive</u>	<u>Group 1 Average</u>	<u>Group 2 Successful</u>	<u>Group 3 Startup</u>	<u>Group 4 Potential</u>
ACH	4.55	4.83	3.03	3.77
AFF	4.52	4.70	4.57	5.27
POW	4.02	4.21	4.03	4.30

## Additional Analyses

### Picture Story Exercise and SYMLOG Coding of the Focused Interview

The means for the four groups on the motives for achievement, affiliation, and power are contained in Table 36. Both univariate and multivariate analyses were conducted on these data to ascertain if the groups differed on these motives. None of these analyses were significant. It is evident from the data on the Picture Story Exercise that the subjects obtain higher scores for affiliation than for either achievement or power. This pattern, however, is not reflected in the SYMLOG coding, except for the group of startup and potential entrepreneurs.

Pearson correlations were computed between these motive scores and the competency scores derived from the three scales. Of the 224 correlations computed, only 19 were significant at the .05 level or beyond. Of these 19, 12 were from the matrix of correlations between the SYMLOG coding and the Focused Interview. These significant correlations were all positive and ranged from .17 to .23. Overall, few significant or meaningful relationships exist between the competency scores and the motives for achievement, affiliation, and power.

### Multiple Regression Analyses

A series of multiple regressions were conducted to parallel the analyses conducted in Phase 1. These analyses used the successful-versus-the-average entrepreneurs as the criterion variable, and the competencies as the predictors. None of these analyses were significant.

## Summary and Conclusions

The analyses of the Malawi Phase II data have attempted to answer two main questions. Each of these questions will be reviewed, and the data concerning each question will be summarized.

### Question 1 Do the successful entrepreneurs differ significantly from the average entrepreneurs on the competencies?

The analyses presented in this report make it clear that the two groups do not differ on the competencies. The only exceptions to this are on Competency 8 (Systematic Planning) from the Focused Interview, Competency 1 (Initiative) from the Self Rating Questionnaire, and Competency 12 (Persuasion) from the Business Situations Exercise. In all of the multivariate tests, however, the two groups were not significantly different.

This lack of significant differences between the successful and average entrepreneurs is in marked contrast to the results of

Phase I. Several possible reasons may account for this difference:

1. The sample used in the Phase I analyses included entrepreneurs from India and Ecuador as well as from Malawi. Of these three groups, the Indian entrepreneurs were the ones with the highest means on almost all of the competencies. Moreover, the greatest discrepancy between the average and successful entrepreneurs occurred in the Indian sample. Though no direct comparison of the Malawi sample from Phase I and the sample used in this report was made, a simple observation of the means from the two data sets indicates that the two groups are more similar than different. Therefore, if only the Malawi sample had been used for the Phase I analyses, it is likely that the results would be similar to the results reported here.

2. There is a possible problem in using a nomination procedure for choosing the successful and the average entrepreneurs. The business data indicate that the successful entrepreneurs differ from the average entrepreneurs in recent sales and profits, but not in the current size of the business. Sales and profits are reasonable bases for the nominations, but there may be other factors that are affecting both the nomination procedure and the recent business success.

3. The differences between the successful and the average entrepreneurs in Phase I were found exclusively in the data derived from a research tool similar to the Focused Interview. It is evident from the results presented in this report that the competency scores from the Focused Interview do not have the same statistical properties that were found in the Phase I analyses. For example, the intercorrelations among the competencies were generally insignificant. In fact there was so little commonality among the competencies that a factor solution could not be derived. As mentioned earlier, it is likely that the interviewers for Phase II had less expertise than the interviewers used in Phase I.

Question 2: Are there differences between and among the groups, and if so, which groups are different from each other?

While the data are not completely consistent throughout all of the analyses, it is quite clear that the group of potential entrepreneurs is different from the other three groups. This group has significantly higher means on several of the competencies derived from the Self Rating Questionnaire and the Business Situations Exercise. Moreover, in the discriminant analyses conducted on the Self Rating Questionnaire and the Business Situations Exercise, it was the group of potential entrepreneurs who were most clearly discriminated from the other three groups.

Depending on which test is used, the potential entrepreneurs were found to have higher scores on Initiative, Sees and Acts on Opportunities, Information Seeking, Assertiveness, and Persuasion. Although this group is younger and has more education, the analyses indicated that not all of the differences between this group and the other groups can be explained by these demographic variables. Taken as a whole, the data suggest that the potential entrepreneurs represent a new cohort of entrepreneurs, and that this cohort has some of the attributes needed for successful entrepreneurship.

Overall, the data from the Malawi validation study, while not replicating the results from Phase I, indicate that the personal entrepreneurial competencies can discriminate among groups of entrepreneurs. As mentioned previously, the failure of the Focused Interview to produce data capable of discriminating among the groups of entrepreneurs may well be due to the manner in which these data were collected (that is, the manner in which the interviews were conducted) and/or the validity with which the data were coded. It is interesting that the Self Rating Questionnaire and the Business Situations Exercise, both of which are analyzed less subjectively and are therefore more reliable, were able to differentiate among the groups. Although this discrimination was not generally between the successful and the average entrepreneurs, the fact that any discrimination was possible lends some credibility to the core competency model.

### Discussion

Taken together, the data from the validation study in Malawi are disappointing. The most critical comparisons, between the successful and average groups of existing entrepreneurs, produced very few statistically significant differences.

Results from the two closed-response paper-and-pencil tests, the Self Rating Questionnaire and the Business Situations Exercise, were not surprising. Several previous studies have used tests like these to validate competency models of outstanding performance in various jobs. These studies have produced only small differences, which are often not statistically significant, between successful and average performers. These tests may be too sensitive to social desirability effects.

The Picture Story Exercise has been used successfully in research studies in a variety of cultures, but it did not work in the present study. Aside from the difficulties caused by the culturally different content of some of the pictures, it proved extremely difficult to get respondents to go beyond simple description and to tell an imaginative story. The experience with the validation study in Malawi indicates that this instrument will not work in every culture.

The greatest source of disappointment was the Focused Interview, which failed to differentiate the successful from average groups of existing entrepreneurs. Comments from the field research team and the McBer consultant's analysis of tapes of some of the interviews that were conducted in English revealed significant problems in administering and scoring this instrument. The experience in Malawi showed that this instrument is unlikely to be of practical use without a significant degree of training and practice.

The general absence of significant differences when successful and average entrepreneurs were compared in this study may be explained in two possible ways: (1) in reality there were no differences between the two groups, or (2) there were differences, but the differences were not adequately assessed by the instruments. The first explanation seemed unlikely, since there was clear evidence for differences between the groups in measures of sales, profits, and number of employees. On the other hand, all businesses sampled were among the most successful in Malawi, because of the selection requirements for employees besides the owner/operator. Thus it is possible that a restricted range on the success dimension made it difficult to detect statistically different differences between the groups. The second explanation remained a strong possibility.

TABLE 26

CORRELATIONS AMONG COMPETENCIES FOCUSED INTERVIEW													
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	-	11	12	11	12	06	05	03	- 02	- 02	15	14	06
2		-	17*	04	07	01	16*	16*	11	- 08	12	19*	06
3			--	15	04	02	10	12	13	05	18*	- 04	- 01
4				—	- 06	03	08	23**	09	02	05	02	19*
5					--	19*	14	09	- 06	10	- 00	- 03	- 07
6						—	04	07	02	20*	- 06	10	09
7							—	01	23**	05	09	10	- 02
8								—	06	- 08	05	24**	- 02
9									—	- 01	04	13	- 12
10										--	12	05	03
11											--		- 01
12												-	06
13													--

Note \* p < 05  
 \*\* p < 01

TABLE 27

CORRELATIONS AMONG COMPETENCIES SELF RATING QUESTIONNAIRE

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	--	19*	22**	- 12	15	17*	11	09	17*	27**	28**	02	14
2		--	32**	14	17*	09	16*	11	22**	24**	40**	25**	26**
3			--	07	23**	26**	25**	28**	17*	26**	31**	28	18*
4				--	08	20*	25**	25**	14	- 01	11	34**	09
5					--	20**	31**	21**	10	21**	16*	12	06
6						--	32**	32**	23**	13	11	19*	22*
7							-	31**	12	18*	33*	19*	03
8								-	19*	10	18*	22**	25**
9									-	02	19*	35**	39**
10										--	29**	12	07
11											-	33**	14
12												--	30**
13													--

Note \* p < 05  
 \*\* p < 01

TABLE 28

CORRELATIONS AMONG COMPETENCIES						BUSINESS SITUATIONS EXERCISE							
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	--	03	25**	04	28**	07	14	06	04	12	- 16*	27**	02
2		--	19*	46**	08	09	15	18*	23**	16*	07	22**	04
3			-	21**	09	13	12	17*	04	22*	- 05	22**	- 00
4				-	20*	18*	12	27**	27**	16*	- 07	30**	18
5					--	21**	19*	- 01	19*	14	12	28**	11
6						-	14	08	22**	09	- 03	08	15
7							--	07	25**	13	- 06	05	17*
8								-	09	28**	- 09	17*	16*
9									--	13	- 02	14	15
10										-	07	25**	14
11											--	- 09	04
12												-	16*
13													--

Note \* p < 05

\*\* p < 01

### Revision of the Validation Study Plan

A formal Project Review was held just after the receipt of the pilot data from India, in December of 1985. After this meeting, USAID decided to revise the plans for the remaining validation efforts. Specifically, it was decided

1. To complete the data collection and analyses of the original instruments in Malawi
2. To revise the Information Interview and the Focused Interview for administration in India, to provide additional data of interest to USAID and the Technical Review Committee
3. To drop the remaining instruments from the battery to be administered for the validation study in India
4. To strengthen the validation effort in India by sending a consultant to India to guide the sample selection process and to provide additional training to the in-country research contractor (EDII) in the administration and scoring of the instruments
5. To postpone the plan to validate the selection instruments in Ecuador

### Revision of the Information Interview for Administration in India

The Information Interview was revised to include additional questions about the entrepreneurs and their businesses. For example, questions were added about the interviewee's religion, proficiency in English and other second languages, relatives holding government jobs, and the number of rooms in the house in which the interviewee grew up. The interview protocol for the revised Information Interview that was used in India is displayed in Appendix C.

### Revision of the Focused Interview for Administration in India

The questions added to the Focused Interview asked about the entrepreneurs' perceptions of when they had developed competencies demonstrated in the interview and other skills they viewed as important to their business success. Another change to the Focused Interview was the addition to the competency rating form of two competencies: Monitoring, and Concern for Others' Welfare. These two competencies had differentiated successful from average entrepreneurs in the initial research. The revised protocol for the Focused Interview is displayed in Appendix D.

Additional Interview Training, and Monitoring of  
Sample Selection and Initial Data Collection in India

In an effort to strengthen the validation study in India, McBer sent a consultant to India for two and one-half weeks, to provide additional interview training for the staff of EDII and to monitor the sample selection and initial data collection. The consultant held training sessions on conducting the Focused Interview and on using both the competency scoring and SYMLOG scoring procedures. She agreed on wording changes in some interview questions, to eliminate the possibility of misunderstanding by Indian interviewers and entrepreneurs. She also sat in on the initial project interviews that followed the training and provided coaching to the interviewers.

## PHASE II RESEARCH IN INDIA ADMINISTRATION OF THE SELECTION INSTRUMENTS

### Overview

Revised versions of the Information Interview and the Focused Interview were administered to 28 potential entrepreneurs and to 92 existing entrepreneurs in manufacturing businesses. Potential entrepreneurs were persons without previous entrepreneurial experience who had demonstrated an interest in starting a business by applying for a loan or by enrolling in an entrepreneurship training program. The existing entrepreneurs were equally divided into successful and average groups. The sample groups were identified by nominations from various organizations familiar with entrepreneurs in the regions where interviews were being conducted.

The successful and average groups of entrepreneurs were compared on personal-background and business variables assessed in the Information Interview and on the competency scores and SYMLOG motive scores measured in the Focused Interview. Additional analyses were conducted to compare the potential entrepreneurs with the two groups of existing entrepreneurs and to examine relationships among the many variables assessed.

The most important finding was that the successful entrepreneurs were generally superior to the average ones on the competencies assessed in the Focused Interview. The successful entrepreneurs were also higher on the achievement and power motive scores from the SYMLOG coding of the Interview.

There were few differences among the groups on personal background variables, although the successful group was higher than the average group on a social class index constructed from some of these background variables. But this social class difference did not account for the competency differences between the groups.

### Consultation on the Field Data Collection Procedures

To strengthen the field data collection procedures, a McBer consultant spent 18 days in India, working with EDII, the in-country field research subcontractor. The effort was to revise the instruments as necessary for administration in India, to provide further training in interviewing and coding, to establish effective procedures for the administration of the instruments and for the identification of the samples, and to monitor the initial data collection.

## Revision of the Information Interview

This instrument had already been revised as a result of initial pilot testing and suggestions by the project's Technical Review Committee. After these revisions were discussed with the staff of EDII and the instrument was tried out, some questions were modified, others were added, and new procedures for administering the instrument were adopted. The revised interview form can be found in Appendix C. The changes are summarized below.

1. At the recommendation of the project's Technical Review Committee, new questions on the following topics were added:

- number of brothers and sisters
- number of older brothers and sisters
- religion
- caste
- fluency in English
- fluency in Hindi
- number of other languages spoken
- whether the entrepreneur owns a home
- number of rooms in the entrepreneur's home
- number of close relatives with jobs in government
- number of close relatives with professional jobs

2. The questions on sources of funding for startup and expansion were asked about both the main business and the entrepreneur's first business. Entrepreneurs in India may have more than one business, because the Indian government's incentive structure for small scale industries encourages entrepreneurs to form new companies rather than expand existing ones.
3. The question about highest level of education completed was revised to reflect the Indian educational structure.
4. A question was added to identify the business in which the entrepreneur had had the greatest involvement over the previous year and a half. For entrepreneurs with more than one business, this question served to identify the business about which other questions in the interview would be asked.
5. A question was added about the number of products dropped in the previous three years. Pilot testing had indicated that successful entrepreneurs often dropped unprofitable products.

6. Questions were added about awards received during and after schooling. EDII staff hypothesized that academic performance was much more important to entrepreneurial success in India than it was in the United States
7. A question was added about where the entrepreneur was born and brought up and whether this locale was developed, developing, or undeveloped during the entrepreneur's youth
8. Since the question on caste membership was a sensitive one, this information was obtained from nominating agencies, rather than from the interview

#### Revision of the Focused Interview

Some exploratory questions were added at the suggestion of the project's Technical Review Committee, to provide information on when the competencies were developed. This instrument was also modified after discussion with EDII staff. The changes affected the wording of main questions and follow-up probes, the probing strategy, and the coding of the interview for competencies. The revised instrument appears in Appendix D. The changes are summarized below.

1. The wording of the main questions asking for situations was modified for greater clarity in India.
2. The order of the main questions asking for situations was altered so that the question that was easiest to respond to came first.
3. The wording of some suggested follow-up probes was modified for greater clarity in India
4. Some probes were added to establish a structure for each situation or event being described
5. The procedure for follow-up probing was clarified so that suggested follow-up probes would be asked in a natural order and only when the information was not volunteered by the interviewee.
6. The duration of probing of each situation was allowed to vary, depending on the complexity of the situation being related, the interviewee's rate of speech, and the interviewee's comfort with the interview. The probing strategy was kept uniform, but the length of probing of an individual situation was allowed to vary from 5 to 20 minutes

7. The wording of some of the competency definitions used in coding the interview was modified to achieve greater clarity.
8. An on-line procedure for competency scoring was adopted, in which interviewers checked off evidence of the competencies as situations were being described, instead of waiting until the end of the description. Practice with this method showed that it led to greater reliability of scoring.
9. The competency scoring procedures were amended so that interviewers tracked the frequency of demonstration of each competency within situations, not just presence/absence.
10. At the end of the Focused Interview, each entrepreneur was asked to identify three characteristics important to his or her own entrepreneurial success. The entrepreneur was then asked to say when he or she first remembered using or developing each of these characteristics.
11. Next, the interviewer selected and defined two competencies that had been scored during the interview. The entrepreneur was asked to say when he or she first remembered developing or using each of the two competencies.

#### Interviewer Training

The revisions to the Information Interview and the Focused Interview were made during the same period that the McBer consultant was training and coaching the interviewers. The sequence of training events was as follows:

1. One day was used for reviewing problems encountered in conducting pilot study interviews before the consultant's visit.
2. Two days were used for an interview training workshop for eight EDII staff members. Three of these persons had been previously trained to conduct the original research interviews in India.
3. Four days were used for supervising practice interviews and offering feedback on interviewing.
4. One day was used for intensive coaching and further training for three persons designated as primary interviewers for the project.

5. One day was used for an interview scoring workshop attended by seven of the persons already trained in interviewing.
6. Six additional days were used for individual supervision, coaching, and feedback.

During the final days of practice, the primary interviewers and the McBer consultant independently scored some of the same interviews. The level of agreement among the primary interviewers was about 85 percent. The consultant reported that the method of on-line competency scoring corrected problems of over- and under-coding encountered during the pilot testing.

### Sample

Criteria were established for selecting the three sample groups. Each existing entrepreneur had to be involved in running a manufacturing business that had operated for three to ten years, and each had to have been involved in starting it. To be designated as successful, an entrepreneur had to be nominated as outstanding by at least two different organizations knowledgeable about entrepreneurs in the geographical areas where interviews were being conducted. Average entrepreneurs had to be known by at least one of these organizations but not nominated as outstanding.

The potential entrepreneurs had to be persons without any experience in entrepreneurship but with a demonstrated interest in starting a business. Each potential entrepreneur had applied for a business loan or enrolled in an entrepreneurship training program.

### Procedures for Selecting the Sample Groups

In each geographical region where interviews were to be conducted, EDII sent letters to various organizations with knowledge of local entrepreneurs. These organizations were:

1. State Consultancy Organisation (set up by the national development banks)
2. Lead Bank (a nationalized commercial bank acting as the lead bank in the location)
3. District Industry Centres (a department of the Ministry of Industry, having an office in each district)
4. Small Industries Development Corporation (an organization set up by the state government to develop the infrastructure)

5. Industrial Investment Corporation (set up by the state government to provide finance to medium- and small-scale enterprises)
6. Chambers of Commerce (informal voluntary organizations)
7. Training institutions (voluntary, state-promoted organizations involved in entrepreneurial development training)
8. State Finance Corporations
9. Management Development Institutes

The letter explained the research project and requested nominations of successful, average, and potential entrepreneurs

For formal organizations the letter was addressed to the chief executive. Subsequently, a meeting was held with the chief executive and the organization's field staff to obtain the names and addresses of successful and average existing entrepreneurs

The EDII field research staff also met with less formal voluntary organizations to obtain nominations.

To select the successful group, it was important to screen from among those persons nominated as outstanding. A list was prepared of entrepreneurs nominated by at least two organizations. As one check on the validity of this list, the EDII staff verified the names, by contacting other manufacturers of the same type of product and asking whether the nominated entrepreneur met the selection criteria and was perceived to have a successful business. As another check, the research team contacted the State Finance Corporation or the Lead Bank, to find out whether the business was regularly making a profit.

In rural areas nominations were usually obtained from the District Industry Centre and from the Village Panchayat, a collective body responsible for management of the village. Nominations were also solicited from the Lead Bank and from village leaders. To screen the nominations, lists of persons nominated were discussed with village leaders or, in the case of rural locations, with members of the municipal corporation, to insure that the samples selected met the selection criteria

Nominations of potential entrepreneurs were obtained by contacting training organizations, banks, or District Industry Centres.

When the samples of successful, average, and potential entrepreneurs had been identified, the EDII staff enlisted the

help of the nominating organizations in making the initial contact with the entrepreneurs. An officer of a nominating organization was asked to brief the entrepreneur about the research project and the objectives of the interviews. In rural areas village leaders sometimes performed this role. Afterwards, the EDII research team contacted the entrepreneur to arrange a time for the interviews.

### Administration of the Instruments

The interviews were administered by four interviewers: the project manager and the three persons who had been identified as primary interviewers and had received the most interview training during the McBer consultant's visit. The project manager and one of the primary interviewers had conducted some of the interviews that were part of the original research in India

Approximately half of the interviews were conducted at the entrepreneur's place of business. Most of the rest were conducted at testing centers set up by the field research team. Only three interviews out of the entire sample of 120 were conducted at the entrepreneurs' residences. If the instruments were not administered at the entrepreneur's place of business, transportation was provided to the testing location.

In all interviews with existing entrepreneurs, the interviewer knew whether the person belonged to the successful or average group, but this information was never communicated to the entrepreneur.

The interviews were conducted in Hindi, English, or another language spoken by both the interviewer and the entrepreneur.

As a result of experiences during pilot testing, the order of administration of the Information Interview and Focused Interview was modified. The Information Interview originally had been administered first. Because of the time required to complete the Information Interview, however, the Focused Interview sometimes could not be completed as thoroughly as required

Therefore, some of the questions for the Information Interview were asked at the time of initial contact with the entrepreneur, when an EDII staff member stopped at the entrepreneur's business premises to schedule the interview. To insure that the sample selection criteria were met, the EDII staff member asked questions 1,2,3, and 9, and if time permitted asked the other questions dealing with personal background.

For the formal interview, the Focused Interview was conducted first, followed by the remaining questions from the Information Interview. Thus the most sensitive section of the Infor-

mation Interview, dealing with the business's sales and profits, always came after the Focused Interview, when some rapport had been established between the interviewer and the entrepreneur

### Monitoring the Field Data Collection

The McBer consultant and the EDII project staff set up a quality control procedure in which tape recordings of the first ten interviews were exchanged and independently scored. This procedure checked reliability and assured that the interviewing and scoring procedures and standards were being maintained. Then, as the field data collection progressed, this process was repeated with the random selection of one of every ten interview tapes.

### Overview of the Results

The results of greatest interest are the comparisons of the successful and average existing entrepreneurs. These analyses are presented first. The groups are compared on personal background variables, competency scores, business data, and SYMLOG motive scores. Relationships among these variables are also analyzed for the existing entrepreneurs. Next, the data for the potential entrepreneurs are summarized and compared with the data for the two groups of existing entrepreneurs. Summarized last are the data from the final questions of the Focused Interview, on the acquisition of personal entrepreneurial characteristics.

### Main Analyses Comparing Successful and Average Groups

#### Descriptive Data: Background Variables

A total of 46 average and 46 successful entrepreneurs were interviewed. A summary of the demographic data for these two groups is presented in Table 37. Various parametric and nonparametric analyses (primarily t-tests and chi squares) were conducted to ascertain if the two groups differed on demographic variables. These analyses indicated the following

- 1 The two groups of entrepreneurs were strikingly similar on almost all of the demographic variables. The differences that were significant seem minor in comparison to the similarities. These differences are described below.

- a. The economy of the locale where the entrepreneurs were brought up differed for the two groups. The average entrepreneurs more often were brought up in a developing locale, and the successful entrepreneurs were brought up in either an underdeveloped or a developed locale
  - b. The occupations of the entrepreneurs' fathers differed for the two groups. The fathers of the successful entrepreneurs were more characteristically white-collar professionals than the fathers of the average entrepreneurs. An examination of the distribution for this variable, however, indicates that the two groups were quite similar
2. Since the two groups were so similar, this sample of entrepreneurs can be characterized by the following descriptive statements The average or successful Indian entrepreneur used in this phase of the study
    - a. Is likely to be male
    - b. Lives in Uttar Pradesh or Orissa

- c. Has approximately 13 5 years of schooling with at least some university study
- d. Has not generally received distinction during or after school
- e Has not typically had either technical or management training
- f. Is approximately 38 years old
- g Was brought up in an urban environment
- h. Is married
- i. Has two or three children
- j. Comes from a somewhat larger family than his or her own current family
- k Is not typically the oldest child
- l. Is a member of the Hindu religion
- m Comes from one of a number of castes but is slightly more likely to come from the Brahmin caste
- n. Speaks fairly good English and Hindi
- o. Owns his or her own home
- p. Had a father who was semiskilled or a white-collar nonprofessional and a mother who was a housewife
- q. Did not typically have either family members or friends who had started a business

The two groups of entrepreneurs were also asked a series of questions about their businesses. The responses to these questions are presented in Tables 38, 39, and 40. As with the background variables, the two groups were similar in almost every respect. As might be expected, the successful entrepreneurs had somewhat higher profits and sales than the average entrepreneurs. On most of the descriptive variables, however, the two groups did not differ:

- a. Most of the businesses were located in either small towns or cities

- b. Both groups manufactured a wide range of products. The highest frequency, for metal products, was not significantly higher than frequencies for several other products.
- c. The successful entrepreneurs were more likely to have partners, although this difference was not significant.
- d. Most of the entrepreneurs had started the business on their own.
- e. The successful entrepreneurs had been in business somewhat longer than the average entrepreneurs (6.98 years compared with 5.67 years). This difference was marginally significant.
- f. —Most of the entrepreneurs owned only one business.
- g. Each entrepreneur managed the business alone.
- h. Few products had been added or dropped during the previous three years.

Both groups were generally positive in their perceptions of how the business was doing, although the successful entrepreneurs were more positive. This was especially true in their perception of how the business was doing compared with one year earlier.

The two groups were also very similar in their reasons for starting the business, the sources of funding, and the problems encountered in starting the business.

- a. The primary reasons given for starting the business were "to earn a living," "saw the opportunity," and "to be independent."
- b. The primary source of funding for startup of the business and for expansion was either the government (for startup) or a bank (for expansion). None of the comparisons between the two groups for any of these questions was significant.
- c. The principal problems encountered by both groups in starting the business were lack of capital and problems with the government.

#### Analyses of Differences on the Competency Scores

The means and standard deviations for the two groups on each of the 15 competencies are contained in Table 41. These statistics are computed for both raw scores and frequency scores. Table 41 also displays the results of t-tests comparing the two

groups on each competency. Complete frequency distributions and skewness for each competency are displayed in Table 42.

Several aspects of the data recorded in Table 41 are of interest. First, the raw scores are typically somewhat lower than the frequency scores (This difference is to be expected, since the frequency scoring allowed competencies to be counted more than once per situation in the Focused Interview.) It is also evident, however, that the pattern of the data both across competencies and between the two groups is essentially the same for raw scores and frequency scores. Second, the means for the successful entrepreneurs are generally higher than the means for the average entrepreneurs. Though it is recognized that the t-tests are not appropriate as a sole inferential statistic, it is clear that many of the competencies significantly discriminate between the average and the successful entrepreneurs. Significant differences were found for the following competencies (using the raw score data):

Sees and Acts on Opportunities	p = 035
Persistence	p = 007
Information Seeking	p = 000
Concern for High Quality of Work	p = 054
Commitment to Work Contract	p = .050
Systematic Planning	p = .005
Self Confidence	p = .025
Use of Influence Strategies	p = .014

Thus, for 8 of the 15 competencies, the mean of the successful group was significantly higher than the mean of the average group. Moreover, in only two cases was the mean of the average group higher than the mean of the successful group (Efficiency Orientation and Concern for Others Welfare), and neither of these comparisons approached significance.

To correct for the problem of making multiple comparisons on one set of data, several multivariate tests were computed on both the raw scores and the frequency scores. First, an uncorrelated Hotelling's  $T^2$  was computed on both sets of data to ascertain if the two groups could be differentiated. This produced a highly significant difference for the raw scores ( $T^2 = 189.11$ ,  $p = 0042$ ) and a marginally significant difference for the frequency scores ( $T^2 = 78.92$ ,  $p = 031$ )

Second, a one way MANOVA (multivariate analysis of variance) was computed on both sets of data. For the raw scores, Wilks' lambda equalled .638,  $p = .00133$ . For the frequency scores, lambda equalled .7475,  $p = .07155$ . Therefore, this analysis, which is somewhat more stringent than the Hotelling's  $T^2$ , gives nearly identical results.

Since the MANOVA is the more appropriate statistical test for these data, the two recommended post-hoc procedures for following up a significant overall effect were computed. The first of these is the computation of simultaneous confidence intervals, the second is the computation of a discriminant analysis. The procedure using simultaneous confidence intervals indicated that the two groups differed on the following competencies.

Sees and Acts on Opportunities

Persistence

Information Seeking

Commitment to Work Contract

Systematic Planning

Self Confidence

Use of Influence Strategies

These results are identical to the results from the individual t-tests.

The discriminant analysis performed on the data produced a significant function ( $\lambda = .638$ ;  $p = .0013$ ). The two discriminant function coefficients with values greater than .4 were for Information Seeking and Systematic Planning. At the most conservative level, therefore, it can be said that the successful entrepreneurs differed significantly from the average ones, and that the two strongest elements in this difference were Information Seeking and Systematic Planning. The complete set of discriminant function coefficients is contained in Table 43.

#### Analyses of Relationships Among the Competency Scores

The correlations among the competency scores using both the raw and the frequency data are contained in Table 44. A principal factoring with iteration method of factor analysis followed by a varimax rotation was computed on both sets of competency scores. The results of both factor analyses are contained in Table 45. For the raw scores, four factors with eigenvalues greater than one were obtained. A scree test indicated that only

the first three of these were robust. Using a criterion of a factor loading of .5 or greater, and placing a competency in the factor on which it demonstrates the higher loading if the .5 criterion is met more than once, we defined the three factors as follows

Factor 1. Initiative  
Sees and Acts on Opportunities  
Concern for High Quality of Work  
Commitment to Work Contract  
Efficiency Orientation  
Problem Solving  
Self Confidence  
Monitoring  
Concern for Others' Welfare

This factor, which accounts for 36 percent of the variance, contains 9 of the 15 competencies and seems to represent a proactive concern for quality and standards.

Factor 2. Persistence  
Assertiveness  
Use of Influence Strategies

This factor accounts for an additional percent of the variance and seems to represent a persistent concern for influencing others.

Factor 3 Systematic Planning  
Persuasion

This factor accounts for an additional 8 percent of the variance and seems to center on Systematic Planning.

It is also evident from Table 45 that the factor structure using the frequency scores, though not identical to the factor structure using the raw scores, is nearly the same. This analysis produced five factors with eigenvalues greater than one, although only the first three of these, or perhaps only the first two, are robust. Table 44 also shows that the correlations among the competencies using the raw scores are somewhat stronger than the correlations using the frequency data. For this reason, the factor analysis using the raw scores would seem to be preferred

To ascertain if the two groups of entrepreneurs differed on the three factors, factor scores were computed and entered into a two group MANOVA. This produced a highly significant Wilks' lambda for the factor scores derived from the raw data (lambda =

.715,  $p = .00001$ ). Follow-up tests using the method of simultaneous confidence intervals indicated that the two groups differed significantly on Factors 2 and 3 ( $p < .001$ ). The two groups were only marginally different on Factor 1 ( $p = .08$ ). The analysis using the frequency scores produced similar results, although the level of significance was in each case reduced ( $\lambda = .84$ ,  $p = .012$ ).

#### Analysis of the Business Performance Data

Several analyses on the business performance variables were conducted to see if the competencies and the business variables were related, and how well the business variables differentiated the two groups of entrepreneurs. First, correlations were computed between the competencies (using the raw scores) and the business variables. The significant correlations are displayed in Table 46. It is evident from Table 46 that the correlations are low to moderate, and that the majority of the significant correlations occur between the competencies and profits rather than sales.

A factor analysis of the business variables was conducted to see if these variables could be reduced to a smaller set. This produced four factors with eigenvalues greater than one, three of which seemed robust. The factor matrix is contained in Table 47. It is evident from Table 47 that Factor 1 represents recent sales, Factor 2 recent profits, and Factor 3 sales and profits in the second year of the business (if the business had been in existence for more than four years). Factor scores were computed on these factors and entered into a two group MANOVA (multivariate analysis of variance). This analysis produced a highly significant difference between the two groups of entrepreneurs (Wilks'  $\lambda = .692$ ,  $p = .0002$ ). The simultaneous contrasts indicated that the two groups were significantly different on Factor 1 and Factor 2 ( $p < .01$  in each case) but that the groups did not differ on Factor 3 ( $p = .14$ ).

#### Analysis of SYMLOG Scores

The means and standard deviations for Power, Affiliation, and Achievement by group are contained in Table 48. A two group MANOVA was conducted on these data to ascertain if the average entrepreneurs differed from the successful entrepreneurs on these variables. This analysis produced a highly significant Wilks'  $\lambda$  ( $\lambda = .832$ ,  $p = .0012$ ). The follow-up tests using simultaneous confidence intervals indicated that the groups differed significantly on Power and Achievement but not on Affiliation. These MANOVA results, therefore, are identical to the t-test results that are included in Table 48.

TABLE 37

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave.</u>	<u>Succ.</u>	<u>Signif.</u>
<u>Sex</u>			
Male	44	45	
Female	2	1	
<u>Geographical Area</u>			
Madhya Pradesh	0	0	
Uttar Pradesh	19	19	
Orissa	17	20	
Gujarat	10	7	
Other	0	0	
<u>No Yrs. of Schooling</u>			
Mean	13.35	13.52	
Standard Deviation	3.75	3.68	
<u>Highest Level of Education Completed</u>			
No formal schooling	0	1	
Some primary	2	0	
Primary completed	0	0	
Some secondary	2	2	
Secondary completed	2	2	
Some diploma studies	0	0	
Diploma completed	2	1	
Some university studies	7	5	
University degree	13	16	
Some postgraduate studies	6	8	
Postgraduate degree	8	9	
<u>Has Entrepreneur Received Distinction During Schooling?</u>			
Yes	14	22	
No	30	22	

TABLE 37 -- CONTINUED, SECOND PAGE  
 BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
 SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave.</u>	<u>Succ.</u>	<u>Signif.</u>
<u>Has Entrepreneur Received Awards After Schooling?</u>			
Yes	6	5	
No	38	41	
<u>Marital Status</u>			
Single	3	6	
Married	41	39	
Separated	0	0	
Divorced	0	0	
Widow/Widower	1	0	
<u>Number of Children</u>			
0	5	8	
1	6	4	
2	13	12	
3	12	14	
4	5	4	
5	3	1	
6 +	1	3	
Mean	2 53	2.46	
Standard Deviation	1 87	1.86	
<u>No. of Brothers and Sisters</u>			
0	1	1	
1	1	7	
2	6	3	
3	13	10	
4	7	8	
5	4	2	
6	2	6	
7 +	11	9	
Mean	4.47	4.35	
Standard Deviation	2.50	2.81	

TABLE 37 -- CONTINUED, THIRD PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ.</u>	<u>Signif</u>
<u>Has Entrepreneur Had Additional Technical Training Since School?</u>			
Yes	12	15	
No	34	31	
<u>Has Entrepreneur Had Any Management Training?</u>			
Yes	15	13	
No	31	33	
<u>Did Entrepreneur Previously Hold a Related Job?</u>			
Yes	6	9	
No	40	36	
<u>Did Entrepreneur Hold Any Job Prior to Starting the Business?</u>			
Yes	25	23	
No	21	23	
<u>Age</u>			
Mean	38 11	38 28	
Standard Deviation	7 66	8 39	
<u>Locale Where Entrepreneur Was Brought Up</u>			
Undeveloped	11	23	Chi Square = 13 49 p = .001
Developing	12	7	
Developed	9	13	

TABLE 37 -- CONTINUED, FOURTH PAGE  
 BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
 SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ.</u>	<u>Signif.</u>
<u>Is Entrepreneur The Oldest Child?</u>			
Yes	15	17	
No	29	28	
<u>Number of Older Brothers</u>			
Mean	1.05	.78	
Standard Deviation	1.15	1.19	
<u>Number of Older Sisters</u>			
Mean	.85	.83	
Standard Deviation	1.05	1.16	
<u>Religion</u>			
Hindu	43	43	
Islam/Moslem	1	2	
Other	1	1	
<u>Does Entrepreneur Speak English?</u>			
Yes, Fair	11	7	
Yes, Good	26	25	
Yes, Excellent	6	10	
No	4	3	
<u>Does Entrepreneur Speak Hindi?</u>			
Yes, Fair	11	7	
Yes, Good	26	25	
Yes, Excellent	6	10	
Yes, Native Language	1	3	
No	0	0	

TABLE 37 -- CONTINUED, FIFTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ</u>	<u>Signif.</u>
<u>Number of Other Languages Spoken</u>			
0	17	9	
1	20	25	
2	8	10	
3	0	2	
<u>Caste</u>			
Brahmin/Shukla	8	11	
Rajput	0	2	
Bhanduja	1	1	
Kayastha	0	1	
Arora	2	1	
Mallah	1	1	
Matah	0	1	
Katijal	0	1	
Gupta	1	2	
Khatri	3	2	
Aggarwal	4	1	
Ansari	0	1	
Multani	0	1	
Vaish	1	3	
Baniya	1	2	
Viswakarma	0	1	
Kandayat	0	1	
Karam/Karan	5	7	
Vaishnan	0	1	
Patel	4	3	
Shnetambas Jain	0	1	
Kalra	1	0	
Grover	1	0	
Kari	1	0	
Shukh	1	0	
Mittal	1	0	
Jain	2	0	
Khatriya	2	0	
Oil Man	1	0	
Kashyatriya	1	0	
Kadhua Patel	1	0	
Meheshwari	1	0	

TABLE 37 -- CONTINUED, SIXTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ.</u>	<u>Signif.</u>
<u>Does Entrepreneur Own Home?</u>			
Yes	33	37	
No	12	9	
<u>Number of Rooms in Home</u>			
1	1	0	
2	7	0	
3	5	7	
4	10	11	
5	7	5	
6	5	8	
7	2	4	
8	3	4	
9 +	6	7	
Mean	4.93	5.67	
Standard Deviation	2.33	2.06	
<u>Level of Father's Occupation</u>			
Unskilled	1	0	
Semiskilled	11	8	
White Collar, Nonprofessional	13	14	
White collar, Professional	1	8	
Entrepreneur	6	0	
Cannot Determine	14	16	
			Chi square = 13.09, p = .0226
<u>Level of Mother's Occupation</u>			
Unskilled	1	0	
Semiskilled	0	1	
White Collar, Nonprofessional	0	0	
White Collar, Professional	0	0	
Entrepreneur	0	0	
Housewife	45	44	
Cannot Determine	0	1	

TABLE 37 -- CONTINUED, SEVENTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ</u>	<u>Signif.</u>
<u>Do Any Close Relatives Have Jobs in Government?</u>			
None	19	24	
One Person	15	10	
More Than One person	12	12	
<u>Do Any Close Relatives Have Professional Jobs?</u>			
None	25	26	
One Person	12	9	
More Than One Person	8	11	
<u>Did Entrepreneur Work in a Business Owned by a Family Member?</u>			
Yes	10	6	
No	35	39	
<u>How Many Close Friends of Entrepreneur Had Started a Business?</u>			
0	23	17	—
1	9	8	
2	4	5	
3 +	10	16	
<u>How Many People Did Entrepreneur Know Who Had Started a Business?</u>			
Mean	15.77	19.33	
Standard Deviation	21 08	29.28	

TABLE 37 -- CONTINUED, EIGHTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ.</u>	<u>Signif</u>
<u>Numbers of Rooms in Home</u> <u>Besides Kitchen and Bath</u> <u>When Entrepreneur was Age 12</u>			
Mean	3.94	3 97	
SD	2.88	2 41	
<u>Has Anyone in Family Ever</u> <u>Started a Business?</u>			
None	25	26	
One Person	11	12	
More Than One Person	10	8	

TABLE 38

BUSINESS-RELATED VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave</u>	<u>Succ.</u>	<u>Signif</u>
<u>Business Location</u>			
Rural	3	4	
Small Town	22	21	
Large Town	2	3	
City	19	18	
<u>Type of Products Manufactured</u>			
Building Supplies	2	4	
Dyes and Chemicals	3	6	
Pharmaceuticals	5	2	
Garments	2	2	
Food Products	4	3	
Plastic Products	3	3	
Metal Products	8	8	
Metal Fabricating	1	2	
Textiles	1	0	
Rubber and Petroleum	3	1	
Leather Goods	1	2	
Wood Products	2	2	
Printed Materials	1	3	
Paper/Jute	6	4	
Electronics	1	0	
Machinery	1	3	
Other	2	1	
<u>Owner or Partner</u>			
Sole Proprietor	30	23	
Key Partner	16	23	
Other	0	0	
<u>Number of Years Since Business Started</u>			
Mean	5.67	6.98	t = 4 16
Standard Deviation	2.32	3.66	p = 044

TABLE 38 -- CONTINUED, SECOND PAGE

BUSINESS-RELATED VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave.</u>	<u>Succ</u>	<u>Signif.</u>
<u>Did Entrepreneur Start Business</u>			
<u>Alone or With Others?</u>			
On Own	31	29	
With One Other Person	8	10	
With Two Other Persons	2	1	
With Three or More Persons	4	5	
<u>Sales, Second Year in Business</u>			
Mean	3.68	11.52	
Standard Deviation	4.67	35.52	
<u>Profits, Second Year in Business</u>			
Mean	.05	.33	
Standard Deviation	.40	2.29	
<u>Sales, Three Years Ago</u>			
Mean	5.45	18.86	t = 1.86
Standard Deviation	8.66	45.67	p = .068
<u>Sales, Two Years Ago</u>			
Mean	7.83	19.91	
Standard Deviation	12.08	45.12	
<u>Sales, Last Complete Year</u>			
Mean	9.82	31.92	t = 2.25
Standard Deviation	15.18	64.82	p = .029
<u>Profits, Last Complete Year</u>			
Mean	.48	2.11	t = 3.24
Standard Deviation	1.11	3.20	p = .002

TABLE 38 -- CONTINUED, THIRD PAGE

BUSINESS-RELATED VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave.</u>	<u>Succ.</u>	<u>Signif</u>
<u>Annual Turnover</u>			
Mean	11.57	20.85	
Standard Deviation	19 27	45 67	
<u>How Much Income Is Taken Home During the Dry Season?</u>			
Mean	28	1.67	
Standard Deviation	40	7 74	
<u>How Much Income Is Taken Home During the Rainy Season?</u>			
Mean	.10	.21	
Standard Deviation	.58	.33	
<u>Does the Entrepreneur Take Goods Home from the Business?</u>			
Yes	3	1	
No	8	16	
<u>Value of Goods Taken Home During the Rainy Season</u>			
Mean	.01	.00	
Standard Deviation	.01	.00	
<u>Number of Other Businesses Owned</u>			
Mean	33	63	
Standard Deviation	.63	1.04	

TABLE 38 -- CONTINUED, FOURTH PAGE

BUSINESS-RELATED VARIABLES FOR THE  
SUCCESSFUL AND AVERAGE GROUPS

	<u>Ave.</u>	<u>Succ.</u>	<u>Signif.</u>
<u>Does Entrepreneur Manage Business Himself or Herself?</u>			
Yes	46	46	
No	0	0	
<u>Number of Products Dropped in Past Three Years</u>			
Mean	.17	.42	
Standard Deviation	.61	1.48	
<u>Number of Products Added in Past Three Years</u>			
Mean	.74	.82	
Standard Deviation	1.71	1.68	

TABLE 39

PERCEPTIONS OF HOW BUSINESS IS DOING  
INDIA, PHASE II DATA

	<u>Much Better</u>	<u>A Little Better</u>	<u>About the Same</u>	<u>A Little Worse</u>	<u>Much Worse</u>	<u>Mean</u>	<u>Signif</u>
<u>How Is Business Doing Compared With One Year Ago?</u>							
Average	12	17	6	9	2	2.39	t = 4.44
Successful	33	9	1	3	0	1.43	p = .000
<u>How Is Business Doing Compared With Three Years Ago?</u>							
Average	24	12	3	4	3	1.91	t = 1.88
Successful	33	9	0	3	1	1.48	p = .064
<u>If You Have Several Businesses, How Are They Doing Compared With One Year Ago?</u>							
Average	2	4	2	0	0	2.22	n s
Successful	7	4	0	2	0	1.79	
<u>If You Have Several Businesses, How Are They Doing Compared To Three Years Ago?</u>							
Average	3	3	1	1	0	2.00	n s
Successful	11	0	0	2	0	1.46	

TABLE 40

REASONS FOR STARTING THE BUSINESS, SOURCES OF FUNDING, AND  
PROBLEMS ENCOUNTERED: SUCCESSFUL AND AVERAGE GROUPS

<u>Reasons for Starting the Business</u>	<u>Average</u>	<u>Successful</u>
To earn a living	.28	.22
To support family	.02	.02
To be independent	.22	.30
Inspired by others	.11	.20
Provide a service	.04	.04
Develop India	.00	.04
Earn more money	.17	.17
Saw the opportunity	.43	.41
Tax Advantage	.11	.02
Other	.54	.50
 <u>Sources of Funding for Startup of Main Business</u>		
Bank	.39	.50
Government	.50	.59
Self	.78	.78
Partners	.22	.28
Family	.35	.43
Friends	.13	.17
Other	.07	.50
 <u>Sources of Funding for Expansion</u>		
Bank	.57	.63
Government	.13	.13
Self	.11	.07
Partners	.02	.04
Family	.13	.11
Friends	.04	.04
Other	.11	.04

Note: The numbers in the table represent the proportion of each group offering this response or answering yes to each question.

TABLE 40 -- CONTINUED, SECOND PAGE

REASONS FOR STARTING THE BUSINESS, SOURCES OF FUNDING, AND  
PROBLEMS ENCOUNTERED SUCCESSFUL AND AVERAGE GROUPS

<u>Sources of Funding for Startup of First Business</u>	<u>Average</u>	<u>Successful</u>
Bank	.02	.02
Government	.07	.04
Self	.07	.13
Partners	.09	.04
Family	.02	.09
Friends	.00	.04
Other	.00	.02
 <u>Sources of Funding for Expansion of First Business</u>		
Bank	.07	.02
Government	.00	.02
Self	.00	.04
Partners	.00	.02
Family	.04	.04
Friends	.02	.00
Other	.02	.00
 <u>Problems Encountered in Starting the Business</u>		
Lack of suitable premises	.15	.07
Lack of customers	.07	.09
Difficulty obtaining tools	.13	.07
Difficulty obtaining supplies	.09	.17
Problems obtaining electricity	.09	.15
Competitors	.07	.04
Lack of qualified workers	.13	.26
Problems with employees	.07	.00
Problems with transportation	.00	.00
Nonpaying customers	.00	.00
Lack of capital	.57	.67
Problems with government	.30	.26

Note: The numbers in the table represent the proportion of each group offering this response or answering yes to each question

TABLE 41

## MEAN COMPETENCY SCORES USING RAW DATA AND FREQUENCY DATA

Competency	Raw Scores				Frequency Scores			
	Group		t	p	Group		t	p
	Average	Successful			Average	Successful		
Initiative	88	1 23	1 41	16	1 07	1 25	63	53
Sees and Acts On Opportunities	1 44	2 11	2 13	04*	1 58	2 11	1 62	11
Persistence	1 76	2 55	2 78	01*	2 71	3 14	86	39
Information Seeking	1 88	2 95	3 63	00*	2 59	3 70	2 65	01*
Concern for High Quality of Work	1 32	1 91	1 97	05*	1 63	2 30	1 49	14
Commitment to Work Contract	1 34	1 93	1 98	05*	1 61	2 23	1 77	08
Efficiency Orientation	2 73	2 70	07	94	3 56	3 39	- 37	71
Systematic Planning	2 41	3 11	2 92	01*	3 24	3 61	93	36
Problem Solving	2 29	2 93	1 78	08	2 78	3 32	1 15	25
Self Confidence	1 85	2 68	2 29	03*	2 32	3 34	2 10	04*
Assertiveness	1 61	1 98	1 33	19	2 46	2 52	13	89
Persuasion	2 73	3 07	1 12	23	3 88	3 64	- 47	64
Use of Influence Strategies	1 41	2 61	2 52	01*	2 02	2 66	1 40	17
Monitoring	1 22	1 52	96	34	1 44	1 64	55	58
Concern for Others' Welfare	98	86	- 51	61	1 24	1 00	- 78	43

\* p &lt; .05

TABLE 42

## FREQUENCIES OF COMPETENCY SCORES FOR EXISTING ENTREPRENEURS

	<u>Initiative</u>			<u>Persistence</u>			<u>Sees and Acts on Opportunities</u>			<u>Information Seeking</u>		
	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>
Frequency												
0	18	18	36	12	1	13	13	6	19	3	2	5
1	16	10	26	8	6	14	11	14	25	17	9	26
2	10	8	18	12	17	29	11	8	19	17	2	19
3	1	7	8	5	11	17	6	7	13	3	14	17
4	1	3	4	7	10	17	5	7	12	4	13	17
5	0	0	0	1	1	2	0	4	4	2	6	8
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10 +	0	0	0	0	0	0	0	0	0	0	0	0
Mean	88	1 23	1 11	1 76	2 55	2 18	1 44	2 11	1 84	1 88	2 95	2 42
Std Dev	95	1 31	1 15	1 47	1 11	1 35	1 32	1 55	1 46	1 20	1 43	1 49
Skewness	94	62	84	31	03	- 02	44	37	46	98	- 48	23

	<u>Concern for High Quality of Work</u>			<u>Efficiency Orientation</u>			<u>Commitment to Work Contract</u>			<u>Systematic Planning</u>		
	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>
Frequency												
0	17	10	27	4	5	9	17	7	24	1	0	1
1	8	11	19	8	10	18	8	13	21	11	3	14
2	0	7	17	8	7	15	12	10	22	13	10	23
3	5	10	15	9	4	13	6	10	16	14	16	30
4	5	6	11	12	8	20	1	3	4	6	13	19
5	1	2	3	5	12	17	2	3	5	1	4	5
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10 +	0	0	0	0	0	0	0	0	0	0	0	0
Mean	1 32	1 91	1 71	2 73	2 70	2 74	1 34	1 91	1 67	2 41	3 11	2 72
Std Dev	1 47	1 51	1 50	1 52	1 80	1 65	1 39	1 41	1 42	1 12	1 06	1 14
Skewness	64	28	44	21	- 08	- 12	81	48	59	15	- 11	- 02

Note Ave = Average Group, Succ = Successful Group

TABLE 42 -- CONTINUED

FREQUENCIES OF COMPETENCY SCORES FOR EXISTING ENTREPRENEURS

	<u>Problem Solving</u>			<u>Assertiveness</u>			<u>Self Confidence</u>			<u>Persuasion</u>		
	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>
Frequency												
0	9	1	10	9	7	16	9	6	15	5	2	7
1	6	10	16	14	13	27	14	8	22	7	1	8
2	9	9	18	13	10	23	6	7	13	6	12	18
3	5	7	12	8	9	17	9	8	17	12	10	22
4	14	5	19	2	6	8	4	6	10	11	15	26
5	3	14	17	0	1	1	4	11	15	5	6	11
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10 +	0	0	0	0	0	0	0	0	0	0	0	0
Mean	2.29	2.93	2.71	1.61	1.98	1.75	1.85	2.68	2.33	2.73	3.07	2.92
Std Dev	1.12	1.62	1.66	1.13	1.35	1.25	1.56	1.76	1.70	1.53	1.26	1.42
Skewness	.15	-.04	-.09	.27	.29	.35	.51	-.08	.22	-.33	-.50	-.46

	<u>Use of Influence Strategies</u>			<u>Concern for Others' Welfare</u>			<u>Monitoring</u>		
	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>	<u>Ave</u>	<u>Succ</u>	<u>Total</u>
Frequency									
0	12	6	18	15	23	38	18	17	35
1	16	12	28	17	10	27	13	10	23
2	9	10	19	12	9	21	7	6	13
3	5	8	13	2	2	4	4	6	10
4	4	7	11	0	2	2	3	7	10
5	0	3	3	0	0	0	1	0	1
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10 +	0	0	0	0	0	0	0	0	0
Mean	1.41	2.61	1.70	.98	.86	.97	1.22	1.52	1.34
Std Dev	1.24	1.48	1.41	.88	1.13	1.01	1.34	1.48	1.42
Skewness	.68	.29	.52	.35	1.14	.85	1.06	.55	.78

Note Ave = Average Group, Succ = Successful Group

TABLE 43  
DISCRIMINANT FUNCTION COEFFICIENTS  
ON THE RAW SCORE DATA

<u>Competency</u>	
Initiative	-.05
Sees and Acts on Opportunities	.14
Persistence	.20
Information Seeking	50*
Concern for High Quality of Work	.00
Commitment to Work Contract	.26
Efficiency Orientation	-.27
Systematic Planning	.41*
Problem Solving	.14
Self Confidence	.05
Assertiveness	10
Persuasion	- 03
Use of Influence Strategies	.23
Monitoring	-.23
Concern for Others' Welfare	- 10

\* Denotes competencies with loadings greater than 4

TABLE 44

## CORRELATIONS AMONG COMPETENCIES

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Initiative	1	--	59*	40*	10	46	27*	38*	15	56*	49*	30*	25	25	56*	36*
Sees and Acts	2	44*	--	29*	21	65*	33*	57*	20	64*	65*	12	21	15	52*	29*
Persistence	3	16	03	-	11	27*	14	08	03	41*	37*	39*	36*	42*	37*	12
Info Seeking	4	- 09	- 02	- 06		19	00	26	20	16	22	- 00	- 14	01	15	- 05
Concern Qual Work	5	27*	51*	- 03	- 09	--	54*	57*	13	62*	71*	09	03	06	58*	46*
Commitmt Work	6	10	19	03	10	37*	--	35*	24	34*	45*	02	19	09	36*	27*
Effic Orientation	7	24	40*	08	10	43*	16	--	12	69*	60*	- 01	01	07	53	40*
Syst Planning	8	10	03	04	12	- 15	03	- 04	-	20	23	09	19	04	26	03
Problem Solving	9	54*	58*	08	05	47*	10	42*	08	--	57*	15	38*	19	67	26
Self Confidence	10	36*	55*	22	- 00	60*	42	43*	10	41*	-	13	23	20	63*	28*
Assertiveness	11	23	- 05	45*	00	- 06	11	- 12	22	09	03	--	23	29*	14	09
Persuasion	12	20	00	37*	- 12	- 12	11	- 21	25	16	16	31*	--	35*	27*	09
Use Influent Strat	13	10	01	45*	17	- 11	02	- 05	11	- 02	13	25	45*	-	12	10
Monitoring	14	39*	47*	19	- 09	50*	32	40	05	49*	55*	03	13	03	--	31*
Concern for Others	15	25	22	- 06	- 29	32*	10	28*	- 01	20	20	- 07	- 08	04	25	

Note Correlations for raw scores are in upper quadrant and for frequency scores in lower quadrant Correlations significant at  $p < .01$  are shown with an asterisk

TABLE 45  
FACTOR ANALYSES

<u>Competency</u>	Raw Score Factors				Frequency Score Factors				
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
Initiative	62*	45	- 01	13	66*	25	- 22	21	17
Sees and Acts on Opportunities	77*	18	10	05	78*	- 02	08	02	01
Persistence	25	76*	06	25	09	83*	03	11	- 25
Information Seeking	18	- 06	13	59*	08	- 15	09	- 82*	14
Concern for High Qual Work	87*	02	- 05	00	68*	- 13	36	11	- 23
Commitment to Work Contract	60*	10	27	- 48	16	01	86*	06	05
Efficiency Orientation	79*	- 08	05	09	67*	- 23	08	- 07	- 10
Systematic Planning	21	- 05	71*	31	03	08	02	- 10	91*
Problem Solving	74*	29	21	- 04	80*	09	12	08	11
Self Confidence	79*	18	17	- 01	69*	18	49	- 06	04
Assertiveness	03	69*	- 07	25	07	66*	- 33	- 12	11
Persuasion	09	50*	59*	45	- 01	69*	15	11	39
Use of Influence Strategies	06	69*	05	12	- 06	70*	11	15	08
Monitoring	74*	21	20	- 06	68*	12	32	09	01
Concern for Others' Welfare	58*	04	- 47	07	36	- 15	- 02	64*	05
Eigenvalue	5 45	1 89	1 20	1 09	4 04	2 4	1 3	1 2	1 02

\* Denotes loadings exceeding  $\pm .50$

TABLE 46

## CORRELATIONS BETWEEN THE COMPETENCIES AND THE BUSINESS PERFORMANCE VARIABLES

<u>Competency</u>	<u>Sales</u> <u>Last</u> <u>Year</u>	<u>Profits</u> <u>Last</u> <u>Year</u>	<u>Sales</u> <u>2 Yrs</u> <u>Ago</u>	<u>Profits</u> <u>2 Yrs</u> <u>Ago</u>	<u>Sales</u> <u>3 Yrs</u> <u>Ago</u>	<u>Profits</u> <u>3 Yrs</u> <u>Ago</u>	<u>Sales</u> <u>2nd Yr</u> <u>in Bus</u>	<u>Profits</u> <u>2nd Yr</u> <u>in Bus</u>	<u>Annual</u> <u>Turn-</u> <u>over</u>	<u>Income</u> <u>Dry</u> <u>Seas</u>	<u>Income</u> <u>Rainy</u> <u>Seas</u>
Initiative											
Sees and Acts on Opportunities	27	30		30							
Persistence											
Information Seeking	36	35			31				28		
Concern for High Quality of Work	28	34	30	29			29		32		
Commitment to Work Contract	35		32								
Efficiency Orientation	29	34	27	33		29			29		
Systematic Planning		30									
Problem Solving				30					29		
Self Confidence	29	33									
Assertiveness				29							
Persuasion								-30			-38
Use of Influence Strategies							27	28			
Monitoring		31							32		
Concern for Others' Welfare							30	30			

NOTE Only correlations for which p is less than .01 are included in table

TABLE 47

## FACTOR ANALYSIS OF THE BUSINESS PERFORMANCE VARIABLES

<u>Variable</u>	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
Sales last complete year	.89*	.15	.16
Profits last complete year	.21	.68*	.14
Sales two years ago	.98*	.16	.23
Profits two years ago	.11	.93*	.17
Sales three years ago	.94*	.12	.17
Profits three years ago	.12	.94*	.09
Sales 2nd year of business	.33	.15	.86*
Profits 2nd year of business	.04	.09	.87*
Annual Turnover	.36	.24	-.15
Income dry season	.03	.03	.04
Income rainy season	.03	.01	.10
Eigenvalue	4.56	1.75	1.28

\* Denotes competencies with loadings greater than .4

TABLE 48  
SYMLOG SCORES

	Average Entrepreneurs		Successful Entrepreneurs		t	p
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
Power	1.34	3.97	5.13	3.53	4.64	.000
Affiliation	3.78	3.88	4.31	4.03	.63	.533
Achievement	3.86	3.33	5.56	2.54	2.65	.010

### Additional, Subsidiary Analyses of the Data for Successful and Average Entrepreneurs

Numerous analyses were conducted to clarify the relationships among the variables in the data for the successful and average entrepreneurs. These analyses involved all aspects of the data set and attempted to test whether the essential difference between the successful and average entrepreneurs lies in the competency variables or whether alternative explanations can be supported.

#### Analyses Using an Index of Socioeconomic Status

Though few of the background or demographic variables individually discriminated between the two groups, there was a tendency for the successful entrepreneurs to have somewhat higher levels on variables that reflect social class. To ascertain how much effect these differences have on the two groups, a score was derived for each subject reflecting his or her social-class status. Two procedures were followed. First, the relevant variables were normalized across both groups, producing z scores on each variable for each subject. These z scores were then summed to produce a total score. The second method involved dichotomizing or trichotomizing the variables, and then summing these scores. Since the two methods produced nearly identical results, and since the second method is less open to the problem of lack of homogeneity of variance between groups, this method will be presented.

The variables used for this analysis suggested by the Project Director from USAID, are presented in Table 49, together with the specific scoring procedures used to transform each variable for the analysis. Several analyses were performed using the index of socioeconomic status (labeled SES in the tables). These analyses are presented below

Comparison of the Average and Successful Entrepreneurs. An uncorrelated t-test was computed comparing the mean scores of the average and successful entrepreneurs. This produced a t of 2.41,  $p = .018$ , indicating that the successful entrepreneurs were from a more advantaged background. As mentioned previously, few of the variables were significant individually, but the composite index did discriminate between the two groups.

Correlations between SES and the Competencies. Pearson correlations were computed between the SES index and the competency data. These correlations are contained in Table 50. It is evident from Table 50 that the index of SES does not, in general, correlate with the competency data. Of the 30 correlations computed, only two were significant at the .05 level, and both of these accounted for only about 6 percent of the variance.

Analyses of Covariance Using SES as the Covariate. Analyses of covariance (ANCOVAs) were computed to compare the two groups on the competencies, using SES as the covariate. The results of these analyses, along with comparisons of the ANOVA results on the same data, are presented in Table 51. It is evident from Table 51 that covarying SES does not significantly affect the results. The same pattern of results was obtained in both sets of analyses. Thus, though the two groups differ in SES, this SES difference does not explain the difference between the two groups on the competencies.

Discriminant Analysis Using SES and the Competency Scores. Another way to ascertain the effect of SES on the competency differences between the two groups was to repeat the two-group discriminant analysis computed previously (Table 43), using SES as an additional discriminating variable. The results of this analysis are presented in Table 52. Part A of Table 52 shows the variables that entered significantly into the discriminating equation. Although SES enters the equation at the fourth step, these results are not essentially different from the results presented in Table 43. Information Seeking is the strongest discriminator in both analyses. In the original analysis, this variable is followed, first by Systematic Planning and then by Commitment to Work Contract. In the analysis using SES, the order of the standardized canonical discriminant function coefficients places Commitment to Work Contract second, followed by SES.

Multiple Regression Using SES and the Competency Score as Predictors of Entrepreneurial Success The SES index was also used, along with the competency scores, as a predictor of entrepreneurial success (the dichotomous classification of average--vs.--successful was the criterion variable). These results, also presented in Table 52, are identical to the results from the discriminant analysis. Taken together, these results indicate that SES accounts for, at most, one percent of the explained variance in the comparisons between the average and the successful entrepreneurs.

Other Analyses Using SES. In addition to the analyses presented above, several other analyses using SES were conducted. These included a two-group MANCOVA (multivariate analysis of covariance) and a hierarchical regression, with SES entered first, followed by the competencies. Neither of these analyses produced results markedly different from those already presented.

#### Additional Analyses Relating the Competency Factor Scores to the Business Performance Variables

To further explore the relationships within the data set, the factor scores derived from the competencies were correlated with the business performance variables. These results are pre-

sented in Table 53. It is evident from Table 53 that most of the significant relationships occur with Factor 1. In general, those entrepreneurs who had high scores on Factor 1 (Initiative, Sees and Acts on Opportunities, Concern for High Quality, Commitment to Work Contract, Efficiency Orientation, Problem Solving, Self Confidence, Monitoring, and Concern for Others' Welfare) had higher values on the business performance variables. As in previous analyses with the business performance variables, these relationships were stronger for profits than for sales.

#### Additional Analyses Using the Factor Scores Derived from the Business Performance Variables

Correlations were computed between the factor scores derived from the business performance variables and the competencies. These correlations, presented in Table 54, seem to be consistent with the MANOVA results presented previously. In the MANOVA the two groups of entrepreneurs were shown to differ on Factors 1 and 2 but not on Factor 3. It is evident from Table 54 that most of the significant correlations occur with Factors 1 and 2, especially with Factor 2. The higher an entrepreneur's scores on most of the competencies, the higher the profits in that entrepreneur's business during the preceding year.

#### Analyses Using Indices of Business Growth

To investigate whether the businesses of the two groups of entrepreneurs differed in their rate of growth, of their businesses, several indices of change were computed. These were

1. Recent growth in sales -- computed by dividing sales during the last complete year by sales two years ago
2. Recent growth in profits -- computed by dividing the profits during the last complete year by profits two years ago
3. Prior growth in sales - computed by dividing sales two years ago by sales three years ago
4. Prior growth in profits - computed by dividing profits two years ago by profits three years ago.

The two groups of entrepreneurs were compared on these four indices. The means, standard deviations, and the results of uncorrelated t-tests are shown in Table 55. Of these four tests, only the analysis for recent growth in profits was significant ( $t = 2.08$ ,  $p = .041$ ). The rate of recent growth in profits was higher for the successful group than for the average group.

### Discriminant Analysis Comparing the Successful and Average Groups on All Composite Scores

To ascertain the power of all composite scores to discriminate between the two groups of entrepreneurs, a two--group discriminant analysis was conducted using the factor scores derived from the competencies, the factor scores derived from the business variables, the SES index, and the indices of business growth. The results of this analysis are displayed in Table 56. The composite scores, taken together, do not discriminate between the two groups.

### Analyses Investigating Consistency of Business Performance

Many of the analyses presented thus far have shown that the successful group of entrepreneurs scored significantly higher than the average group on many of the competencies. The successful group was also significantly higher on sales and profits in the last complete year. Was it possible that the successful entrepreneurs were nominated not on the basis of consistent superior business performance but on the basis of an extraordinarily good but atypical, year? If so, their recent success might have caused them to approach the Focused Interview with more enthusiasm or to provide more detailed descriptions of what they had done in past situations. As a result, they might have obtained higher scores on the competencies assessed during the interview.

To examine the hypothesis of recent atypical business success as an explanation both for membership in the successful group and for superior performance in the Focused Interview, we first devised a way to group the entrepreneurs according to the consistency of their business's performance over the two-year period preceding the interview. The following simple method was used.

The distributions for business sales and profits for the last complete year and for the preceding year were each divided approximately into thirds. These divisions were not based on any theoretical assumptions but were performed to satisfy two criteria. First, the groupings (low, medium, and high) had to approximately divide the sample into thirds. Second, all tied scores had to go into one group rather than be split between groups to obtain a more equal distribution. Table 57 displays the numbers of persons classified by this method as low, medium, and high for the four business performance variables in question.

The entrepreneurs were then regrouped according to their relative performance over the two-year period. Sales and profits were treated separately, as follows:

	<u>Last Year</u>	<u>Two Years Ago</u>
Group 1	Low	Low
Group 2	Low	Medium
Group 3	Low	High
Group 4	Medium	Low
Group 5	Medium	Medium
Group 6	Medium	High
Group 7	High	Low
Group 8	High	Medium
Group 9	High	High

Three of these groups demonstrate consistent performance. Group 1 (consistently low), Group 5 (consistently medium), and Group 9 (consistently high). Persons in these groups could thus be called consistent. Groups 2, 3, and 6 comprise entrepreneurs with a higher position in the last complete year than they had two years ago. That is, they moved from low to medium or high, or they have moved from medium to high. These persons could be called ascenders. In contrast, members of Groups 4, 7, and 8 had a lower position in the last complete year than they had two years ago. These persons could be called descenders. The distributions of the nine groups across the average and successful entrepreneurs, for both sales and profits, are shown in Table 58. Table 58 also shows the distributions of Consistent entrepreneurs, Ascenders, and Descenders.

To determine whether the business consistency groupings would differentiate the average and successful groups of entrepreneurs, chi-square analyses were computed, both with the nine-group consistency classification and with the aggregate classification consistent entrepreneurs, Ascenders, and Descenders. This computation was done separately for sales and for profits. The results are displayed in Tables 59 and 60. None of these analyses yielded a significant chi-square, although the analyses using the nine-group classification approached significance.

The chi-square analyses using the nine-group consistency classification were not completely appropriate, because of the low expected frequencies in many cells. However, since the results approached statistical significance, these analyses were recomputed, using only Groups 1, 5, and 9 (the consistent entrepreneurs). Both of these chi-squares were significant (for Sales, chi-square = 9.32,  $p = .010$ ; for Profits, chi square = 8.238,  $p = .0163$ ). These analyses, therefore, indicate that the average entrepreneurs were generally low in profits and sales in both of the last two years, and the successful entrepreneurs were generally high.

The second analysis in Table 60, using the three-way business consistency grouping, shows equal proportions of Consistent entrepreneurs. Moreover, there is no indication that

the successful entrepreneurs are more characteristically Ascenders or that the average group are more characteristically Descenders.

Some additional analyses were conducted to determine whether the business consistency groupings provided a stronger way of analyzing the data than the average/successful classification. The competency scores (raw score data) of Groups 1, 5, and 9 (the groups that were consistently low, medium, and high, respectively) were compared. This comparison was done separately for consistency groupings based on Sales and again on Profits. Because of the exclusion of entrepreneurs who were not Consistent, the analyses using groupings based on Sales used data from 78 entrepreneurs; the analyses using groupings based on Profits used data from 70 entrepreneurs. The results of the analyses based on Sales groupings are presented in Table 61. The results of analyses using Profits groupings are displayed in Table 62. The data in these tables were analyzed using one-way ANOVAs (analyses of variance). The three groups differed significantly on eight of the competencies when the groupings were based on consistency in Sales and on six of the competencies when the groupings were based on consistency in Profits.

Next, three-group discriminant analyses were conducted on the raw competency data for Groups 1, 5, and 9, to test the power of the entire set of competency scores to discriminate the three groups. Once again, these analyses were performed separately for groupings based on consistency in Sales and for groupings based on consistency in Profits. The results for Sales groupings are displayed in Table 63 and those for Profits groupings in Table 64. A higher level of statistical significance was obtained when the groupings were based on Sales than on Profits, but this difference may be due in part to differences in the numbers of entrepreneurs used in the two analyses

The primary purpose of these analyses was to decide if the consistency groupings provide a more powerful way to analyze the competency data than the average/successful classification. It should be kept in mind that the data presented thus far indicate that these two ways of classifying the entrepreneurs are highly correlated. One way to decide between the two classification schemes is to compute "Eta-squared" for the data reported in Tables 61 and 62 and to compare these results with the parallel analyses based on the average/successful classification, which were reported in Table 41. (Eta-squared is a measure of how much of the variance is accounted for by the difference between the groups, as compared to the variability within the groups.) For the data in Table 61, the average Eta-squared is .08; the range is from .007 to .24. For the original analysis in Table 41, the average Eta-squared is .12; the range is from .002 to .27. About eight percent of the variance in the competency scores is accounted for by dividing the entire sample into consistently

high, medium, and low groups. On the other hand, about 12 percent of the variance in competency scores is accounted for by dividing the sample into average and successful groups.

Another way to compare these two classification methods is to contrast the results from discriminant analyses using each method. This approach is somewhat problematical, since it involves comparing a two-group analysis to a three-group analysis. Despite the difficulty in this comparison, the results of the discriminant analysis using the consistency classification (based on Sales) seem somewhat more powerful than the analysis using the average/successful classification. Table 63 shows that the first function is highly significant ( $p = .0008$ ). It is evident that the first function differentiates the low from the medium and high groups. The significance level for the comparable analysis, using the average/successful classification, as reported in Table 43, is  $.0013$ .

It is clear from the results using the two classification methods that there is little comparability between them. For example, all of the analyses presented previously indicated that profits were more important than sales in differentiating the average from the successful entrepreneurs, and that profits correlated more highly with the competencies than did sales. In the discriminant analyses using the classifications based on business consistency, the groupings based on sales showed stronger relationships to the competency scores than did groupings based on profits.

Overall, there are no compelling reasons to choose a classification based on consistency of business performance over the average/successful classification established through the sample selection process. What is clear is that the successful entrepreneurs were not nominated or selected because of a successful, but an atypical, past year. Most of the entrepreneurs remained either high, medium, or low, in terms of both sales and profits from year to year. It is evident from the chi-square analyses that the successful entrepreneurs are much more likely than the average entrepreneurs to be in the high group, and that the average entrepreneurs are more likely to be in the low group. This is the pattern to be expected if the nomination and sample selection process is valid.

#### Summary of Differences Between the Average and Successful Groups

The successful entrepreneurs differed from the average entrepreneurs on many of the competencies. Across the various analyses conducted, the competencies can be grouped into sets that have decreasing differentiating power. These sets are as follows:

1. Strong Discriminators

Information Seeking  
Systematic Planning  
Persistence

2. Moderate Discriminators

Use of Influence Strategies  
Commitment to Work Contract  
Self Confidence

3. Weak Discriminators

Sees and Acts on Opportunities  
Concern for High Quality of Work  
Problem Solving

4. Non Discriminators

Initiative  
Assertiveness  
Persuasion  
Monitoring

5. Negative Discriminators

(Competencies Somewhat Characteristic of Average Entrepreneurs)

Efficiency Orientation  
Concern for Others' Welfare

Besides the differences on the competencies, was a difference in socioeconomic status. On average, the successful entrepreneurs tended to come from a more advantaged background. Although this SES difference may account for some of the difference between the two groups and may conceivably have influenced the nominations of the successful group, the effect of this difference on the data is minimal. Empirically, therefore, SES cannot be regarded as the sole issue or major factor which differentiating the two groups.

The two groups of entrepreneurs also differed in the SYMLOG scoring of the Focused Interview. The successful group was significantly higher on Achievement and Power.

As would be expected, the two groups differed in various measures of business performance. The successful group was significantly higher on factor scores reflecting sales and profits over the previous three years. The successful group showed a consistent pattern of superiority in sales and profits over this period. Not surprisingly, the successful entrepreneurs were also

more positive than the average group in their perceptions of the success of their businesses as compared with the previous year or with three years earlier

TABLE 49

SCORING PROCEDURES FOR VARIABLES USED TO CONSTRUCT  
SOCIOECONOMIC STATUS (SES) INDEX

<u>Variable</u>	<u>Scoring Procedure</u>
Did entrepreneur achieve distinction in school?	1 = No 2 = Yes
Highest level of education completed	1 = Diploma completed or less 2 = Some university study or more
Caste	1 = Lower 15 castes in Table 37 2 = Middle 15 castes 3 = Upper 15 castes
Does entrepreneur speak English?	1 = No 2 = Fair or good 3 = Excellent
Does entrepreneur speak Hindi?	1 = Fair or good 2 = Excellent/Native Language
Does entrepreneur speak languages other than English and Hindi?	1 = No 2 = Yes
Number of rooms in home	1 = 1 or 2 2 = 3 or 4 3 = 5 or more
Level of father's occupation	1 = Unskilled or semiskilled 2 = White collar 3 = Entrepreneur
Number of friends who started a business	1 = None 2 = 1 or 2 3 = 3 or more
Reason for starting a business	1 = to earn a living; to support a family 2 = Self fulfillment; to develop India (All other reasons uncoded)

TABLE 50  
CORRELATIONS BETWEEN COMPETENCY SCORES  
AND THE SES INDEX

<u>Competency</u>	<u>Raw Score Data</u>	<u>Frequency Score Data</u>
Initiative	-.08	- 02
Sees and Acts on Opportunities	-.13	-.12
Persistence	.12	.15
Information Seeking	.01	12
Concern for High Quality of Work	-.01	06
Commitment to Work Contract	-.08	- 04
Efficiency Orientation	-.16	-.04
Systematic Planning	.10	.15
Problem Solving	.00	11
Self Confidence	-.08	- 01
Assertiveness	.18	25*
Persuasion	.08	09
Use of Influence Strategies	.16	24*
Monitoring	-.17	-.15
Concern for Others' Welfare	-.09	- 12

\*  $p < .05$

TABLE 51

COMPARISON OF ANOVA AND ANCOVA RESULTS IN COMPARISONS  
OF AVERAGE AND SUCCESSFUL GROUPS ON THE COMPETENCIES

<u>Competency</u>	ANOVA		ANCOVA	
	<u>F</u>	<u>p</u>	<u>F</u>	<u>p</u>
Initiative	1.51	.162	2.36	.128
Sees and Acts on Opportunities	4.53	.041*	5.37	.023*
Persistence	7.73	.001**	7.31	.008**
Information Seeking	13.18	.001**	18.40	.001**
Concern for High Quality of Work	3.88	.053*	2.67	.105
Commitment to Work Contract	3.92	.052*	5.29	.024*
Efficiency Orientation	-.04	.947	.29	.59
Systematic Planning	8.53	.008**	8.94	.004**
Problem Solving	3.17	.083	4.43	.038*
Self Confidence	5.24	.029*	6.57	.012**
Assertiveness	1.77	.194	2.50	.118
Persuasion	1.25	.237	2.76	.100
Use of Influence Strategies	6.35	.004**	4.33	.040
Monitoring	.92	.347	1.20	.276
Concern for Others' Welfare	.26	.613	.08	.768

Note: SES was used as the covariate in the above analyses.

\* p < .05

\*\* p < .01

TABLE 52

DISCRIMINANT ANALYSIS AND MULTIPLE REGRESSION  
ANALYSIS USING THE COMPETENCIES AND SES

I. Discriminant Analysis

A. Variables Entering the Equation

<u>Step</u>	<u>Variable Entered</u>	<u>Wilks' Lambda at Step</u>
1	Information Seeking	.8268
2	Persistence	.7617
3	Systematic Planning	.7059
4	SES	.6655
5	Commitment to Work Contract	.6383
6	Use of Influence Strategies	.6084
7	Efficiency Orientation	.6000

B. Standardized Canonical Discriminant Function Coefficients

Information Seeking	.71*
Persistence	.33
Systematic Planning	.32
SES	.37
Commitment to Work Contract	.45*
Use of Influence Strategies	.26
Efficiency Orientation	-.33

II. Multiple Regression Analysis

<u>Variables Entering</u>	<u>R</u>	<u>BETA</u>	<u>F</u>	<u>p</u>
Information Seeking	.42	.33	17.38	.000
Persistence	.48	.23	12.82	.000
Systematic Planning	.54	.22	11.25	.000
SES	.58	.20	10.05	.000

Note: Coefficients exceeding  $\pm .40$  are indicated with an asterisk.

TABLE 53

CORRELATIONS BETWEEN THE BUSINESS PERFORMANCE VARIABLES  
AND FACTOR SCORES DERIVED FROM THE COMPETENCIES

	Factor 1	Factor 2	Factor 3
Sales Last Year	.24**	.08	.14
Profits Last Year	.40**	.14	.28**
Sales Two Years Ago	.26*	.05	.15
Profits Two Years Ago	.37**	.14	.22*
Sales Three Years Ago	.20	.04	.09
Profits Three Years Ago	.28**	.08	.17
Sales Second Year in Business	.04	.01	-.13
Profits Second Year in Business	.13	.14	-.12
Annual Turnover	.32**	.14	.24*

Note: \* p < .05  
 \*\* p < .01

TABLE 54

CORRELATIONS BETWEEN THE COMPETENCIES AND FACTOR  
SCORES DERIVED FROM THE BUSINESS PERFORMANCE VARIABLES

<u>COMPETENCY</u>	<u>Factor 1</u> <u>Recent</u> <u>Sales</u>	<u>Factor 2</u> <u>Recent</u> <u>Profits</u>	<u>Factor 3</u> <u>Second</u> <u>Year</u>
Initiative	.07	.24*	-.02
Sees and Acts on Opportunities	.25*	.32**	.05
Persistence	.08	.10	-.04
Information Seeking	.31**	.31**	.20*
Concern for High Quality of Work	.25*	.33**	.16
Commitment to Work Contract	.15	.34**	.00
Efficiency Orientation	.27**	.35**	.15
Systematic Planning	.20*	.29**	.03
Problem Solving	.21*	.31**	-.04
Self Confidence	.26*	.29**	.13
Assertiveness	.04	.20*	.03
Persuasion	-.02	.03	-.20*
Use of Influence Strategies	.00	.03	.23*
Monitoring	.17	.29**	-.01
Concern for Others' Welfare	.01	.12	.26*

Note. Raw scores were used for competency scores

\*  $p < .05$

\*\*  $p < .01$

TABLE 55

## COMPARISONS BETWEEN THE GROUPS ON THE INDICES OF BUSINESS GROWTH

<u>Business Index</u>	Average Entrepreneurs		Successful Entrepreneurs		t	p
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
Recent Growth in Sales	1.71	2.66	1.47	.66	.56	.58
Prior Growth in Sales	1.76	.96	1.60	1.75	.52	.60
Recent Growth in Profits	1.09	1.45	1.89	1.95	2.08	.04
Prior Growth in Profits	2.78	5.49	1.20	1.19	-1.64	.11

TABLE 56

## DISCRIMINANT ANALYSIS USING ALL COMPOSITES

Canonical Correlation = .63, Wilks' Lambda = .6005, p = .1055

## Standardized Canonical Discriminant Function Coefficients

Competency Factor Score 1	-.20
Competency Factor Score 2	.50*
Competency Factor Score 3	.14
Business Factor Score 1	.33
Business Factor Score 2	.66*
Business Factor Score 3	-.38
SES	.16
Recent Sales	.21
Prior Sales	-.34
Recent Profits	.74*
Prior Profits	-.27

\* Denotes coefficients with loadings exceeding  $\pm .40$ .

TABLE 57

CLASSIFICATION OF THE EXISTING ENTREPRENEURS  
ON FOUR BUSINESS PERFORMANCE VARIABLES

<u>Variable</u>	<u>Classification</u>		<u>Frequency</u>
Sales Last Year	Low	(Less than 3)	28
	Medium	(3 to 13.99)	35
	High	(14 or more)	29
Sales Two Years Ago	Low	(Less than 3)	34
	Medium	(3 to 10.99)	30
	High	(11 or more)	28
Profits Last Year	Low	(Less than .2)	29
	Medium	(.2 to 1.19)	38
	High	(1.2 or more)	25
Profits Two Years Ago	Low	(Less than .09)	29
	Medium	(.1 to .69)	35
	High	(.7 or more)	28

Note: The numbers used to establish the classifications for sales and profits are in lacs (1 lac = 100,000 rupees)

TABLE 58

DISTRIBUTIONS OF EXISTING ENTREPRENEURS FOR BUSINESS  
PERFORMANCE CONSISTENCY GROUPINGS

<u>Group</u>	<u>Last Year</u>	<u>Two Years Ago</u>	<u>Sales</u>	<u>Profits</u>
Group 1	Low	Low	27	21
Group 2	Low	Medium	1	5
Group 3	Low	High	0	3
Group 4	Medium	Low	6	6
Group 5	Medium	Medium	26	28
Group 6	Medium	High	3	4
Group 7	High	Low	1	2
Group 8	High	Medium	3	2
Group 9	High	High	25	21
Consistent (Groups 1,5,9)			78	70
Ascenders (Groups 2,3,6)			4	14
Descenders (Groups 4,7,8)			10	8

Note: The groupings on this page were established separately for sales and for profits. The classifications of Low, Medium, and High are based on the criteria shown in Table 57 for dividing the sample approximately into thirds, separately for each of four business performance variables (sales last year, sales two years ago, profits last year, and profits two years ago).

TABLE 59

COMPARISON OF THE AVERAGE AND SUCCESSFUL GROUPS ON  
BUSINESS PERFORMANCE CONSISTENCY GROUPINGS FOR SALES

A Using the Nine-Way Business Consistency Grouping

	Group								
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
Average	19	1	0	3	13	1	0	2	7
Successful	8	0	0	3	13	2	1	1	18

Chi-square = 11.99, p = .101, not significant

B Using the Aggregated Three-Way Business Consistency Grouping

	Group		
	<u>Consistent</u>	<u>Ascenders</u>	<u>Descenders</u>
Average	39	2	5
Successful	39	2	5

Chi-square = 0.00, not significant

TABLE 60

COMPARISON OF THE AVERAGE AND SUCCESSFUL GROUPS ON  
BUSINESS PERFORMANCE CONSISTENCY GROUPINGS FOR PROFITS

A. Using the Nine-Way Business Consistency Grouping

	Group								
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
Average	13	3	3	3	17	1	0	1	5
Successful	8	2	0	3	11	3	2	1	16

Chi-square = 14.44, p = .078, not significant

B. Using the Aggregated Three-Way Business Consistency Grouping

	Group		
	<u>Consistent</u>	<u>Ascenders</u>	<u>Descenders</u>
Average	35	7	4
Successful	35	5	6

Chi-square = 74, p = .786, not significant

TABLE 61

COMPARISON OF THE MEAN COMPETENCY SCORES OF GROUPS CLASSIFIED  
ON THE BASIS OF CONSISTENT SALES PERFORMANCE

<u>Competency</u>	Group			<u>F</u>	<u>p</u>	<u>Newman-Keuls</u>
	<u>Low</u>	<u>Medium</u>	<u>High</u>			
Initiative	96	92	1 48	1 78	1744	-
Sees and Acts on Opportunities	1 37	1 73	2 56	4 67	0122	<u>1 2 3</u>
Persistence	2 19	2 00	2 44	65	5225	--
Information Seeking	2 03	2 27	3 04	4 05	0214	<u>1 2 3</u>
Concern for High Quality of Work	81	1 92	2 56	11 76	0000	1 <u>2 3</u>
Commitment to Work Contract	1 00	1 85	2 40	6 69	0021	1 <u>2 3</u>
Efficiency Orientation	2 11	2 46	3 52	5 90	0042	<u>1 2 3</u>
Systematic Planning	2 33	2 57	3 24	4 47	0147	1 <u>2 3</u>
Problem Solving	2 48	2 54	3 36	2 52	0866	-
Self Confidence	1 44	2 61	3 12	7 75	0009	1 <u>2 3</u>
Assertiveness	1 85	1 50	1 96	87	4245	--
Persuasion	1 24	1 55	1 27	2 72	0723	--
Use of Influence Strategies	1 70	1 85	1 56	27	7586	--
Monitoring	93	1 15	2 04	4 56	0135	<u>1 2 3</u>
Concern for Others' Welfare	67	1 00	1 08	1 32	2729	

Note Mean competency scores are based on raw score data. One way ANOVAs were conducted. In the case of significant findings, post hoc Newman Keuls tests were performed. For the Newman Keuls results, 1, 2, and 3 refer to the Low, Medium and High groups. Underlining indicates that two groups are not significantly different from each other but both groups differ from the third, non-underlined group.

TABLE 62

COMPARISON OF THE MEAN COMPETENCY SCORES OF GROUPS CLASSIFIED  
ON THE BASIS OF CONSISTENT PROFITS PERFORMANCE

<u>Competency</u>	Group			F	p	<u>Newman Keuls</u>
	<u>Low</u>	<u>Medium</u>	<u>High</u>			
Initiative	95	96	1 62	2 36	1022	
Sees and Acts on Opportunities	1 42	1 71	2 57	3 46	0371	<u>1 2 3</u>
Persistence	2 19	2 25	2 29	03	9745	
Information Seeking	2 19	2 00	2 95	2 84	0650	
Concern for High Quality of Work	1 14	1 78	2 43	3 71	0295	<u>1 2 3</u> , <u>1 2 3</u>
Commitment to Work Contract	1 19	1 61	2 71	7 35	0013	<u>1 2 3</u>
Efficiency Orientation	2 47	2 17	3 85	7 18	0015	<u>2 1 3</u>
Systematic Planning	2 28	2 71	3 09	2 57	0840	
Problem Solving	2 52	2 50	3 42	2 31	1065	
Self Confidence	1 47	2 25	3 62	10 99	0001	<u>1 2 3</u>
Assertiveness	2 00	1 67	1 81	34	7113	
Persuasion	3 04	2 96	3 28	34	7125	
Use of Influence Strategies	1 57	1 86	1 90	37	6945	
Monitoring	86	1 18	2 04	4 67	0126	<u>1 2 3</u>
Concern for Others' Welfare	1 05	1 07	86	34	7145	

Note Mean competency scores are based on raw score data. One way ANOVAs were conducted. In the case of significant findings, post hoc Newman Keuls tests were performed. For the Newman Keuls results, 1, 2, and 3 refer to the Low, Medium and High groups. Underlining indicates that two groups are not significantly different from each other but both groups differ from the third, non underlined group.

TABLE 63

THREE-GROUP DISCRIMINANT ANALYSIS USING BUSINESS CONSISTENCY  
GROUPINGS BASED ON SALES

Function 1: Eigenvalue = .74, Wilks' Lambda = .409; p = 0008

Function 2. Eigenvalue = .40; Wilks' Lambda = .712, p = .0602

Discriminant Function Coefficients for Functions 1 and 2

	<u>1</u>	<u>2</u>
Initiative	-.24	.26
Sees and Acts on Opportunities	-.17	.36
Persistence	-.18	.28
Information Seeking	.25	.26
Concern for High Quality of Work	.71*	.01
Commitment to Work Contract	.23	.21
Efficiency Orientation	-.14	.77*
Systematic Planning	.33	.24
Problem Solving	-.01	-.61*
Self Confidence	.57*	-.96*
Assertiveness	-.11	.48*
Persuasion	-.65*	.54*
Use of Influence Strategies	.44*	.75*
Monitoring	-.15	.50*
Concern for Others' Welfare	.02	-.17

Canonical Discriminant Functions at Group Centroids

	<u>1</u>	<u>2</u>
Low	-1.16	.05
Medium	.56	-.77
High	.67	.75

Note: Raw competency scores of groups consistently low, medium, and high in Sales were used in this analysis. Coefficients larger than  $\pm .40$  are indicated with an asterisk.

TABLE 64

THREE-GROUP DISCRIMINANT ANALYSIS USING BUSINESS CONSISTENCY  
GROUPINGS BASED ON PROFITS

Function 1: Eigenvalue = .78, Wilks' Lambda = .45; p = 0219

Function 2: Eigenvalue = .23, Wilks' Lambda = .81, p = 5519

Discriminant Function Coefficients for Function 1

Initiative	.38
Sees and Acts on Opportunities	-.21
Persistence	-.27
Information Seeking	.31
Concern for High Quality of Work	-.06
Commitment to Work Contract	.58*
Efficiency Orientation	.29
Systematic Planning	.06
Problem Solving	-.28
Self Confidence	.55*
Assertiveness	-.01
Persuasion	.05
Use of Influence Strategies	-.04
Monitoring	.23
Concern for Others' Welfare	-.65*

Note: Raw competency scores of groups consistently low, medium, and high in Profits were used in this analysis. Coefficients larger than  $\pm .40$  are indicated with an asterisk.

## Analyses of the Data from Potential Entrepreneurs

The Information Interview and Focused Interview were also administered to 28 potential entrepreneurs, persons who had demonstrated an interest in entrepreneurship by applying for a loan or enrolling in an entrepreneurship training program. The Information Interview was modified for use with the potential entrepreneurs, by eliminating questions about the current business and using instead some questions about the intended business.

The main reason to study potential entrepreneurs is to determine whether the competency scores or any of the other variables assessed can predict which potential entrepreneurs actually start businesses and operate them successfully. A predictive validation study would require waiting at least a year after administering the selection instruments before attempting to assess entrepreneurial success. The schedule for completion of the project did not permit a follow-up study of the potential entrepreneurs.

The data from the potential entrepreneurs were, however, interesting from another standpoint. These data provide a baseline of performance with a sample drawn from the population for which the selection instruments were intended. The main purpose of the analyses presented in this section is to describe the group of potential entrepreneurs and to compare this group to the average and successful groups of existing entrepreneurs. Some previously described analyses comparing the average and successful groups were conducted again, with the addition of the group of potential entrepreneurs.

### Demographic and Background Variables

A summary of the demographic and personal background data for the group of 28 potential entrepreneurs is presented in Tables 65 and 66. Inspection of these tables and comparison with the comparable listings for the average and successful groups (Tables 37, 38, 39, and 40) reveals that the three groups were generally similar on the background variables, although there are some apparent differences.

On each of the background variables an appropriate statistical test was performed to compare the scores of the potential entrepreneurs with the data from the average and successful entrepreneurs. One-way ANOVAs (analyses of variance) were used for interval variables, and chi-square analyses were used for nominal and ordinal variables. On most variables the groups did not differ significantly. Only those variables for which there were significant differences among the groups will be specifically discussed.

The potential entrepreneurs were younger than the average and successful entrepreneurs ( $F = 27.36, p = .0000$ ). Not surprisingly, the potential entrepreneurs were also more likely to be single ( $\chi^2 = 28.60, p = .0000$ ) and to have fewer children ( $F = 13.96, p = .0000$ ). The potential entrepreneurs had more years of schooling than either of the other groups ( $F = 4.61, p = .0119$ ), but they spoke fewer languages besides English and Hindi ( $F = 7.03, p = .0013$ ). There was a difference in the geographical area from which the groups were drawn ( $\chi^2 = 69.04, p = .0000$ ), with the potential entrepreneurs coming more frequently from Madhya Pradesh.

For a few other variables, the addition of the potential entrepreneurs to the data set led to a significant difference among the groups, although the potential entrepreneurs were similar to one of the other two groups. For example, there was a difference among the groups in the number of rooms in the home besides the kitchen and bath: the successful entrepreneurs had more rooms than the other two groups ( $F = 3.49, p = .0334$ ). Another significant difference occurred for level of father's occupation ( $\chi^2 = 18.94, p = .0043$ ). Most of the significance for this variable occurred because the average and potential entrepreneurs were more likely to have fathers who were entrepreneurs. None of the successful group had fathers who were entrepreneurs. There was also a difference among the groups in fluency of spoken Hindi ( $\chi^2 = 13.52, p = .0355$ ). There was a slight tendency for the average entrepreneurs to speak only fair Hindi, whereas the other two groups were more likely to speak better Hindi or to have Hindi as their native language.

Besides the variables assessed in all three groups, several additional questions were asked of the potential entrepreneurs. The responses to these questions are presented in Table 67. It is evident from these data that the potential entrepreneurs intend to start a manufacturing business, that they have a specific plan for starting the business, and that they intend to start the business by themselves. About half of the potential entrepreneurs are currently employed, primarily in white-collar jobs.

#### Analyses of the Competency Scores

Frequency distributions on the raw competency scores for the potential entrepreneurs are displayed in Table 68. The means for all three groups on the competency scores derived from the raw data and from the frequency data are presented in Tables 69 and 70. These tables also contain the results of one-way ANOVAs (analyses of variance). Whenever the ANOVA was significant (at the .05 level), a post hoc Newman-Keuls test was conducted, to identify which of the groups were significantly different from each other. These univariate tests are not completely appropriate, because the repeated comparisons of the three groups

increase the likelihood of obtaining statistically-significant findings by chance. Nevertheless, the essential pattern of these results, especially for the scores derived from the raw data, is quite evident. For all of those competencies where significant differences were found, the successful entrepreneurs had the highest mean. Moreover, in eight of ten cases, the potential entrepreneurs had the lowest mean. While the Newman-Keuls results were not always consistent, the most common pattern (in eight of the ten significant results) was for the average and potential entrepreneurs not to differ from each other and for both to differ from the successful entrepreneurs. As was true in the analyses using only the existing entrepreneurs, the frequency data did not produce as many significant differences; nor did the frequency data create as clear a pattern.

With regard to particular competencies, perhaps the most interesting result was for Information Seeking. This competency, which in the analyses of the existing entrepreneurs' data had strongly differentiated the successful and average groups, diverges from the pattern mentioned above. For the raw scores, the potential entrepreneurs did not differ from the successful entrepreneurs, but both groups differed from the average entrepreneurs. For the frequency data, all groups were different from each other, with the potential entrepreneurs having the highest mean.

The strength of the potential entrepreneurs on Information Seeking is not surprising, since this group was selected on the basis of applying for a business loan or enrolling in an entrepreneurship training program. Both of these activities are likely to be described in the Focused Interview and to be scored for Information Seeking.

To correct for the problem of doing multiple analyses on one data set, a three-group MANOVA (multivariate analysis of variance) and a three-group discriminant analysis were conducted on the raw score data. The MANOVA produced a significant effect for group (the successful/average designation; Wilks' Lambda = .403,  $p = .000$ ). The method of simultaneous confidence intervals used as a post hoc procedure yielded results that were essentially identical to the Newman-Keuls results presented in Table 69 (although, as might be expected, the differences were usually somewhat less significant).

The discriminant analysis produced two significant functions. The results of this analysis, including the rotated discriminant function coefficients, are contained in Table 71. If a cutoff value of  $\pm .40$  is used and each competency is placed in the function on which it has the highest loading, Function 1 consists of Initiative, Efficiency Orientation, and Problem Solving (with Initiative having a negative loading). Function 2 consists of Information Seeking and Systematic Planning.

To ascertain how the three groups differ on these functions, discriminant function scores were computed for each subject and entered into one-way ANOVAs (analyses of variance). The results of these analyses are contained in Table 72. The Newman-Keuls post hoc test indicates that for Function 1, the potential entrepreneurs are significantly different from the average and successful entrepreneurs, who do not differ from each other. For Function 2, all of the groups are different from each other; the ordering (from lowest to highest) is Average, Potential, Successful.

The results of the discriminant analysis must be interpreted with some caution, but the following summary and interpretation are suggested.

The first function differentiates the potential entrepreneurs from both groups of existing entrepreneurs. The easiest way to interpret this function is to inflect it, thereby changing the signs for all coefficients and for group means. When this is done, the potential entrepreneurs have higher scores than the average and successful entrepreneurs. The function is then composed of high scores on Initiative and low scores on Efficiency Orientation and Problem Solving. It is not surprising that potential entrepreneurs would have high scores on a dimension that contains Initiative, since this competency would underlie their desire to start a business. The low scores on the other two competencies might point to areas where training could be focused for this group.

The second function is composed of Information Seeking and Systematic Planning. On this dimension the successful entrepreneurs are superior to both of the other two groups, while the potential entrepreneurs are also superior to the average entrepreneurs. This finding supports and elaborates the analyses of Information Seeking, in differentiating the successful from the average entrepreneurs. The analyses reported here demonstrate that the potential entrepreneurs, while not at the level of the successful entrepreneurs, are still superior to the average entrepreneurs. This result seems to have two implications. First, Information Seeking, which has shown to be extremely influential in the data set, cannot be simply a function of being in business, since the two groups of existing entrepreneurs differ significantly on this variable. Second, training might enhance this competency in a group of entrepreneurs who have the potential for successful performance, but have not yet started businesses.

#### Analysis of Relationships Among the Competencies

The competency scores of the 28 potential entrepreneurs were added to the data from the two groups of existing entrepreneurs,

and the correlational analyses and factor analyses previously conducted were replicated. None of these analyses produced results that were significantly different from the results previously reported. Although the specific factor loadings changed to some degree (usually  $\pm .05$ ), the factor structure was identical to the one presented in Table 73.

As an additional way of comparing the three groups of entrepreneurs, factor scores were computed for each subject on the three robust factors and were entered into one-way ANOVAs (analyses of variance). The results of these analyses are also displayed in Table 73. The pattern depicted for the factor scores is identical to the pattern described for the individual competencies. That is, the successful entrepreneurs always have the highest mean, and the potential entrepreneurs always have the lowest mean.

#### Analyses Involving an Index of Socioeconomic Status

In the analyses comparing the two groups of existing entrepreneurs, an index of socioeconomic status was computed by summing a series of demographic variables that reflect social class. This analysis was replicated here, with the addition of the data from the potential entrepreneurs. A one-way ANOVA to test for differences among the three groups on SES, yielded a marginally significant effect ( $F = 3.066, p = .05088$ ). The Newman-Keuls post hoc test indicated that none of the three groups were different from each other. That is, the addition of the data from the potential entrepreneurs reduced the significance of the difference on SES that had been found using only the data from the two groups of existing entrepreneurs. In the analysis with all three groups, the successful entrepreneurs again had the highest mean, although the potential entrepreneurs were almost as high; the average entrepreneurs had a lower mean.

In the absence of significant group differences on SES, it was unlikely that adding the data from the potential entrepreneurs would affect any of the previously reported analyses which had controlled for SES. Nevertheless, one-way ANOVAs and the MANOVA were computed on the raw competency scores, with SES as a covariate. Controlling for SES did not significantly change any of the previously reported results.

SES was also added as a predictor in the three-group discriminant analysis. The result of this analysis was not significantly affected, and the measure of SES did not obtain a high enough loading on either significant function to be included

### Analyses of the SYMLOG Scores for Power, Affiliation, and Achievement

The means for Power, Affiliation, and Achievement by group are contained in Table 74. The one-way ANOVAs performed on these data indicate that there is a significant difference between the groups on Power and Achievement but not on Affiliation. In all cases, the average entrepreneurs had the lowest scores, followed by the potential entrepreneurs and then the successful entrepreneurs. For Power and Achievement, the successful and potential entrepreneurs did not differ from each other, but both groups differed from the average entrepreneurs.

### Additional Research Questions About the Acquisition of Personal Entrepreneurial Competencies (PECs)

An assumption underlying the development of the selection instruments is that personal entrepreneurial characteristics may be acquired before starting a business. There would be no point in trying to select for the PECs if they cannot be acquired before starting a business. If they were mainly acquired in the course of running a business, we would do better to try to develop them through training programs for existing entrepreneurs. But if the PECs can be acquired before starting a business, it would be reasonable to expect possession of the PECs to predict entrepreneurial success.

When the selection instruments were being modified for the Phase 2 data collection in India, several questions were added to the Focused Interview to gather information about when personal entrepreneurial characteristics are acquired. The first question asked the entrepreneur or potential entrepreneur to identify three characteristics or traits that he or she possessed that were most important to entrepreneurial success. For each characteristic mentioned, the interviewer asked when the person first remembered demonstrating this characteristic.

The first question of interest concerns the characteristics perceived to be important to entrepreneurial success. Many characteristics were mentioned, but there were some recurring patterns. Of course, the same characteristics were sometimes described with different words. The mentioned characteristics were analyzed for patterns. The most commonly mentioned characteristics are displayed in Table 75. The tabulations include only the responses that could clearly be classified into one of these categories. The four most frequently mentioned characteristics are Hard Work/Determination/Persistence, Honesty, Selling-/Influencing/Persuading, and Self Confidence. Of these four, all but Honesty are clearly and directly linked to entrepreneurial competencies established in the original research. Thus the entrepreneurs' perceptions are not inconsistent with the PECs identified in the research. For each of the characteristics in

Table 75, a chi-square test was performed to see if there were differences among the groups in the proportions of persons mentioning the characteristic. None of these differences was significant.

The entrepreneurs were asked when they first remembered using each characteristic they mentioned. The critical data was from the existing entrepreneurs, since they had had the experience of using the characteristics in running their businesses. When did they believe that they had acquired the characteristics they mentioned? Their responses were coded in terms of the categories in Table 76 and aggregated across all characteristics mentioned.

There were no significant differences between the average and successful groups of entrepreneurs in their distribution of responses across different first-use categories. For 33 percent of the characteristics mentioned, the total sample indicated that the first use of the characteristic was while starting or running the business. But for 58 percent of the characteristics the first use of the characteristic was at some time prior to starting or running the business; thus the entrepreneurs perceived that they had begun to develop the characteristics they believed to be most important to their entrepreneurial success before actually starting a business. It should be noted that in a number of cases the entrepreneurs stated that they remembered first using the characteristic in childhood or school, but that they developed it further while running the business.

At the end of the Focused Interview the interviewer also asked questions to determine when the entrepreneur remembered first using competencies scored during the interview. The interviewer was instructed to select two competencies which the entrepreneur had demonstrated during the Focused Interview, to define each competency, and to ask the entrepreneur when he or she first remembered using each competency. The entrepreneurs' responses were coded into the same first-use categories as before. The tabulations of responses for the average, successful, and potential entrepreneurs are displayed in Tables 77, 78, and 79.

Differences between competencies in the frequency of response are not meaningful in these tables, since the interviewers selected which competencies to ask about. The choice of competencies may have been influenced by the amount of clear evidence presented in the interviews, by responses to the previous question about characteristics perceived to be most important for entrepreneurial success, or by their own curiosity.

What is of interest are the distributions of responses across the various times of first use, especially for the average and successful samples. Although first use of the competencies was most often traced to starting or running the business, in a

significant number of cases first use of the competencies was traced to earlier experiences, in childhood, school or college, or previous work. Except for Monitoring, which was probed only in the case of a single average entrepreneur, the initial use of each competency was traced at least once to experiences prior to starting and running the business.

Table 80 collapses the distributions across competencies for the average and successful groups. A chi-square test showed that there was no statistically significant difference between these groups in the distribution of their responses across the times of first use. For the total sample, 34 percent of the responses traced the time of first use to starting or running the business; 51 percent of the responses traced first use to earlier experiences. Thus these results for the competencies are similar to those obtained for the characteristics perceived to be important for entrepreneurial success. In both cases, the entrepreneurs often traced the time of first use to experiences occurring before actually starting a business

TABLE 65

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURSSex

Male	28
Female	0

Geographical Area

Madhya Pradesh	10
Uttar Pradesh	1
Orissa	2
Gujarat	7
Other	4

Location

Rural	0
Small Town	5
Large Town	1
City	17

No. of Yrs. of Schooling

Mean	15.70
Standard Deviation	2 15

Highest Level of Education  
Completed

No formal schooling	0
Some primary	0
Primary completed	0
Some secondary	0
Secondary completed	1
Some diploma studies	0
Diploma completed	2
Some university studies	2
University degree	18
Some post graduate studies	0
Post graduate degree	5

Note: Frequencies in the table do not always sum to 28, since data are missing for some variables. The term, "entrepreneur," is used in the table to shorten headings. The correct term should be, "potential entrepreneur."

TABLE 65 -- CONTINUED, SECOND PAGE  
 BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
 POTENTIAL ENTREPRENEURS

Has Entrepreneur Received  
 Distinction During Schooling?

Yes	15
No	13

Has Entrepreneur Received  
 Awards After Schooling?

Yes	4
No	24

Has Entrepreneur Had  
 Additional Technical  
 Training Since School?

Yes	9
No	19

Has Entrepreneur Had Any  
 Management Training?

Yes	12
No	15

Marital Status

Single	16
Married	12
Separated	0
Divorced	0
Widow/Widower	0

TABLE 65 -- CONTINUED, THIRD PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURS

Number of Children

0	19
1	2
2	7
Mean	.57
Standard Deviation	.88

No. of Brothers and Sisters

Mean	3 71
Standard Deviation	1 38
Range	2-71

Has Entrepreneur Held a  
Job Prior to Considering  
Starting a Business?

Yes	6
No	21

Age

Mean	26 60
Standard Deviation	4 12
Range	21-35

Locale Where Entrepreneur  
Was Brought Up

Rural	8
Urban	17

Is Entrepreneur The  
Oldest Child?

Yes	8
No	19

TABLE 65 -- CONTINUED, FOURTH PAGE  
 BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
 POTENTIAL ENTREPRENEURS

Number of Older Brothers

Mean	1.26
Standard Deviation	2.37
Range	0-4

Number of Older Sisters

Mean	78
Standard Deviation	1 08
Range	0-4

Religion

Hindu	19
Islam/Moslem	3
Jain	2
Other	4

Native Language

Hindi	6
Bengali	0
Punjabi	1
Oriya	2
Urdu	2
Gujarati	10
Marwedi	0
Marathi	2
Other	5

TABLE 65-- CONTINUED, FIFTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURS

Does Entrepreneur  
Speak English?

Yes, Fair	8
Yes, Good	11
Yes, Excellent	6
No	1

Does Entrepreneur Speak Hindi?

Yes, Fair	7
Yes, Good	8
Yes, Excellent	6
Yes, Native Language	6
No	1

Number of Other Languages  
Spoken in Addition to  
Hindi and English

0	17
1	11

Caste

Brahmin/Shukla	6
Rajput	1
Gupta	1
Baniya	3
Patel	1
Shnetambar	1
Jain	1
Khatriya	1
Punjabi	3
Maharashtrain	1
Maratha	1
Not specified	8

Does Entrepreneur Own Home?

Yes	28
No	0

TABLE 65 -- CONTINUED, SIXTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURS

Number of Rooms in Home Besides  
Kitchen and Bath

1	5
2	15
3	1
4	0
5	0
6	2
7	1
8	1
9	2
Mean	3 07
Standard Deviation	2 53

Number of Rooms in Home Besides  
Kitchen and Bath When Entrepreneur  
Was Twelve Years Old

1	1
2	4
3	9
4	2
5	2
6	6
7	0
8	1
9	3
Mean	4.46
Standard Deviation	2.32

Level of Father's Occupation

Unskilled Labor	0
Semiskilled or Skilled Labor	2
White Collar, Nonprofessional	4
White collar, professional	4
Entrepreneur	6
Cannot Determine	12

TABLE 65 -- CONTINUED, SEVENTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURS

Level of Mother's Occupation

Unskilled Labor	0
Semiskilled or Skilled Labor	0
White Collar, Nonprofessional	1
White Collar, Professional	0
Entrepreneur	2
Housewife	21
Cannot Determine	4

Do Any Close Relatives Have  
Jobs in Government?

None	9
One Person	8
More Than One person	11

Do Any Close Relatives Have  
Professional Jobs?

None	14
One Person	7
More Than One Person	7

Did Entrepreneur Work In  
A Business Owned by a  
Family Member?

Yes	10
No	18

TABLE 65 -- CONTINUED, EIGHTH PAGE

BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE  
POTENTIAL ENTREPRENEURS

How Many Close Friends of  
Entrepreneur Had Started  
A Business?

0	7
1	6
2	0
3	13
Mean	1 73
Standard Deviation	1 34

How Many People Did  
Entrepreneur Know Who Had  
Started a Business?

Mean	18.93
Standard Deviation	26.69
Range	0-99

Has Anyone in Family Ever  
Started a Business?

No one	10
One person	12
More than one person	6

TABLE 66

THE POTENTIAL ENTREPRENEURS' REASONS FOR STARTING THE BUSINESS,  
SOURCES OF FUNDING, AND PROBLEMS ENCOUNTERED

Reasons for  
Starting the Business

To earn a living	.18
To support family	.11
To be independent	.64
Inspired by others	.00
Provide a service	.07
Develop India	.04
Earn more money	.50
Saw the opportunity	.04
Tax Advantage	.00
Other	.64

Sources of Funding for Start-up  
Of Business

Bank	.82
Government	.57
Self	.64
Partners	.14
Family	.86
Friends	.18
Other	.04

Problems Encountered in  
Starting the Business

Lack of suitable premises	.08
Lack of customers	.08
Difficulty obtaining tools	.00
Difficulty obtaining supplies	.00
Problems obtaining electricity	.04
Competitors	.08
Lack of qualified workers	.00
Problems with employees	.00
Problems with transportation	.00
Non-paying customers	.00
Lack of capital	.00
Problems with government	.00

Note: The numbers in the table represent the proportion offering the specified response or answering "Yes" to each question.

TABLE 67

ADDITIONAL VARIABLES FOR THE POTENTIAL ENTREPRENEURS

Type of Business Entrepreneur Would Like to Start

Manufacturing	20
Marketing/Trading	4
Service	3

Does Entrepreneur Have a Specific Plan for a Business?

Yes	21
No	5

Does Entrepreneur Plan to Start a Business Alone or With Partners?

Alone	21
With Partners	4

Does Entrepreneur Have a Job Now?

Yes	14
No	14

Level of Current Job

Unskilled Labor	0
Semiskilled or Skilled Labor	3
White collar, nonprofessional	6
White collar, professional	5
Entrepreneur	0
Cannot Determine	0

Monthly Wage in Lacs from Current Job

Mean	.025
Standard Deviation	024

Has Entrepreneur Previously Started Any Businesses?

Yes	0
No	24

How Much Money Does Entrepreneur Have to Start Business?

Mean	.448
Standard Deviation	645

Note: Due to missing data, frequencies do not always sum to 28.

TABLE 68

## FREQUENCIES OF RAW COMPETENCY SCORES FOR POTENTIAL ENTREPRENEURS

	<u>Initiative</u>	<u>Sees and Acts on Opportunities</u>	<u>Persistence</u>	<u>Information Seeking</u>	<u>Concern for High Quality of Work</u>
<u>f</u>					
0	8	6	8	0	5
1	4	11	9	2	12
2	10	8	6	11	7
3	5	3	3	8	4
4	1	0	2	5	0
5	0	0	0	2	0
Mean	1 54	1 29	1 36	2 79	1 36
Std Dev	1 20	94	1 22	1 07	95
Skewness	05	24	68	46	30
	<u>Efficiency Orientation</u>	<u>Commitment to Work Contract</u>	<u>Systematic Planning</u>	<u>Problem Solving</u>	<u>Self Confidence</u>
<u>f</u>					
0	8	4	1	11	4
1	7	13	10	8	6
2	8	3	5	6	11
3	3	5	8	3	5
4	2	3	4	0	2
5	0	0	0	0	
Mean	1 43	1 64	2 14	1 04	1 82
Std Dev	1 23	1 25	1 18	1 04	1 12
Skewness	50	62	14	57	04
	<u>Assertiveness</u>	<u>Persuasion</u>	<u>Use of Influence Strategies</u>	<u>Monitoring</u>	<u>Concern for Others' Welfare</u>
<u>f</u>					
0	4	4	5	22	8
1	12	12	7	4	13
2	6	4	8	2	3
3	5	5	6	0	2
4	1	3	2	0	1
5	0	0	0	0	0
Mean	1 54	1 68	1 75	29	1 07
Std Dev	1 07	1 25	1 21	60	1 02
Skewness	49	54	11	2 04	1 22

TABLE 69

MEANS AND RESULTS OF ONE WAY ANOVAS COMPARING SUCCESSFUL,  
AVERAGE AND POTENTIAL ENTREPRENEURS ON THE RAW COMPETENCY SCORES

<u>Competency</u>	(1) <u>Average</u>	(2) <u>Successful</u>	(3) <u>Potential</u>	F	p	<u>Newman-Keuls</u>
Initiative	88	1 23	1 54	2 49	0801	--
Sees and Acts on Opportunities	1 44	2 11	1 29	4 24	0167	<u>3 1 2</u>
Persistence	1 76	2 55	1 36	8 45	004	<u>3 1 2</u>
Information Seeking	1 88	2 95	2 79	9 62	0001	1 <u>3 2</u>
Concern for High Quality of Work	1 32	1 91	1 36	1 93	1493	--
Commitment to Work Contract	1 34	1 93	1 64	1 97	1445	--
Efficiency Orientation	2 73	2 70	1 43	7 46	0009	3 <u>1 2</u>
Systematic Planning	2 41	3 11	2 14	8 38	0004	3 <u>1 2</u>
Problem Solving	2 29	2 93	1 04	14 92	0000	<u>3 1 2</u>
Self Confidence	1 85	2 68	1 82	4 03	0204	<u>3 1 2</u>
Assertiveness	1 61	1 98	1 54	1 41	2484	--
Persuasion	2 72	3 07	1 68	10 14	0001	3 <u>1 2</u>
Use of Influence Strategies	1 41	2 61	1 75	3 57	0313	<u>1 3 2</u>
Monitoring	1 22	1 52	29	7 89	0006	3 <u>1 2</u>
Concern for Others' Welfare	98	86	1 07	1 07	7834	--

Note One-way ANOVAs were conducted. In the case of significant findings, post hoc Newman-Keuls tests were performed. For the Newman Keuls results, 1, 2, and 3 refer to the Average, Successful and Potential groups. Underlining indicates that two groups are not significantly different from each other but that both groups differ from the third, non underlined group. Where there are three non underlined group numbers, all three groups differ significantly from each other.

TABLE 70

MEANS AND RESULTS OF ONE WAY ANOVAS COMPARING SUCCESSFUL,  
AVERAGE AND POTENTIAL ENTREPRENEURS ON THE COMPETENCY SCORES BASED ON FREQUENCIES

<u>Competency</u>	(1) <u>Average</u>	(2) <u>Successful</u>	(3) <u>Potential</u>	F	p	<u>Newman Keuls</u>
Initiative	1 07	1 25	2 04	3 72	0272	<u>1 2 3</u>
Sees and Acts on Opportunities	1 58	2 11	1 86	1 02	3636	--
Persistence	2 71	3 14	2 14	1 86	1610	--
Information Seeking	2 59	3 70	4 75	11 43	0000	1 2 3
Concern for High Quality of Work	1 63	2 30	2 11	87	4215	--
Commitment to Work Contract	1 61	2 23	2 50	2 38	0971	-
Efficiency Orientation	3 56	3 39	2 04	4 84	0095	--
Systematic Planning	3 24	3 61	3 13	64	5252	-
Problem Solving	2 78	3 32	1 50	7 63	0008	3 <u>1 2</u>
Self Confidence	2 32	2 45	2 50	2 63	0766	-
Assertiveness	2 46	2 52	2 29	06	9362	-
Persuasion	3 88	3 64	2 54	2 84	0623	--
Use of Influence Strategies	2 02	2 66	2 67	1 60	2066	--
Monitoring	1 44	1 64	46	5 27	0064	3 <u>1 2</u>
Concern for Others' Welfare	1 24	1 00	1 64	1 40	2510	--

Note One-way ANOVAs were conducted. In the case of significant findings, post hoc Newman Keuls tests were performed. For the Newman Keuls results, 1, 2, and 3 refer to the Average, Successful and Potential groups. Underlining indicates that two groups are not significantly different from each other but that both groups differ from the third, non underlined group. Where there are three non underlined group numbers, all three groups differ significantly from each other.

TABLE 71

THREE-GROUP DISCRIMINANT ANALYSIS USING RAW  
SCORE COMPETENCY DATA

	<u>Eigenvalue</u>	<u>Canonical Correlation</u>	<u>Wilks' Lambda</u>	<u>Significance</u>
Function 1	71417	6454	403	0000
Function 2	44954	5553	692	0002

Rotated Standardized Discriminant Function Coefficients

	<u>Function</u>	
	1	2
Initiative	- 64*	09
Sees and Acts on Opportunities	10	16
Persistence	38	12
Information Seeking	04	72*
Concern for High Quality of Work	13	- 09
Commitment to Work Contract	- 06	31
Efficiency Orientation	32*	51*
Systematic Planning	26	40*
Problem Solving	40*	02
Self Confidence	- 27	25
Assertiveness	10	08
Persuasion	27	01
Use of Influence Strategies	- 02	38
Monitoring	24	36
Concern for Others' Welfare	17	02

Canonical Discriminant Functions Evaluated at Group Means

	<u>Function</u>	
	1	2
Group 1 (Average)	25	- 84
Group 2 (Successful)	63	61
Group 3 (Potential)	-1 47	37

Note The Average, Successful, and Potential Entrepreneurs were the groups used in this analysis. Coefficients exceeding  $\pm .40$  are denoted with an asterisk.

TABLE 72

MEANS AND RESULTS OF ONE WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND  
POTENTIAL ENTREPRENEURS ON DISCRIMINANT FUNCTION SCORES BASED ON THE RAW COMPETENCY DATA

	(1) <u>Average</u>	(2) <u>Successful</u>	(3) <u>Potential</u>	F	p	Newman-Keuls
Function 1	249	234	- 788	21.810	0000	3 <u>2</u> <u>1</u>
Function 2	- 421	423	- 005	12.69	0000	1 3 2

Note One-way ANOVAs were conducted. In the case of significant findings, post hoc Newman-Keuls tests were performed. For the Newman-Keuls results, 1, 2, and 3 refer to the Average, Successful and Potential groups. Underlining indicates that two groups are not significantly different from each other but that both groups differ from the third, non-underlined group. Where there are three non-underlined group numbers, all three groups differ significantly from each other.

TABLE 73

MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON FACTOR SCORES BASED ON THE RAW COMPETENCY DATA

	(1) <u>Average</u>	(2) <u>Successful</u>	(3) <u>Potential</u>	F	p	Newman Keuls
Factor 1	- 89	87	2 39	5 23	0067	<u>3 1</u> 2, 3 <u>1 2</u>
Factor 2	- 50	49	- 60	6 65	0018	<u>3 1</u> 2
Factor 3	- 32	33	- 88	14 72	0000	3 1 2

Note One way ANOVAs were conducted. In the case of significant findings, post hoc Newman-Keuls tests were performed. For the Newman-Keuls results, 1, 2, and 3 refer to the Average, Successful and Potential groups. Underlining indicates that two groups are not significantly different from each other but that both groups differ from the third, non-underlined group. Where there are three non underlined group numbers, all three groups differ significantly from each other.

TABLE 74

MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL,  
AVERAGE AND POTENTIAL ENTREPRENEURS ON SYMLOG SCORES

	(1) <u>Average</u>	(2) <u>Successful</u>	(3) <u>Potential</u>	F	p	Newman-Keuls
Power	1 34	5 13	3 57	10 86	0000	1 <u>3</u> <u>2</u>
Affiliation	3 78	4 31	4 03	89	4128	-
Achievement	3 86	5 56	4 32	3 78	0256	<u>1</u> <u>3</u> <u>2</u> , 1 <u>3</u> <u>2</u>

Note One-way ANOVAs were conducted. In the case of significant findings, post hoc Newman Keuls tests were performed. For the Newman-Keuls results, 1, 2, and 3 refer to the Average, Successful and Potential groups. Underlining indicates that two groups are not significantly different from each other but that both groups differ from the third, non-underlined group. Where there are three non-underlined group numbers, all three groups differ significantly from each other.

TABLE 75

CHARACTERISTICS MOST FREQUENTLY MENTIONED AS IMPORTANT  
FOR ENTREPRENEURIAL SUCCESS BY EACH GROUP OF ENTREPRENEURS

<u>Characteristic</u>	Successful		Average		Potential	
	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>
Hard Work/Determination/ Persistence	23	50	23	50	14	50
Honesty	15	33	7	15	4	14
Selling/Influencing/ Persuading	12	26	12	26	5	18
Self Confidence	10	22	12	26	7	25
Planning	6	13	3	7	0	0
Concern for Quality	4	9	6	13	0	0
Information Seeking	4	9	3	7	1	4
Thinking/Problem Solving Skill	4	9	7	15	5	18
Patience/Self Control	4	9	6	13	5	18
Punctuality	4	9	1	2	1	4
Politeness	4	9	2	4	2	7
Managerial Skill	3	7	2	4	0	0
Risk Taking	2	4	0	0	4	14
Decision Making	2	4	2	4	0	0
Flexibility	1	2	3	7	1	4
Friendliness	0	0	2	4	3	11

Note        n = the number of persons mentioning the characteris-  
                  tic; pct = the percentage of persons mentioning the  
                  characteristic

TABLE 76

THE EXISTING ENTREPRENEURS' RESPONSES ABOUT WHEN  
THEY FIRST USED CHARACTERISTICS THEY MENTIONED  
AS IMPORTANT TO ENTREPRENEURIAL SUCCESS

<u>Time of First Use</u>	<u>Average Entrepreneurs</u>		<u>Successful Entrepreneurs</u>		<u>Total</u>	
	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>
Childhood	35	26	32	25	67	25
School/College	20	15	24	18	44	17
Previous Work Experiences	20	15	22	17	42	16
Starting/Running Business	47	35	41	32	88	33
Other/Uncertain/ No Response	12	9	11	8	23	9

Note: n = the number of responses classified in each first-use category; pct = the percentage of responses within each sample group falling into each first-use category. Each entrepreneur was asked to identify three characteristics important to his or her entrepreneurial success and to say when he/she first remembered using that characteristic. Responses were classified into the first-use categories above and aggregated across all characteristics mentioned.

TABLE 77

TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES  
 DEMONSTRATED IN FOCUSED INTERVIEW  
 AVERAGE ENTREPRENEURS

Identified Time of First Use

<u>Competency</u>	<u>Childhood</u>	<u>School/ College</u>	<u>Previous Work</u>	<u>Starting/ Running Business</u>	<u>Other/ Unknown</u>
<b>Initiative</b>					
Sees and Acts on Opportunities				1	2
Persistence	2	3	1	1	1
Information Seeking	2	2	1	3	
Concern for High Quality of Work			1	2	1
<b>Commitment to Work Contract</b>					
Efficiency Orientation	1		5	4	4
Systematic Planning		3	2	7	1
Problem Solving	2	3	1	6	
Self Confidence	1	1	3	1	2
Assertiveness	1	2	2	1	
Persuasion	1	2	1	8	
Use of Influence Strategies	1				
Monitoring				1	
Concern for Others' Welfare	1				1
Totals	12	16	17	35	11

TABLE 78

TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES  
 DEMONSTRATED IN FOCUSED INTERVIEW  
 SUCCESSFUL ENTREPRENEURS

Identified Time of First Use

<u>Competency</u>	<u>Childhood</u>	<u>School/ College</u>	<u>Previous Work</u>	<u>Starting/ Running Business</u>	<u>Other/ Unknown</u>
Initiative			1		
Sees and Acts on Opportunities			1	2	
Persistence	1	2		1	
Information Seeking	1	4	2	4	5
Concern for High Quality of Work			1	1	
Commitment to Work Contract	1	1		1	1
Efficiency Orientation			5	3	1
Systematic Planning	2	1	2	3	
Problem Solving	1	2	1	2	3
Self Confidence	2	3	2	2	3
Assertiveness	1			2	
Persuasion	4	2		6	1
Use of Influence Strategies	1	1	4	1	1
Monitoring					
Concern for Others' Welfare					
Totals	14	16	19	28	15

TABLE 79

TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES  
 DEMONSTRATED IN FOCUSED INTERVIEW  
 POTENTIAL ENTREPRENEURS

<u>Competency</u>	Identified Time of First Use				
	<u>Childhood</u>	<u>School/ College</u>	<u>Previous Work</u>	<u>Starting/ Running Business</u>	<u>Other/ Unknown</u>
Initiative	2	1			1
Sees and Acts on Opportunities	1				
Persistence					
Information Seeking	2	8	3		2
Concern for High Quality of Work		1	3		
Commitment to Work Contract	1		1		
Efficiency Orientation			2		
Systematic Planning	4	2	2		1
Problem Solving					1
Self Confidence		3			2
Assertiveness	1				2
Persuasion		1	2		1
Use of Influence Strategies		2			1
Monitoring					
Concern for Others' Welfare		1			2
Totals	11	19	13		12

Note Since the potential entrepreneurs had not started businesses, there are no entries in the column headed, "Starting/Running Business"

TABLE 80

THE EXISTING ENTREPRENEURS' RESPONSES ABOUT WHEN  
THEY FIRST USED COMPETENCIES  
DEMONSTRATED IN THE FOCUSED INTERVIEW

<u>Time of First Use</u>	<u>Average Entrepreneurs</u>		<u>Successful Entrepreneurs</u>		<u>Total</u>	
	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>	<u>n</u>	<u>pct</u>
Childhood	12	13	14	15	26	14
School/College	16	17	16	17	32	17
Previous Work Experiences	17	18	19	21	36	20
Starting/Running Business	35	38	28	30	63	34
Other/Uncertain/ No Response	12	13	15	16	27	15

Note: n = the number of responses classified in each first-use category, pct = the percentage of responses within each sample group falling into each first-use category.

## DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

### Summary of Key Findings

The research for this project took place in two phases. In the first phase, research interviews were conducted in India, Malawi, and Ecuador, with groups of entrepreneurs identified as successful or average. The sample was further subdivided so as to provide equal representation of three types of businesses: manufacturing, marketing/trading, and service. The successful and average groups were shown to differ on several competencies that had been identified in accounts of critical incidents that the entrepreneurs related during the interviews.

A battery of selection instruments was developed to assess a subset of the competencies observed in the research interviews. Two additional instruments were developed to assess personal entrepreneurial characteristics established in other research studies, and to obtain background information about persons participating in studies conducted to validate the instruments.

After pilot testing the instruments in India and Malawi, the instruments were revised for use in a larger validation study. The entire battery was then administered in Malawi to 45 entrepreneurs identified as successful, 45 entrepreneurs identified as average, 30 startup entrepreneurs who had been in business less than one year, and 30 potential entrepreneurs. Potential entrepreneurs were persons who had not actually started a business but who had expressed interest in entrepreneurship, by applying for a loan to start a business or by enrolling in an entrepreneurship training program. The first three groups were selected so as to represent approximately equal numbers of the three types of businesses.

Of central interest in this validation study were differences between the successful and average groups of existing entrepreneurs. In this respect, the study was disappointing. Almost no significant differences were found.

At this point a decision was made to concentrate the remaining validation efforts in India and to focus on the instrument that had shown the greatest promise in the pilot testing: the Focused Interview. A consultant was sent to India to identify any additional modifications that might be needed in this instrument, to provide extensive training and coaching in its use, and to monitor the initial interviews.

The Focused Interview and another interview designed to obtain information about the personal background of the entrepreneur, were administered to the following groups: 46 successful entrepreneurs, 46 average entrepreneurs, and 28 potential entrepreneurs.

Once again, the results of greatest interest were the comparisons of the successful and average groups. A number of the competencies assessed by the Focused Interview strongly differentiated these two groups. Few of the personal background questions differentiated these two groups.

### Patterns in the Findings

Generalizing across the different studies just summarized must be done cautiously. In the Phase I research, the data were obtained in different cultures, with samples selected in different ways, by interviewers with different levels of skill and training. In the Phase II research, new instruments were used, and the scoring was done during the interviews, by the interviewers themselves, rather than by consultants working with transcripts. The interviewers in the Phase II research in India received much more training than those in Malawi and administered fewer instruments.

Despite these differences among the studies, some consistent patterns did emerge in the results. First, variables based on personal background and demographic information generally failed to differentiate the successful from the average groups of entrepreneurs. In Phase I, the comparison samples did not differ on measures of education, parental occupation, technical or management training, previous work experience, family entrepreneurial activity, or number of businesses previously started (except in Malawi). In the Phase II Malawi study, the successful and average groups differed on only one personal background variable: the number of additional businesses owned. In the Phase II data collection in India, the only personal background variable on which the successful and average groups differed was level of father's occupation. There was a tendency for the successful group to have fathers who were more likely to be white-collar professionals and less likely to be entrepreneurs.

In the Phase II studies in India and Malawi some questions were asked about pre-startup exposure to entrepreneurs. This variable had differentiated successful from average groups in a doctoral dissertation by Gene Ward, involving Hawaiian entrepreneurs. In the Phase II studies reported here, there were no differences between the successful and average groups in pre-startup exposure to entrepreneurs.

In contrast to the personal background variables, competencies demonstrated in entrepreneurs' accounts of critical incidents often differentiated successful from average groups. In the Phase I research a number of competencies differentiated the aggregate successful and average groups across the three countries. This differentiation was strong in India and somewhat weaker in Malawi. Little evidence of differentiation was found

in Ecuador, but there were questions for that sample as to the accuracy of identification of successful and average groups. In the Phase II research in India, the successful and average groups differed on a number of competencies. There were no differences between these groups for the Phase II research in Malawi

In the cases where the successful and average groups differed on competencies, there were some consistent patterns. Once again, caution is needed in interpreting the results because of the differences among the studies. In addition, the competencies differentiating the groups vary, depending on the statistical analysis used. In making comparisons between Phase I and Phase II studies, it is simplest to rely on the individual t-tests for each competency, since the discriminant function and multiple regression analyses highlight competencies accounting for unique variance between the groups but may fail to highlight other competencies that are correlated with these but do not contribute as much unique variance. The t-tests on the untransformed scores, with the data from the three countries aggregated (see Table 9), showed that the following competencies differentiated the successful from average groups:

- Initiative
- Sees and Acts on Opportunities
- Information Seeking
- Concern for High Quality of Work
- Commitment to Work Contract
- Efficiency Orientation
- Systematic Planning
- Problem Solving
- Assertiveness
- Self Confidence
- Monitoring
- Recognizing the Importance of Business Relationships

In the Phase II research in India, with entrepreneurs drawn only from manufacturing businesses, individual t-tests showed that the successful and average groups were differentiated on the following competencies.

- Sees and Acts on Opportunities
- Persistence
- Information Seeking
- Concern for High Quality of Work
- Commitment to Work Contract
- Systematic Planning
- Self Confidence
- Use of Influence Strategies

In the Phase II research in Malawi, t-tests conducted with the data from the Focused Interview showed that the successful

and average groups differed on only one of the assessed competencies: Systematic Planning.

There is a moderate degree of consistency in the results of these studies. The following competencies differentiated successful and average groups of entrepreneurs in more than one study:

Sees and Acts on Opportunities  
Concern for High Quality of Work  
Commitment to Work Contract  
Systematic Planning  
Self Confidence

The first three of these, as well as some competencies that were significant in only one study (Initiative, Persistence, Efficiency Orientation), are clearly related to the concept of Achievement Motivation that has served as the basis of many entrepreneurship training programs. When Achievement Motivation is measured with the Thematic Apperception Test or the Picture Story Exercise used in this project, people high in Achievement Motivation tell stories that contain three main themes:

1. Doing something in an excellent way or better than others
2. Creating or achieving something unique
3. Working hard over a period of time to improve one's ability or to advance one's career

Someone for whom these themes are important may be likely to develop competencies like Information Seeking, Concern for High Quality of Work, and Commitment to Work Contract. This hypothesis is consistent with the finding from the Phase II research in India, that the successful entrepreneurs were higher than the average group on these competencies and on the SYMLOG achievement score.

Not all of the competencies differentiating the successful from average groups were clearly related to achievement or task orientation. One of the strongest discriminators in the Phase I research was Recognizing the Importance of Business Relationships. An examination of the behavioral indicators for this competency shows that this competency contains elements of self control (emphasizing the importance of maintaining correct behavior with the customer at all times) and of relationship building (acting to build rapport and friendly relationships with customers). This competency probably is expressed mainly in business situations, and therefore would be difficult to find in potential entrepreneurs without business experience. For this reason, the competency was not included among those to be

assessed with the selection instruments, and it was not assessed in the Phase II research.

### Comparisons with Other Competency Studies

It is important to note that none of the competencies that discriminated the successful from average groups in the Phase I and Phase II studies reported here are unique to entrepreneurs. McBer has conducted over 150 competency studies of a wide variety of jobs in many different organizations. Competencies similar to each of the ones found in studies reported here have been found in persons who are not entrepreneurs. For example, Initiative, Efficiency Orientation, Monitoring, and Systematic Planning have frequently been found in outstanding first-level managers. Persistence and Concern for High Quality of Work have often been found in superior engineers. Even the competency that most closely defines entrepreneurship, Sees and Acts on Opportunities, has frequently been found in some sales representatives, who continually scan their environment for prospective selling opportunities.

Though no individual competency is demonstrated only by entrepreneurs, the particular combination of competencies associated with successful entrepreneurship may be different from the combination of competencies required in any other job. In addition, the specific ways in which the competencies are demonstrated by entrepreneurs are different from the ways in which they are demonstrated by persons in other types of jobs. For example, an entrepreneur may demonstrate Information Seeking by doing personal research on how to provide a product or service; but a research scientist is likely to demonstrate this same competency by contacting other people working on similar problems in other laboratories.

In comparing the competencies related to successful entrepreneurship to those found in other jobs, it is interesting to note the types of competencies that were not identified in the Phase I research or did not differentiate the successful and average groups. Competencies associated with thinking and problem solving were not strongly represented, though Systematic Planning was a discriminator in all of the studies reported here. Problem Solving was a discriminator in the Phase I research. Comparisons with other competency studies conducted by McBer are confounded by cultural differences, but stronger evidence of thinking and problem solving competencies has typically been found in studies of American and European scientists, engineers, and mid- and senior-level managers.

Influencing others is another area in which the entrepreneurial competencies identified here are less prominent than those identified in some other types of jobs. The two competencies most closely related to influencing others in the present

research were Persuasion and Use of Influence Strategies. Persuasion failed to discriminate the successful and average groups in all of the studies reported here. This finding is not surprising, since almost all entrepreneurs must attempt persuasion frequently, in order to sell their products or services and to obtain financing. The job requirements for Persuasion may be so strong that even average entrepreneurs develop this competency. Use of Influence Strategies discriminated the groups in the Phase II study in India but did not differentiate the groups in any of the other studies.

In contrast to these results, studies McBer has conducted of other jobs, especially sales and managerial jobs, almost always find that competencies related to influencing others differentiate successful from average performers. In studies of managerial jobs there are usually some competencies related to motivating and developing subordinates. The studies reported here revealed no evidence of such competencies, although all of the entrepreneurs had subordinates.

One competency which might have been expected to differentiate the successful and average groups is Technical Expertise. In the Phase I research we tabulated the evidence provided by each entrepreneur for various types of expertise that might be relevant to successful business performance. All of these occurred infrequently, and none differentiated the successful from the average groups. This finding was consistent with the findings in most competency studies conducted by McBer. Only in a few highly technical jobs has Technical Expertise differentiated superior from average performers. A certain level of Technical Expertise may be needed in order to enter a job or profession, but this competency usually does not differentiate successful from average performers. With regard to entrepreneurship training, the implication is clear. Some technical business training may be helpful for persons who are starting businesses, but training in this area is not likely to transform an average entrepreneur into a successful one.

#### Unanswered Questions

Although there were many significant findings in the studies reported here, a number of questions remain unanswered or require additional research for validation. Several of these questions are discussed below.

#### Are the Findings Applicable to Other Cultures?

The analyses of the Phase I research were conducted on the aggregate data from India, Malawi, and Ecuador. But the frequency with which the competencies were demonstrated and the degree to which they discriminated the successful and average groups were much greater in India than in the other two countries. In

the Phase II research, there were few significant differences between the successful and average groups in Malawi. Once again, the strongest evidence for the importance of the competencies was found in India.

As noted earlier, the findings regarding competencies in these different studies are confounded by differences in the way in which the successful and average groups were selected and in the interviewers' levels of skill and training. Further research is needed to determine whether the findings can be generalized to other cultures.

It is interesting to note that most of the core competencies were first identified in the Phase I interviews conducted in India. Subsequent analyses of interviews with entrepreneurs from two very different countries and cultures (Malawi and Ecuador) failed to reveal many additional competencies or skills beyond those identified in India. It seems unlikely, therefore, that replicating the study in other countries and cultures will uncover many new competencies. But the relative importance of the competencies already identified may well vary by country and culture.

#### Is There a Causal Relationship Between the Competencies and Entrepreneurial Success?

The studies reported here have demonstrated a number of associations between entrepreneurial success and demonstration of certain competencies. Although it is plausible that possession of the competencies would contribute to entrepreneurial success, this type of causal relationship has not been demonstrated. It is possible that in some cases business success may lead to demonstration of the competencies. For example, entrepreneurial success might lead a person to exhibit greater Self Confidence. It is also possible that other variables may be mediating the observed associations between business success and demonstration of the competencies.

If the other variables can be identified and measured, their effects can be statistically controlled. This approach was taken in the Phase I research for one possible mediating variable, interview length. There are at least two reasons why successful entrepreneurs might provide longer interviews than average entrepreneurs. First, the successful entrepreneurs might be more interested in describing their business successes. Second, the interviewers, finding the successful entrepreneurs' accounts of past experiences more interesting, might spend more time eliciting detail from the successful entrepreneurs. Longer interviews would provide more opportunities for demonstration of the competencies. The data did not support either of these hypotheses: when interview length was statistically controlled, the

relationships between business success and demonstration of the competencies were not attenuated.

Personal background variables also did not appear to mediate the relationship between the competencies and business success. In the Phase I research, the addition of various personal background variables to the discriminant function analyses did not alter the power of the competencies to differentiate the successful from average groups. In the Phase II research in India, an index of social class was constructed from a number of personal background variables. Although this index did significantly differentiate the successful and average groups, it did not explain the differences between these groups on the competencies.

Other explanations for higher competency scores of entrepreneurs identified as successful center on the nomination process by which the entrepreneurs were selected. Were the successful and average groups really nominated because of characteristics other than entrepreneurial success? Could popularity, visibility, or a recent but atypically profitable year explain the selection of the more successful groups? The data did not support these hypotheses. In all of the studies the successful and average groups differed significantly on the most objective measures of business success available: the data provided by the entrepreneurs about their sales and profits over the prior three years. This pattern was especially true of the Phase II research in India, where special procedures were established to insure that the successful and average groups were properly screened and selected.

Although the evidence from the studies reported here appears to eliminate some of the more obvious alternative explanations for the relationships between the competencies and entrepreneurial success, correlational studies like the ones conducted for this project can never eliminate all possible alternative explanations.

One alternative explanation that was not controlled in any of the studies reported here focuses on possible effects of interviewer expectation or bias. In most of the interviews for both Phase I and Phase II the interviewers knew whether the existing entrepreneurs had been designated as successful or average. And questions about the business's sales and profits were asked before the entrepreneurs recounted the situations eliciting evidence of the competencies. It is possible, therefore, that knowledge about the entrepreneurs' level of business success created differential expectations and treatment of successful vs. average entrepreneurs. For example, the interviewers may have done more followup probing with the successful entrepreneurs to obtain critical details of their behavior at key points during the recounting of situations. This intensive

probing might have produced greater evidence of the competencies in the successful entrepreneurs than in the average ones.

To overcome the problems of correlational studies and to demonstrate causal relationships between possession of the competencies and entrepreneurial success, other types of studies are needed. Longitudinal, predictive validity studies would be especially helpful. For example, potential and startup entrepreneurs could be assessed on the competencies and then followed up after an interval of two years or more. Data from the potential entrepreneurs would provide evidence as to whether the competencies can predict which persons will actually start businesses. Data from the startup entrepreneurs would provide evidence as to whether possession of the competencies is associated with later success as an entrepreneur

Training studies would also provide evidence on the importance of the competencies. Training in the competencies would be provided to groups of existing or startup entrepreneurs. Later, these entrepreneurs' business success could be compared with the success of untrained control groups.

#### Do the Competencies or PECs Differentiate Entrepreneurs from Persons in Other Types of Jobs?

The research studies reported here were designed to identify competencies and other PECs differentiating successful from average groups of entrepreneurs. But it is possible that all entrepreneurs, whether successful or average, possess some characteristics that distinguish them from persons in other types of jobs. If such characteristics could be identified, they would be important in screening potential entrepreneurs, since persons lacking these characteristics would be highly unlikely to be successful as entrepreneurs.

None of the studies reported here used comparison groups of non-entrepreneurs. But in the analysis of the interview transcripts for the Phase I research, we tried to identify all themes reflecting effective behavior, whether or not these themes differentiated the successful and average groups. Therefore, any competencies common to all entrepreneurs should have been detected. One would expect these competencies to be demonstrated at least once by almost all of the entrepreneurs, but not necessarily to differentiate the successful from the average groups.

Examination of the competency distributions, however, shows that the mode, or most common value, for most competencies was zero. It is unlikely that a competency with a mode of zero is so characteristic of entrepreneurs that it sets them apart from people in other jobs. One competency which did occur with relatively high frequency and which did not differentiate the

successful and average groups was Persuasion. This competency may have some promise in differentiating entrepreneurs from people in other types of jobs.

### How Are the Competencies Acquired?

If the competencies are important to entrepreneurial success, it is important to understand how they are acquired or developed. For example, there would be no point in trying to select potential entrepreneurs on the basis of the competencies, if the competencies are not normally developed until the entrepreneur is actually starting and running a business.

The Phase II research in India provided some subjective evidence regarding the acquisition of the competencies. The entrepreneurs were asked to recall when they first used or developed two of the competencies demonstrated in their interviews. Although the most frequently reported time of first use was while starting and running the business, more than half of the responses indicated earlier times of first competency use. These subjective accounts suggest that many of the competencies may be acquired before starting a business.

Many of the competencies seem to reflect effort, motivation, and high standards, rather than abilities or skills. Examples of such competencies include Persistence, Information Seeking, Concern for High Quality of Work, and Commitment to Work Contract. It seems likely that these competencies are developed through a process of socialization, which might occur in the family, in the schools, or in specific work environments.

### Implications of the Results for the Selection of Entrepreneurs

Many of the competencies that discriminated successful from average groups of entrepreneurs are more like personality traits than skills. Examples of trait-like competencies include Persistence, Concern for High Quality of Work, Self Confidence, and Commitment to Work Contract. These competencies probably show considerable stability over time and may not be easy to develop or train. If these competencies are critical to entrepreneurial success, it may be easier to select people who already possess these competencies than to try to develop the competencies through training.

The purpose of the Phase II research was to develop and field test instruments which might be used to select entrepreneurs. Several instruments were developed or modified for this purpose.

To be useful for selection, an instrument must have criterion-related validity. Scores on the instrument must show a clear and strong relationship to the behavior that the instrument is meant to predict. An instrument to be used for selecting entrepreneurs must show clear and strong relationships with entrepreneurial success. Thus the first step in validating the selection instruments designed as part of this project was to see if they would differentiate successful and average groups of entrepreneurs. Of the instruments used in the Phase II research, only the Focused Interview, as administered in India, satisfied this requirement. Overall, this instrument strongly differentiated successful from average groups of entrepreneurs, and there were statistically significant differences on a number of the competencies assessed.

One of the advantages of the Focused Interview is that it identifies instances of demonstration of the competencies from specific past experiences. When this instrument is used for selection, the assumption is that someone who has previously demonstrated the required competencies in past situations will be more likely to be able to demonstrate them in new situations encountered in starting and running a business. Past performance is used to predict future performance.

The next step in validating the Focused Interview should be to determine its predictive validity, by administering this instrument to startup and potential entrepreneurs and then following up these persons after two years or more, to see if the competency scores predict future entrepreneurial success.

Additional studies would be needed to demonstrate the validity of the Focused Interview in other countries besides India. The Focused Interview did not discriminate the successful and average groups of entrepreneurs in Malawi, but this may have been due to insufficient training of the interviewers.

The experiences with the Focused Interview in Malawi and India showed that this instrument cannot be used effectively without a considerable amount of training and supervised practice. In training various groups of American and European professionals to conduct similar types of selection interviews, McBer has found that at least three days of intensive training and practice are required. When the persons being trained speak another language and come from another culture, more training is likely to be needed.

In the Phase II research in India, one consultant spent approximately two and one half weeks training and coaching a large team of interviewers. Some of this time was spent revising the interview procedures and making corresponding changes in the interview materials and guides.

In deciding whether to use the Focused Interview technology in other settings and in other countries, a critical question is the amount of interview training required. The required time for training may vary considerably, depending on factors such as the educational level of the trainees and their fluency in the language in which the training is conducted. In many settings, one trainer could effectively train four persons to conduct the Focused Interview in one week.

The main disadvantage of the Focused Interview is the training required for its administration and scoring. The other instruments that were developed for this project are much easier to administer and score, but none of these instruments was capable of differentiating successful from average groups of entrepreneurs. The failure of the two paper-and-pencil tests designed to assess the competencies (the Self Rating Questionnaire and the Business Situations Exercise) parallels McBer's experience with other fixed-response methods of assessing competencies.

The open-response paper-and-pencil test (the Picture Story Exercise) used to assess Achievement Motivation presented some problems of cultural acceptability and appropriateness when administered in Malawi. In India, where this instrument has been used successfully in entrepreneurial training programs, it was not taken seriously by the entrepreneurs to whom it was administered as part of the pilot testing. Thus, the Picture Story Exercise showed little promise as an instrument to be used for entrepreneurial selection.

This instrument and the two other paper-and-pencil tests (the Self Rating Questionnaire and the Business Situations Exercise) may still have a place in entrepreneurship training programs, where one goal may be to help the trainees to understand and be able to recognize the competencies.

The last instrument, the Information Interview, was primarily designed to provide personal background on the entrepreneurs for research purposes. A number of questions were included to assess variables which have been associated with successful entrepreneurship in other research. None of these questions strongly or consistently discriminated successful from average groups of entrepreneurs. It is unlikely, therefore, that personal background and demographic variables will be of much use in selecting entrepreneurs. These variables may still be considered for screening. For example, an entrepreneurship training program might screen applicants on the basis of educational level, to ensure that persons selected for the program possess a minimum level of literacy.

## Implications of the Results for Entrepreneurship Training

As mentioned in the introductory section of this report, this project involved a coordinated effort with Management Systems International (MSI), to investigate the possibilities of entrepreneurship training based on personal entrepreneurial characteristics. MSI has reviewed the research on entrepreneurship training and has developed and field tested a curriculum based in part on some of the PECs identified in the research reported here. This section is limited to a few comments based on the nature of the competencies that showed some consistency in differentiating successful and average groups of entrepreneurs.

It is useful to consider entrepreneurship training as involving two components

1. Training in the minimal business skills and knowledge needed by anyone wishing to start a business
2. Training in PECS that may help an entrepreneur to make the business successful

Business skills and knowledge are a key part of the first component, but there is little evidence that they are important to the second component. Specific business expertise or training did not discriminate successful from average entrepreneurs in the Phase I research.

The second component should include training to develop the competencies that consistently discriminated successful and average entrepreneurs in the studies reported here. As mentioned earlier, many of these competencies are more like traits than skills. For this reason, these competencies may be more difficult than skills to train.

McBer has developed an effective, five-step process for training competencies. The five steps are \_\_\_\_\_

1. Recognition. People must first learn to recognize the competencies well enough to identify them when they see them demonstrated by others (e.g., in videotapes or case materials)
2. Understanding. The next step is to develop a sufficient understanding of the competencies to be able to see how they apply to one's own life, and to be able to identify situations where one has used or might use the competencies.

3. Self Assessment Once people can recognize and understand the competencies, they are in a position to evaluate themselves accurately, so as to identify their own strengths and weaknesses with regard to the competencies.
4. Practice The next step is to practice using the competencies in role plays and simulations developed as part of the training program
5. Application. The last step is to apply the competencies on the job, as part of a plan to achieve performance-related goals.

## LIST OF TABLES

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
13	1	SAMPLING PLAN FOR THE INITIAL RESEARCH
21	2	THE CORE COMPETENCY MODEL
32	3	COMPETENCY FREQUENCY BY SUCCESS LEVEL
35	4	COMPETENCY FREQUENCY BY TYPE OF BUSINESS
41	5	VARIMAX ROTATED FACTOR STRUCTURE MATRIX FOR COMPETENCY SCORES
42	6	SUMMARY TABLE FOR DISCRIMINANT ANALYSIS INCLUD- ING ENTREPRENEUR BACKGROUND VARIABLES (ENTERED FIRST) AND COMPETENCY SCORES
46	7	CORRELATIONS AMONG BUSINESS OUTCOME VARIABLES AND SUCCESS LEVEL
50	8	MEANS AND STANDARD DEVIATIONS FOR THE 20 COMPE- TENCIES FOR SUCCESSFUL AND AVERAGE ENTREPRENEURS
51	9	RESULTS OF t-TEST ANALYSES BETWEEN SUCCESSFUL AND AVERAGE ENTREPRENEURS ON THE 20 COMPETENCIES FOR UNTRANSFORMED AND STANDARDIZED DATA
54	10	STEPWISE MULTIPLE REGRESSIONS USING RATING AS THE CRITERION AND THE COMPETENCY SCORES AS PREDICTORS
55	11	REGRESSION EQUATIONS USING COMPETENCY SCORES AS PREDICTORS AND SUCCESS LEVEL AS THE CRITERION
57	12	ROTATED FACTOR MATRIX ON THE STANDARDIZED COMPE- TENCY SCORES
58	13	MEANS AND STANDARD DEVIATIONS OF FACTOR SCORES FOR SUCCESSFUL AND AVERAGE ENTREPRENEURS
61	14	VARIABLES AND DATA CODES USED IN ADDITIONAL ANALYSES OF PHASE I DATA
63	15	ROTATED FACTOR MATRIX ON THE BUSINESS VARIABLES

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
64	16	CORRELATIONS BETWEEN COMPETENCY SCORES AND FACTOR SCORES DERIVED FROM THE BUSINESS VARIABLES
68	17	SUMMARY OF DIFFERENT ANALYSES ON THE COMPETENCY SCORES CONTRASTING SUCCESSFUL AND AVERAGE ENTREPRENEURS
87	18	BACKGROUND AND DEMOGRAPHIC VARIABLES ON THE FOUR GROUPS OF ENTREPRENEURS
98	19	BUSINESS - RELATED BACKGROUND VARIABLES ON THE FOUR GROUPS OF ENTREPRENEURS
100	20	REASONS FOR STARTING THE BUSINESS, SOURCES OF FINANCE, AND PROBLEMS IN STARTING THE BUSINESS
103	21	MEAN COMPETENCY SCORES FROM THE FOCUSED INTERVIEW
106	22	MEAN COMPETENCY SCORES FROM THE SELF RATING QUESTIONNAIRE
109	23	RESULTS OF THE FOUR-GROUP DISCRIMINANT ANALYSIS ON DATA FROM THE SELF RATING QUESTIONNAIRE
110	24	MEAN COMPETENCY SCORES FROM THE BUSINESS SITUATIONS EXERCISE
112	25	RESULTS OF THE FOUR-GROUP DISCRIMINANT ANALYSIS ON DATA FROM THE BUSINESS SITUATIONS EXERCISE
115	26	CORRELATIONS AMONG COMPETENCIES FOCUSED INTERVIEW
116	27	CORRELATIONS AMONG COMPETENCIES SELF RATING QUESTIONNAIRE
117	28	CORRELATIONS AMONG COMPETENCIES: BUSINESS SITUATIONS EXERCISE
118	29	CORRELATIONS AMONG VARIOUS WAYS OF ASSESSING COMPETENCIES
119	30	ROTATED FACTOR MATRICES FOR COMPETENCY SCORES DERIVED SEPARATELY FOR EACH OF THREE INSTRUMENTS

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
120	31	ONE-WAY ANOVAS ON FACTOR SCORES FROM THE SELF RATING QUESTIONNAIRE AND THE BUSINESS SITUATIONS EXERCISE
123	32	GROUP COMPARISONS ON THE BUSINESS PERFORMANCE VARIABLES
125	33	ROTATED FACTOR MATRIX ON THE BUSINESS PERFORMANCE VARIABLES
126	34	CORRELATIONS BETWEEN FACTOR SCORES FROM THE BUSINESS PERFORMANCE DATA AND COMPETENCY SCORES
127	35	STEPWISE MULTIPLE REGRESSIONS USING THE TOTAL FACTOR SCORE AS THE CRITERION AND THE COMPETENCY SCORES AS THE PREDICTORS
128	36	MEANS FOR ACHIEVEMENT, AFFILIATION, AND POWER FOR THE FOUR SAMPLE GROUPS
153	37	BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE SUCCESSFUL AND AVERAGE GROUPS
161	38	BUSINESS-RELATED VARIABLES FOR THE SUCCESSFUL AND AVERAGE GROUPS
165	39	PERCEPTIONS OF HOW BUSINESS IS DOING. INDIA, PHASE II DATA
166	40	REASONS FOR STARTING THE BUSINESS, SOURCES OF FUNDING, AND PROBLEMS ENCOUNTERED: SUCCESSFUL AND AVERAGE GROUPS
168	41	MEAN COMPETENCY SCORES USING RAW DATA AND FREQUENCY DATA
169	42	FREQUENCIES OF COMPETENCY SCORES FOR EXISTING ENTREPRENEURS
171	43	DISCRIMINANT FUNCTION COEFFICIENTS ON THE RAW SCORE DATA
172	44	CORRELATIONS AMONG COMPETENCIES

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
173	45	FACTOR ANALYSES
174	46	CORRELATIONS BETWEEN THE COMPETENCIES AND THE BUSINESS PERFORMANCE VARIABLES
175	47	FACTOR ANALYSIS OF THE BUSINESS PERFORMANCE VARIABLES
176	48	SYMLOG SCORES
186	49	SCORING PROCEDURES FOR VARIABLES USED TO CONSTRUCT SOCIOECONOMIC STATUS (SES) INDEX
187	50	CORRELATIONS BETWEEN COMPETENCY SCORES AND THE SES INDEX
188	51	COMPARISON OF ANOVA AND ANCOVA RESULTS IN COMPARISONS OF AVERAGE AND SUCCESSFUL GROUPS ON THE COMPETENCIES
189	52	DISCRIMINANT ANALYSIS AND MULTIPLE REGRESSION ANALYSIS USING THE COMPETENCIES AND SES
190	53	CORRELATIONS BETWEEN THE BUSINESS PERFORMANCE VARIABLES AND FACTOR SCORES DERIVED FROM THE COMPETENCIES
191	54	CORRELATIONS BETWEEN THE COMPETENCIES AND FACTOR SCORES DERIVED FROM THE BUSINESS PERFORMANCE VARIABLES
192	55	COMPARISONS BETWEEN THE GROUPS ON THE INDICES OF BUSINESS GROWTH
193	56	DISCRIMINANT ANALYSIS USING ALL COMPOSITES
194	57	CLASSIFICATION OF THE EXISTING ENTREPRENEURS ON FOUR BUSINESS PERFORMANCE VARIABLES
195	58	DISTRIBUTIONS OF EXISTING ENTREPRENEURS FOR BUSINESS PERFORMANCE CONSISTENCY GROUPINGS
196	59	COMPARISON OF THE AVERAGE AND SUCCESSFUL GROUPS ON BUSINESS PERFORMANCE CONSISTENCY GROUPINGS FOR SALES

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
7	60	COMPARISON OF THE AVERAGE AND SUCCESSFUL GROUPS ON BUSINESS PERFORMANCE CONSISTENCY GROUPINGS FOR PROFITS
18	61	COMPARISON OF THE MEAN COMPETENCY SCORES OF GROUPS CLASSIFIED ON THE BASIS OF CONSISTENT SALES PERFORMANCE
20	62	COMPARISON OF THE MEAN COMPETENCY SCORES OF GROUPS CLASSIFIED ON THE BASIS OF CONSISTENT PROFITS PERFORMANCE
200	63	THREE-GROUP DISCRIMINANT ANALYSIS USING BUSINESS CONSISTENCY GROUPINGS BASED ON SALES
201	64	THREE-GROUP DISCRIMINANT ANALYSIS USING BUSINESS CONSISTENCY GROUPINGS BASED ON PROFITS
210	65	BACKGROUND AND DEMOGRAPHIC VARIABLES FOR THE POTENTIAL ENTREPRENEURS
218	66	THE POTENTIAL ENTREPRENEURS' REASONS FOR STARTING THE BUSINESS, SOURCES OF FUNDING, AND PROBLEMS ENCOUNTERED
219	67	ADDITIONAL VARIABLES FOR THE POTENTIAL ENTREPRENEURS
220	68	FREQUENCIES OF RAW COMPETENCY SCORES FOR POTENTIAL ENTREPRENEURS
221	69	MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON THE RAW COMPETENCY SCORES
222	70	MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON THE COMPETENCY SCORES BASED ON FREQUENCIES
223	71	THREE-GROUP DISCRIMINANT ANALYSIS USING RAW SCORE COMPETENCY DATA

<u>Page</u>	<u>Table Number</u>	<u>Title</u>
224	72	MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON DISCRIMINANT FUNCTION SCORES BASED ON THE RAW COMPETENCY DATA
225	73	MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON FACTOR SCORES BASED ON THE RAW COMPETENCY DATA
226	74	MEANS AND RESULTS OF ONE-WAY ANOVAS COMPARING SUCCESSFUL, AVERAGE AND POTENTIAL ENTREPRENEURS ON SYMLOG SCORES
227	75	CHARACTERISTICS MOST FREQUENTLY MENTIONED AS IMPORTANT FOR ENTREPRENEURIAL SUCCESS BY EACH GROUP OF ENTREPRENEURS
228	76	THE EXISTING ENTREPRENEURS' RESPONSES ABOUT WHEN THEY FIRST USED CHARACTERISTICS THEY MENTIONED AS IMPORTANT TO ENTREPRENEURIAL SUCCESS
229	77	TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES DEMONSTRATED IN FOCUSED INTERVIEW: AVERAGE ENTREPRENEURS
230	78	TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES DEMONSTRATED IN FOCUSED INTERVIEW: SUCCESSFUL ENTREPRENEURS
231	79	TIMES OF RECOLLECTED FIRST USE OF COMPETENCIES DEMONSTRATED IN FOCUSED INTERVIEW: POTENTIAL ENTREPRENEURS
232	80	THE EXISTING ENTREPRENEURS' RESPONSES ABOUT WHEN THEY FIRST USED COMPETENCIES DEMONSTRATED IN THE FOCUSED INTERVIEW

THE IDENTIFICATION AND ASSESSMENT OF COMPETENCIES  
AND OTHER PERSONAL CHARACTERISTICS OF  
ENTREPRENEURS IN DEVELOPING COUNTRIES

Appendices for Final Report

Project No. 936-5314  
Entrepreneurship and Small Business Development  
Contract No. DAN-5314-C-00-3065-00

Submitted to

The United States Agency for International Development  
Washington, DC 20523

By

Richard S. Mansfield, Ed.D.  
David C. McClelland, Ph.D.  
Lyle M. Spencer, Jr., Ph.D.  
Jose Santiago, Ph.D.

McBer and Company  
137 Newbury Street  
Boston, MA 02116

April, 1987

LIST OF APPENDICES

- APPENDIX A DETAILED OUTLINE OF INTERVIEW FOR ENTREPRENEURS
- APPENDIX B MANUAL FOR SELECTION AND IMPACT MEASURES
- APPENDIX C MATERIALS FOR INFORMATION INTERVIEW AS USED IN INDIA PHASE II RESEARCH
- APPENDIX D MATERIALS FOR FOCUSED INTERVIEW AS USED IN INDIA PHASE II RESEARCH

Note Each appendix is numbered separately The page numbers for each appendix are preceded by the letter corresponding to that appendix

---

APPENDIX A  
DETAILED OUTLINE OF INTERVIEW FOR ENTREPRENEURS

## APPENDIX A

### DETAILED OUTLINE OF INTERVIEW FOR ENTREPRENEURS

#### I Introduction

- A Begin with small talk to relax the interviewee and set a pleasant tone for the interview
- B Explain the purpose of the interview, by providing background on the study
  - 1 "We are conducting a study to learn what it takes to be effective as an entrepreneur in this country "
  - 2 "We want to talk to the real experts--people who own their own businesses "
  - 3 "By interviewing people in depth, we hope to develop a detailed understanding of what they do that helps them to be successful "
  - 4 "We are interviewing 72 entrepreneurs in a wide variety of businesses in this country "
  - 5 "We are trying to identify skills, abilities, and ways of approaching problems that are demonstrated by many entrepreneurs in a variety of situations "
  - 6 "The skills and abilities that we observe will be emphasized in training programs for new entrepreneurs "
- C Explain that the format of the two-and-a-half interview will include
  - 1 Background questions on the business
  - 2 Background questions on the interviewee (education, work history)
  - 3 A question on his or her regular activities in the business (how he/she spends a typical week)
  - 4 A question on how he/she got started in the business

5 Descriptions of specific situations he/she has encountered in the business

a Two situations where he/she felt effective or pleased with the way he/she was running the business

b Two situations where things did not go smoothly, where he/she experienced some problem or frustration

"For each situation, I will ask

- How you first got involved
- What you were thinking in the beginning
- The sequence of things you did
- What happened in key discussions or meetings, as fully as you can remember
- What you were thinking as the situation developed
- How the situation turned out"

6 Questions on what the interviewee considers to be the personal characteristics and abilities needed for success as an entrepreneur

D Assure confidentiality and ask for permission to tape-record the interviewee

"In order to conduct our analyses, we need to have a record of the interview. That is why the tape recorder is here--with people's permission, we are tape-recording the interviews. Everything you say will be completely confidential, but if at any time you feel uncomfortable saying something on tape, just tell me, and I will turn the tape recorder off."

II Background Information on the Business

A "What does your business produce or sell?"

B "How long have you owned this business?"

C "What was your sales volume in the past year?"

D "How has your sales volume changed over the past three years/since you have been in business?"

- E "What did the business earn in the past year--how much income was there, after expenses and the cost of goods sold?"
- F "How have your business's earnings changed over the past year?"
- G "Have your products or services changed over the past three years? If so, how?"
- H "Where is your business based? Do you have other locations (offices, plants, shops)?"
- I "What major equipment does your business own or lease (machinery, vehicles, tools)?"
- J "How many people work for you? What are their jobs?"
- K "Where have you gotten financing for this business (banks, family, friends, personal funds)?"

### III Personal Background Information

- A "What education have you had?"
- B "Please give a brief history of the jobs you have had since completing your education "  
(For each job) "What did you do in that job?"
- C "Tell me about any other experiences you have had that are relevant to your present business "
- D "Have you started any other business(es) previously? If so how successful was each business?"
- E "What is your father's occupation? Your mother's?"
- F "Are there any other people in your family who own their own businesses? If so please give me some details "

### IV Entrepreneur's Regular Activities in the Business

- A 'If I were to watch you for a week in this business, what things would I see you doing?"  
  
(Probe for moderate detail by getting the person to give general descriptions, for example) "What do you mean by 'supervising?'" "What does developing a sales plan involve?" "What do you do when you visit a client?"

- B "Are there any other things you do as a regular part of your work in this business?"
- C "How many hours do you work in a typical week? Is this number more or less than the hours you worked in previous jobs you have held, in which you were an employee in someone else's business?"

V Starting the Business

- A "What led up to your starting this business?"
- B (If not answered above) "What were your thoughts at that time?"
- C "What exactly was the sequence of things you did in starting this business? Be sure to mention any problems you encountered and how you dealt with them. Please give me a brief overview of the whole sequence of events. Then I will want to walk through the sequence of events with you in more detail."
  - 1 First obtain the overview, which might include events such as individual planning, talks with others knowledgeable about the business, an attempt to gain financing, etc
  - 2 Probe each key event mentioned in the overview, to find out what the entrepreneur actually thought, said, and did, as in the examples below
    - a "You mentioned planning what you wanted to accomplish in the first year. Tell me how you did that planning. What were your thoughts?"
    - b "You mentioned the meeting with your uncle. Just before that meeting, what were you thinking? What exactly did you say? What did he say? What were you thinking at that point? What did you do after that meeting?"
    - c "You mentioned going to the bank and persuading them to lend you the money. Tell me what you were thinking as you walked into the bank. What did you actually say? What did they say? What did you do next?"

D Transition to Situations Encountered in the Business

"Thank you. That gives me a good picture of how you got started in this business. Now I would like to move to some key situations you have encountered in the last year or two in this business."

## VI Specific Situations Encountered in the Business

### A First High Point

- 1 "I would like you to tell me about a time in the last year or two when you felt pleased with something you did as part of your work in this business This could be something that happened in the course of a day, or over a longer period, of weeks or months--sort of a high point in terms of your own involvement in the business I would like you first to give me an overview of the situation Then I will want to go back through it in more detail "
- 2 (After the overview) "That gives me a helpful overview of the situation Now I would like to walk back through it with you in more detail Let's go back to the point where you first got involved What were you thinking at that point? What was the first thing you did?"

(Try to obtain a complete picture of what the entrepreneur did, said, thought, and felt throughout the situation Listed below are some questions you may want to ask )

- a "What exactly did you do?"
- b "Tell me about one of those discussions that stands out in your mind "
- c "Tell me what you were thinking just before that discussion "
- d "What exactly did you say?"
- e "What were you feeling at that point?" (to be asked if the entrepreneur seems to be describing a situation where there was some strong feeling--of happiness, anger, confusion, etc )
- f "What did you do next?"
- g "What finally happened?"

### B Second High Point

"I like the way you were remembering the details of what you said and did in that situation Can we talk now about another situation where you were pleased with the way things turned out--another high point in terms of your own involvement in this busi-

ness? And again, if you will first give me an overview, we can then go back through it in more detail "

(After the overview, follow up with specific probes, as before )

C First Low Point

"Now I would like you to tell me about a situation in this business where you were involved and things did not go the way you wanted, where you experienced some frustrations or problems First, please give me an overview, and then we will go through the situation in detail "

(Follow up with specific probes, as before )

D Second Low Point

"Could we talk about one more situation that was a low point for you in this business--another time when you encountered problems or frustrations?"

(Follow up with specific probes, as before )

VII The Entrepreneur's Views of the Personal Characteristics Required for Effectiveness

"I think we have a good selection of specific situations that will be very helpful To complete the interview, I would like to get your views on what it takes to be successful as an entrepreneur What personal characteristics, skills, or abilities do you think are most important?"

(After you obtain a list of the qualities the entrepreneur thinks are most important, select one for which you have not heard much evidence, and try to get a specific example from the entrepreneur's experience A sample probe is provided below )

"You mentioned persistence Can you give me a quick example of a time when persistence was helpful to you?"

(Follow up with probes, as in the high points and low points )

VIII Closing the Interview

"We have covered all the points I wanted to cover I want to thank you very much for your time and your help with this project Do you have any questions for me?"

APPENDIX B  
MANUAL FOR  
SELECTION AND IMPACT MEASURES

MANUAL FOR  
SELECTION AND IMPACT MEASURES

McBer and Company  
137 Newbury Street  
Boston, MA 02116  
August 1985

## GUIDELINES FOR ADMINISTERING THE INSTRUMENTS

How are all of these instruments to assess entrepreneurs and potential entrepreneurs used? These guidelines will provide you with that general information. Specifically, the objectives of these guidelines are to

- 1 Provide an overview of the instruments
- 2 Present methods of administration
- 3 Present timelines for each instrument
- 4 Present problems that can arise in the administration of the instruments and methods of overcoming them
- 5 Clarify what is to be sent to McBer after scoring the instruments

The sections that follow these general guidelines provide specific information on each instrument, together with the instrument itself, scoring instructions, score sheets, and profile sheets

### Purpose of the Instruments

These instruments are based on previous research on the personal characteristics associated with entrepreneurial success. The instruments are ultimately intended to be used to assist in selecting entrepreneurs who will receive assistance and training. The current research is aimed at validating these instruments. For this reason, it is essential that the instruments be administered in such a way as to provide the most accurate information. For this to happen, the general guidelines as well as the instructions and scoring procedures associated with them must be followed closely every time the instruments are administered.

### Descriptions of the Instruments

The following are brief descriptions of the instruments. More detailed descriptions are contained in the sections of this manual associated with the specific instruments.

- A Information Interview This interview consists of a set of specific questions about the person's background and about the entrepreneur's business. Some of the questions provide information about how successful the business has been.

- B Focused Interview This is an interview designed to find out how an individual acted, thought, and felt in five critical situations. The interviewer asks specifically designated questions for each situation to obtain detailed information. During the interview, the interviewer uses a score sheet to indicate the competencies demonstrated by the respondent in each situation. At the end of the interview, the interviewer uses another scoring form, the SYMLOG rating form, to assess the respondent on various overall characteristics that are associated with the competencies.
- C Self-Rating Questionnaire (SRQ) This is a 70-item questionnaire that asks an individual to rate himself\* on each item using a five-point scale. The questionnaire provides self-assessment on the degree to which the person uses each of the 13 competencies. This questionnaire also has a Correction Factor that controls for the tendency of some people to rate themselves too highly.
- D Business Situations Exercise (BSE) This 52-item questionnaire contains brief descriptions of 20 situations that an entrepreneur might face. Following each situation are several items, each consisting of a pair of alternative thoughts or actions. The person taking this test selects the alternative that more closely describes what he or she would do in that situation. For each item, one of the alternatives is based on use of a key competency. The BSE provides an overall score as well as scores on 13 competencies.
- E Picture Story Exercise (PSE) This exercise consists of six pictures involving people. The person taking the exercise is asked to write or tell a brief story about what is going on in each picture, what the people are thinking and doing, and what the outcome is. This is a projective test, --in the sense that it is assumed that the thoughts and actions attributed to characters in the stories reflect the underlying motives of the person telling the stories. The test is scored for three fundamental social motives: Achievement, Affiliation, and Power. The relative strength of these motives, especially Achievement Motivation, has been related in the past to successful entrepreneurial behavior.

---

\* Use of the masculine pronoun throughout this manual is intended solely to reduce the length and thus to increase the readability of the text. This convention is not intended in any way to discriminate against women.

## Methods of Administration

The instruments can be administered in several ways

- A Written Responses The Self-Rating Questionnaire, the Business Situations Exercise, and the Picture Story Exercise can all be answered in writing by the person being tested. These instruments can be completed at home or at the testing site. In either case, it is essential that you carefully review all the instructions for each instrument with the respondent prior to his completing any of the tests.
- B Oral Responding The Information Interview and the Focused Interview are administered together orally by the interviewer. It is important during these interviews to put the respondent at ease and to explain clearly how the interview will be conducted.

The Self-Rating Questionnaire, the Business Situations Exercise, and the Picture Story Exercise can also be administered orally. This should be done in the following situations

- If the person being tested has difficulty with English or Spanish or the language into which the tests have been translated
- If the person is very anxious about writing answers to the instruments
- If the person has a great deal of difficulty understanding the instructions to the instruments
- If the person cannot write in English or Spanish or the language into which the tests have been translated

It is necessary to tape record the person's responses to the Focused Interview and to the Picture Story Exercise if this instrument is administered orally. The taping allows you to review the responses and to check your initial scoring for accuracy. The taping also allows research on the instruments to be conducted with a much greater degree of accuracy. The results of this research will be used to make any needed improvements in the instruments and the procedures which will, in turn, make your job easier. When tape recording, it is important to follow certain procedures

- Request permission to record the session
- Explain the purpose of the taping to the respondent

- Stress the confidentiality of the tape and indicate that only the research team will have access to it
- Make sure the tape recorder is working correctly before each session Change batteries frequently
- Make sure the respondent is close enough to the microphone to be heard clearly
- Correctly label each tape with the name of the person being taped, the date, the name of the person giving the tests, the location of the testing, and a description of the tape's contents
- If the respondent strongly resists the taping, take notes that, as completely as possible, represent what the person says in the Focused Interview and on the Picture Story Exercise

#### Process of Administration

It is extremely important that you follow the correct procedure and administer the instruments in the right order, thus ensuring that everyone is treated in the same way and that the information is accurate

- A Make every attempt to establish a good working relationship when first meeting with the person to be tested You can do this by introducing yourself and making sure the respondent is comfortable It is then important to explain the purpose of the process that will take place If you are testing existing entrepreneurs, you can indicate that "some new procedures have been developed that should help entrepreneurs learn in what areas they are strong and in what areas they need to improve This should help you become even better entrepreneurs " If you are testing potential entrepreneurs, then you can indicate that "some new procedures have been developed that will help determine how successful you will be as an entrepreneur This will assist you in making a decision about whether or not you want to proceed with your plans It can also show you areas in which you can improve so that you will increase your chances of becoming a successful entrepreneur "

Once you have explained the purpose of the procedure, you should explain that the respondent will be taking five instruments and you should indicate the options available for each one Once you have clearly explained the entire process and the timelines, you should ask for and respond to questions

B Administer the instruments in the following order. The time required for each instrument is listed in the column on the right.

	<u>Instrument</u>	<u>Time</u>
1	Information Interview	30 minutes
2	Focused Interview	1 hour
3	Self-Rating Questionnaire	30 minutes
4	Picture Story Exercise	30 minutes
5	Business Situations Exercise	35 minutes

### Scoring the Instruments

Complete scoring instructions are included in this manual with each instrument. There is no formal scoring for the Information Interview. The Focused Interview is scored both during and at the end of the interview. The Picture Story Exercise is scored during the administration if it is given orally, if the respondent writes his answers, the Exercise is scored after it is completed. The Self-Rating Questionnaire and Business Situations Exercise are scored after they are completed.

### What to Send to McBer After Scoring the Instruments

After you have administered all the instruments to an entrepreneur or potential entrepreneur, you should prepare and send a packet containing the following items for each instrument:

<u>Instrument</u>	<u>Items to be Sent</u>
Information Interview	Completed interview sheets in English or Spanish
Focused Interview	Completed competency scoring sheet, completed SYMLOG rating sheet, tape recording
Self-Rating Questionnaire	Completed scoring sheet
Business Situations Exercise	Completed scoring sheet
Picture Story Exercise	Completed scoring sheet, completed test booklet if the stories are written in English, tape recording if administered orally to someone who speaks English or Spanish

## Problems and Solutions

There are some general problems that you may encounter in administering the instruments. The following list identifies some of these problems and suggests solutions.

<u>Problem</u>	<u>Solutions</u>
1 Language barrier	1 If the person understands your language to some degree, speak slowly and check for understanding. If the person speaks a different language, find an interpreter or perhaps another language common to both of you. If the person does not speak and write in English, you will need to translate and write the responses to the Information Interview.
2 Fatigue or boredom	2 Take a break in the administration of the instruments. If it is late in the day, try to reschedule the person to come back for a second session.
3 Person does not seem to understand the instructions for some or all of the instruments	3 Repeat the instructions and, if necessary, rephrase them to make them clearer. Listen closely to the person to find out what he does not understand. DO NOT give the person actual answers to questions or hints on how to answer the questions.

## ENTREPRENEURIAL COMPETENCIES

- 1 Initiative Takes actions that go beyond job requirements or the demands of the situation
  - Does things before being asked or forced to by events
  - Acts to extend the business into new areas, products, or services
  
- 2 Sees and Acts on Opportunities Looks for and takes action on opportunities
  - Sees and acts on opportunities (business, educational, or personal growth)
  - Seizes unusual opportunities to obtain financing, equipment, land, work space, or assistance
  
- 3 Persistence Takes repeated action to overcome obstacles that get in the way of reaching goals
  - Takes repeated or different actions to overcome an obstacle
  - Takes action in the face of a significant obstacle
  
- 4 Information Seeking Takes action on own to get information to help reach objectives or clarify problems
  - Does personal research on how to provide a product or service
  - Consults experts for business or technical advice
  - Seeks information or asks questions to clarify what is wanted or needed
  - Personally undertakes research, analysis, or investigation
  - Uses contacts or information networks to obtain useful information

- 5 Concern for High Quality of Work Acts to do things that meet or beat existing standards of excellence
- States a desire to produce work of high quality
  - Compares own work or own company's work favorably to that of others
- 6 Commitment to Work Contract Places the highest priority on getting a job completed
- Makes a personal sacrifice or expends extraordinary effort to complete a job
  - Accepts full responsibility for problems in completing a job for others
  - Pitches in with workers or works in their place to get the job done
  - Expresses a concern for satisfying the customer
- 7 Efficiency Orientation Finds ways to do things faster or with fewer resources or at a lower cost
- Looks for or finds ways to do things faster or at less cost
  - Uses information or business tools to improve efficiency
  - Expresses concern about costs vs benefits of some improvement, change, or course of action
- 8 Systematic Planning Develops and uses logical, step-by-step plans to reach goals
- Plans by breaking a large task down into sub-tasks
  - Develops plans that anticipate obstacles
  - Evaluates alternatives
  - Takes a logical and systematic approach to activities
- 9 Problem Solving Identifies new and potentially unique ideas to reach goals
- Switches to an alternative strategy to reach a goal
  - Generates new ideas or innovative solutions

- 10 Self-Confidence Has a strong belief in self and own abilities
- Expresses confidence in own ability to complete a task or meet a challenge
  - Sticks with own judgment in the face of opposition or early lack of success
  - Does something that he says is risky
- 11 Assertiveness Confronts problems and issues with others directly
- Confronts problems with others directly
  - Tells others what they have to do
  - Reprimands or disciplines those failing to perform as expected
- 12 Persuasion Successfully persuades others
- Convinces someone to buy a product or service
  - Convinces someone to provide financing
  - Convinces someone to do something else that he would like that person to do
  - Asserts own competence, reliability, or other personal or company qualities
  - Asserts strong confidence in own company's or organization's products or services
- 13 Use of Influence Strategies Uses a variety of strategies to affect others
- Acts to develop business contacts
  - Uses influential people as agents to accomplish own objectives
  - Selectively limits the information given to others
  - Uses a strategy to influence or persuade others

INFORMATION INTERVIEW FOR  
EXISTING AND START-UP ENTREPRENEURS

Part I General Background

Name of Entrepreneur \_\_\_\_\_ Date \_\_\_\_\_

Name of Business \_\_\_\_\_

Address of Business \_\_\_\_\_  
\_\_\_\_\_

Type of Business

\_\_\_ Manufacturing \_\_\_ Marketing/Trading \_\_\_ Service

(You may check more than one )

Name of Interviewer \_\_\_\_\_

1 Are you the owner of the business?

\_\_\_ Owner \_\_\_ Partner \_\_\_ Neither

2 Do you manage the business? \_\_\_ Yes \_\_\_ No

3 Were you involved in starting the business? \_\_\_ Yes \_\_\_ No

4 How long has this business been in operation? \_\_\_\_\_

5 What does your business produce or sell? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

6 Have you added any products or services over the past three years? \_\_\_\_\_

(If yes) How many? \_\_\_\_\_

What are they?

---

---

---

7 Do you have any other businesses right now? \_\_\_\_\_

(If yes) How many? \_\_\_\_\_

What are they?

---

---

---

8 How many years of education have you completed? \_\_\_\_\_

9 What is the highest level of education you have completed?  
(Check the appropriate category below )

- \_\_\_\_\_ None
- \_\_\_\_\_ Some Primary
- \_\_\_\_\_ Primary
- \_\_\_\_\_ Some Secondary
- \_\_\_\_\_ Secondary
- \_\_\_\_\_ Some University
- \_\_\_\_\_ University Degree
- \_\_\_\_\_ Some Graduate Work
- \_\_\_\_\_ Graduate Degree
- \_\_\_\_\_ Not Clear Which Category

10 Have you had any other technical training? \_\_\_\_\_

(If yes) Specify

---

---

11 Have you had any business training? \_\_\_\_\_

(If yes) Specify

---

---

---

12 What job did you have before starting the business?

---

---

13 What did you do in this job? \_\_\_\_\_

---

14 Have you held any other jobs related to this business? \_\_\_\_\_

(If yes) What were they?

---

---

15 Have you started any other businesses? \_\_\_\_\_

(If yes) What were they? \_\_\_\_\_

---

---

16 How old are you? \_\_\_\_\_

17 Are you married? \_\_\_\_\_

18 Number of children? \_\_\_\_\_

275

19 What is/was your father's occupation? \_\_\_\_\_

20 What is/was your mother's occupation? \_\_\_\_\_

21 Has anyone in your family ever started a business (parents, brothers, sisters, uncles, aunts)?  
\_\_\_\_\_  
\_\_\_\_\_

22 Did you ever work in a business owned by someone in your family?  
\_\_\_\_\_  
\_\_\_\_\_

23 Before you started your business, how many of your close friends had started a business? \_\_\_\_\_

24 Before you started your business, about how many people did you personally know who had started businesses? \_\_\_\_\_

25 What were your reasons for starting this business?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

26 From what sources have you gotten money to finance this business? (Check all that apply )

Sources  
At Start-up

- Banks
- Partners
- Family
- Self
- Friends
- Government
- Other \_\_\_\_\_

Sources  
After Start-up

- Banks
- Partners
- Family
- Self
- Friends
- Government
- Other \_\_\_\_\_

27 What major problems, if any, did you have in starting this business?

---

---

---

---

117

Part II Size and Volume of Business

Instructions

Ask the respondent for information in the sequence listed below. In order to get a complete picture of the performance of the business, be sure to obtain all the information requested unless, of course, a particular piece of information is not relevant for the business in which the respondent is engaged. If the respondent does not seem able to provide answers to specific items, ask him or her to describe what is called for, then, with the respondent, try to calculate the numbers as accurately as possible.

- 1 "First I would like to ask about your business's sales and profits "

Do you keep written records of sales and expenditures for your business?

\_\_\_\_\_ (If no, go directly to question 2 )

Sales and Profits

	<u>Sales</u>	<u>Profits</u>	<u>Date</u>
Last Complete Year	_____	_____	_____
Two Years Ago	_____	_____	_____
Three Years Ago	_____	_____	_____
Second Year in Business (if business has been in existence for more than 4 years)	_____	_____	_____

- 2 What is your business's monthly sales (turnover)?

During the dry season \_\_\_\_\_

During the rainy season \_\_\_\_\_

How many months are there in the rainy season? \_\_\_\_\_

- 3 How much income do you take from the business each month after expenses have been paid?

During the dry season \_\_\_\_\_

During the rainy season \_\_\_\_\_

4 Do you bring home goods from the business? \_\_\_\_\_  
 (If yes) What is the value of the goods you take home each month?  
 During the dry season \_\_\_\_\_  
 During the rainy season \_\_\_\_\_

5 (Question for existing entrepreneurs only)

How is your business doing

<u>Compared to one year ago</u>	<u>Compared to three years ago</u>
_____ Much better	_____ Much better
_____ A little better	_____ A little better
_____ About the same	_____ About the same
_____ A little worse	_____ A little worse
_____ Much worse	_____ Much worse

6 (Question for existing entrepreneurs with more than one business only)

Consider all your businesses and rate how they are doing

<u>Compared to one year ago</u>	<u>Compared to three years ago</u>
_____ Much better	_____ Much better
_____ A little better	_____ A little better
_____ About the same	_____ About the same
_____ A little worse	_____ A little worse
_____ Much worse	_____ Much worse

7 How many employees do you have in your business?

	<u>Full-Time</u>	<u>Part-Time</u> (Number of Hours and Percent of Year They Work)
Now	_____	_____
One year ago	_____	_____
Two years ago	_____	_____

INFORMATION INTERVIEW FOR POTENTIAL ENTREPRENEURS

NOTE This interview should be conducted for persons interested in starting a business but not yet in business

Name of Potential Entrepreneur \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

1 What type of business would you like to start? \_\_\_\_\_

2 Do you have a specific idea for a business? \_\_\_\_\_

(If yes) What is it?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3 Do you plan to start this business alone or with partners?

\_\_\_\_\_

4 Do you have any other businesses right now? \_\_\_\_\_

(If yes) What are they?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5 How many years of education have you completed? \_\_\_\_\_

6 What is the highest level of education you have completed?  
(Check the appropriate category below )

- \_\_\_\_\_ None
- \_\_\_\_\_ Some Primary
- \_\_\_\_\_ Primary
- \_\_\_\_\_ Some Secondary
- \_\_\_\_\_ Secondary
- \_\_\_\_\_ Some University
- \_\_\_\_\_ University Degree
- \_\_\_\_\_ Some Graduate Work
- \_\_\_\_\_ Graduate Degree
- \_\_\_\_\_ Not Clear Which Category

7 Have you had any other technical training? \_\_\_\_\_

(If yes) Specify

---

---

---

8 Have you had any business training? \_\_\_\_\_

(If yes) Specify

---

---

---

9 Do you have a job now? \_\_\_\_\_ (If yes) What is it?

---

10 What do you do in this job? \_\_\_\_\_

---

---

11 What is your monthly wage or income from this job? \_\_\_\_\_

12 Have you held any other jobs related to the business you would like to start? \_\_\_\_\_

(If yes) What were they?

---

---

13 Have you previously started any businesses? \_\_\_\_\_

(If yes) Specify

---

---

---

14 How old are you? \_\_\_\_\_

15 Are you married? \_\_\_\_\_

16 Number of children? \_\_\_\_\_

17 What is/was your father's occupation? \_\_\_\_\_

18 What is/was your mother's occupation? \_\_\_\_\_

19 Has anyone in your family ever started a business (parents, brothers, sisters, uncles, aunts)?

---

---

20 Have you ever worked in a business owned by someone in your family?

---

---

21 How many of your close friends have started businesses? \_\_\_\_\_

22 How many people do you personally know who have started businesses? \_\_\_\_\_

23 What are your reasons for starting a business?

---

---

---

---

24 From what sources do you think you can get money to start a business?

Sources

- \_\_\_\_\_ Banks
- \_\_\_\_\_ Partners
- \_\_\_\_\_ Family
- \_\_\_\_\_ Self
- \_\_\_\_\_ Friends
- \_\_\_\_\_ Government
- \_\_\_\_\_ Other \_\_\_\_\_

25 How much money do you have right now to start a business?

---

26 What major problems, if any, do you foresee in starting a business?

---

---

---

---

## FOCUSED INTERVIEW MANUAL

### Focused Interview Background

The Focused Interview is a method of obtaining specific information on how a respondent has acted and thought in five designated situations. These situations are representative of those that everyone has encountered, and they can provide a reliable way to determine the extent to which a respondent exhibits the 13 competencies associated with successful entrepreneurship.

### Focused Interview Administration

The Focused Interview is administered orally, immediately after the Information Interview. Each of the five situations is presented to the respondent and he is asked to describe in some detail a specific situation from the past that exemplifies it. During the 10 minutes allotted for each situation, the interviewer asks a set of questions intended to elicit as much information as possible about what the respondent did, said, thought, and felt.

This section presents general instructions, identifies the five situations to be covered in the interview, and gives the specific questions used to probe for information not given by the respondent.

### General Instructions

- 1 Tell the respondent that the purpose of the interview is to get a better understanding of how he has actually gone about handling past situations. Indicate that this information will be useful in making decisions about the purpose of the assessment.
- 2 Explain that you will ask the person to give detailed descriptions of what he did, said, thought about, and felt in five situations from his recent past. Specifically, for each situation you will want the person to answer the following:
  - How did you first get involved in the situation?
  - What were you trying to accomplish?
  - Did you talk to anyone about what you were going to do? (If yes) Describe the conversation.

- Was anyone else involved?
  - What was the sequence of things you did?
  - What was your part in the situation?
  - How did it turn out? Are there any other key things you did?
  - What did you feel you accomplished?
- 3 Explain that there will be additional questions associated with each situation
  - 4 Indicate you will be making some notes throughout the interview to help you remember what the person said
  - 5 If you have a tape recorder, explain why you would like to record the interview (to help you remember sections of the interview), and request permission to use it
  - 6 Stress the confidentiality of the interview
  - 7 Ask for questions and give whatever information is necessary to make the process and reasons for the interview clear
  - 8 Present each situation and spend 10 minutes per situation gathering information
  - 9 Ask each follow-up question unless the person volunteers answers
  - 10 Let the person know, by thanking him, when he has given a lot of detail on what he did, said, thought, and felt in a situation
  - 11 At the end of the interview thank the person for the information and time Respond to any questions

### Situations for the Focused Interview

For each situation listed below, ask the respondent to tell you about a time when

- 1 He did something on his own
- 2 He had to get someone to do something
- 3 He had a significant amount of difficulty in getting something done
- 4 He was pleased with something he accomplished
- 5 Another time he was pleased with something he accomplished

A detailed interview script follows on the next pages

SCRIPT FOR FOCUSED INTERVIEW

NOTE The Information Interview should be conducted immediately before this interview

Name of Person Being Interviewed \_\_\_\_\_

Name of Interviewer \_\_\_\_\_ Date \_\_\_\_\_

Introduction

"What you have told me so far gives me some excellent background. What I would like to do now is have you tell me about some specific work situations you have been involved in over the past year or two."

(Potential entrepreneurs who have not held jobs may talk about school experiences.)

"Your descriptions of what you did in each situation will give me a clearer picture of the way you do things at work. For each situation, I will ask you to tell me how you first got involved, what you were trying to accomplish, the things that you did and thought, what you said in any meetings or conversations that you remember, what your part in the situation was, and how the situation turned out. We will be talking about five situations, and this should take a little less than an hour.

"I will be taking notes as we go along, but it would be helpful for me to be able to tape record the interview to help me remember what you have said. Everything you tell me will be completely confidential."

"Do you have any questions for me before we begin?"

(Give whatever additional information is necessary to make the purpose and process of the interview clear.)

First Situation (A)

"To begin, I would like you to tell me about a work situation where you accomplished something on your own "

(Ask each of the follow-up questions below, unless the person volunteers answers )

"How did you first get involved?"

"What were your thoughts in the beginning?"

"What were you trying to accomplish?"

"Did you talk to anyone about what you were going to do?"  
(If yes) "Tell me what you said in that conversation "

"Was anyone else involved?"

"What was the sequence of things you did?"

"What was your part in this?"

"Do you remember any meetings or conversations during this situation?" (If yes) "Who was involved and what did you say?"

"Were there any other key things that you did in this situation?"

"How did it turn out?"

"What do you feel you accomplished?"

"Did you do any planning as part of this?" (If yes) "What specifically did you do?"

"Thank you for telling me about that situation "

Second Situation (B)

"Now I would like you to tell me about a time at work when you had to get somebody to do something "

(Ask each of the follow-up questions below, unless the person volunteers answers )

"How did you first get involved?"

"What were your thoughts at the beginning?"

"Who were you trying to get to do something?"

"What were you trying to get them to do?"

"What did you do to get them to do it?"

"What did you say to them?"

"What was the response?"

"How successful were you in getting them to do what you wanted them to do?"

"Were there any other key things that you did as part of this situation?"

"Was anyone else involved in this situation?" (If yes)

"What was your part in this situation?"

"Thank you for telling me about what you did in that situation "

Third Situation (C)

"Now I would like you to tell me about a time at work when you had difficulty getting something done "

(Ask each of the follow-up questions below, unless the person volunteers answers )

"What was the difficulty or problem?"

"How did you first get involved?"

"What were your thoughts in the beginning?"

"What were you trying to accomplish?"

"Did you talk to anyone about what your were going to do?"  
(If yes) "Tell me about that conversation "

"Was anyone else involved?"

"What was the sequence of things that you did?"

"What was your part in this?"

"What were you thinking during this situation?"

"How did it turn out?"

"Were there any other key things that you did in this situation?"

"What did you feel you accomplished?"

"How successful do you think you were in overcoming the difficulty?"

"Thank you for telling me about what you did in that situation "

Fourth Situation (D)

"Now I would like you to tell me about a time at work when you were pleased with something you accomplished "

(Ask each of the follow-up questions below, unless the person volunteers answers )

"How did you first get involved?"

"What were your thoughts in the beginning?"

"What were you trying to accomplish?"

"Did you talk to anyone about what you were going to do?"  
(If yes) "Tell me about that conversation "

"Was anyone else involved?"

"What was the sequence of things that you did?"

"What was your part in this?"

"Do you recall any meetings or conversations you had during this situation?" (If yes) "Tell me who was involved and what you said "

"How did the situation turn out?"

"Were there other key things that you did as part of this situation?"

"What did you feel you accomplished?"

"What made you most proud about this accomplishment?"

"Were there any other key things you did as part of this situation?"

"Thank you for telling me about what you did in this situation "

Fifth Situation (E)

"Now I would like you to tell me about another time when you were pleased with something you accomplished "

(Ask each of the follow-up questions below, unless the person volunteers answers )

"How did you first get involved?"

"What were your thoughts in the beginning?"

"What were you trying to accomplish?"

"Did you talk to anyone about what you were going to do?"  
(If yes) "Tell me about that conversation "

"Was anyone else involved?"

"What was the sequence of things that you did?"

"What was your part in this?"

"Do you recall any meetings or conversations you had during this situation?" (If yes) "Tell me who was involved and what you said "

"How did the situation turn out?"

"Were there other key things that you did as part of this situation?"

"What did you feel you accomplished?"

"What made you most proud about this accomplishment?"

"Were there any other key things you did as part of this situation?"

"What you have told me has been very helpful We have covered what I wanted to ask you in this interview Do you have any questions for me?"

## Interview Scoring

Scoring the interview for the 13 competencies takes place during the interview and is done at the end of each situation. The Focused Interview Evaluation Form provides scoring instructions. But to learn to score the interview consistently, some practice and familiarization with the competencies will be necessary. Here are some suggestions for learning to score the interview.

- 1 Before each interview review the 13 competencies presented in detail earlier in this appendix.
- 2 Use the Practice Competency Scoring Sheet for Focused Interview to begin learning to score the interview. This form provides a brief definition of each competency and spaces to record your judgment about whether each competency was demonstrated in a situation, as well as the specific evidence from the interview.
- 3 Work together with another person who independently scores the same interviews. This can be done by having both people present during the interview or by having both people listen to tape-recorded interviews.
- 4 Give credit for a competency only when there is clear evidence that the person demonstrated it in a specific past situation. Do not give credit when it is unclear whether the person being interviewed demonstrated the competency. Do not give credit for things the person says he or she might do in the future.
- 5 Rely on actual evidence mentioned in the interview. Do not make inferences about what the person probably does. Satisfactory agreement between scorers can be achieved only when scoring is based on actual evidence from the interview.
- 6 Once two scorers are familiar with the competencies and agree about the presence vs. absence of competencies at least 80% of the time, the two scorers can begin scoring interviews alone, using only the Focused Interview Evaluation Form.

PRACTICE COMPETENCY SCORING SHEET FOR FOCUSED INTERVIEW

Candidate \_\_\_\_\_ Date \_\_\_\_\_  
 Interviewer \_\_\_\_\_ Situation A B C D E F (circle)

Use this sheet to practice coding the Focused Interview After listening to one situation, circle 'Y' (yes), '?' (unsure), or 'N' (no) to indicate whether each competency was demonstrated When 'Y' or '?' is circled, briefly note the specific evidence

	<u>Competencies</u>	<u>Demonstrated</u>			<u>Evidence</u>
1	INITIATIVE Takes actions that go beyond job requirements or the demands of the situation	Y	?	N	_____
2	SEES AND ACTS ON OPPORTUNITIES Looks for and takes action on opportunities	Y	?	N	_____
3	PERSISTENCE Takes repeated action to overcome obstacles that get in the way of reaching goals	Y	?	N	_____
4	INFORMATION SEEKING Takes action on own to get information to help reach objectives or clarify problems	Y	?	N	_____
5	CONCERN FOR HIGH QUALITY OF WORK Acts to do things that meet or beat existing standards of excellence	Y	?	N	_____
6	COMMITMENT TO WORK CONTRACT Places the highest priority on getting a job completed	Y	?	N	_____
7	EFFICIENCY ORIENTATION Finds ways to do things faster or with fewer resources or at a lower cost	Y	?	N	_____
8	SYSTEMATIC PLANNING Develops and uses logical, step-by-step plans to reach goals	Y	?	N	_____
9	PROBLEM SOLVING Identifies new and potentially unique ideas to reach goals	Y	?	N	_____
10	SELF-CONFIDENCE Has a strong belief in self and own abilities	Y	?	N	_____
11	ASSERTIVENESS Confronts problems and issues with others directly	Y	?	N	_____
12	PERSUASION Successfully persuades others	Y	?	N	_____
13	USE OF INFLUENCE STRATEGIES Uses a variety of strategies to affect others	Y	?	N	_____

FOCUSED INTERVIEW EVALUATION FORM

Name of Respondent \_\_\_\_\_ Date \_\_\_\_\_

Interviewer \_\_\_\_\_

Reason for Interview \_\_\_\_\_

Instructions

- 1 In scoring this interview, you will be deciding whether or not the person presented evidence for 13 entrepreneurial competencies during each of the five situations
- 2 Scoring is done during the interview, immediately following each situation
- 3 Before each interview, review the 13 competencies presented in detail earlier in this appendix
- 4 During the interview, after the first situation (A), decide whether the person has demonstrated any behaviors or thoughts that match the definition of each competency Place a check mark in column A opposite each competency that the person has demonstrated
- 5 Repeat this procedure after situations B, C, D, and E, putting check marks in the appropriate column for each situation
- 6 Give credit for a competency only when there is clear evidence that the person demonstrated it in a specific past situation
  - o Do not give credit when more than one person was involved and it is unclear whether the person being interviewed demonstrated the competency
  - o Do not give credit for things that the person says he might do in the future
- 7 After recording the competencies demonstrated for each situation, add the number of checkmarks (✓) across situations for each competency and place the number under the Total Score column Then add the numbers in the Total Score column to give a final total that represents an overall index of competency use
- 8 Transfer the information to the Focused Interview Profile Sheet, following the instructions associated with that sheet, to produce a competency profile that graphically represents the relative competency strengths and weaknesses



<u>COMPETENCIES</u>	<u>SITUATIONS</u>					<u>TOTAL SCORE</u>
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	
1 INITIATIVE Takes actions that go beyond job requirements or the demands of the situation	_____	_____	_____	_____	_____	_____
2 SEES AND ACTS ON OPPORTUNITIES Looks for and takes action on opportunities	_____	_____	_____	_____	_____	_____
3 PERSISTENCE Takes repeated action to overcome obstacles that get in the way of reaching goals	_____	_____	_____	_____	_____	_____
4 INFORMATION SEEKING Takes action on own to get information to help reach objectives or clarify problems	_____	_____	_____	_____	_____	_____
5 CONCERN FOR HIGH QUALITY OF WORK Acts to do things that meet or beat existing standards of excellence	_____	_____	_____	_____	_____	_____
6 COMMITMENT TO WORK CONTRACT Places the highest priority on getting a job completed	_____	_____	_____	_____	_____	_____
7 EFFICIENCY ORIENTATION Finds ways to do things faster or with fewer resources or at a lower lower cost	_____	_____	_____	_____	_____	_____
8 SYSTEMATIC PLANNING Develops and uses logical, step-by-step plans to reach goals	_____	_____	_____	_____	_____	_____
9 PROBLEM SOLVING Identifies new and potentially unique ideas to reach goals	_____	_____	_____	_____	_____	_____
10 SELF-CONFIDENCE Has a strong belief in self and own abilities	_____	_____	_____	_____	_____	_____
11 ASSERTIVENESS Confronts problems and issues with others directly	_____	_____	_____	_____	_____	_____
12 PERSUASION Successfully persuades others	_____	_____	_____	_____	_____	_____
13 USE OF INFLUENCE STRATEGIES Uses a variety of strategies to affect others	_____	_____	_____	_____	_____	_____

TOTAL COMPETENCY SCORE \_\_\_\_\_

COMPETENCY SCORING AND PROFILING SHEET FOR INTERVIEW

Instructions

- 1 Add the number of checkmarks (✓) across situations for each competency and place the number under the "Total Score" column
- 2 Add the numbers in the "Total Score" column to give a final total that represents an overall index of competency use
- 3 Transfer the individual competency scores to the profile sheet by marking an "X" at the appropriate point on the dotted horizontal line for each competency
- 4 Draw a heavy line over the dotted horizontal line for each competency, from the left vertical line to the point you have marked with an "X " The heavy lines you have drawn graphically represent the strength of each competency
- 5 The following is an example of how to create the profile sheet

If the score for Efficiency Orientation is "2," it would appear as follows

Efficiency Orientation



SELF-RATING QUESTIONNAIRE PROFILE SHEET

Competency

Initiative

Sees and Acts on Opportunities

Persistence

Information Seeking

Concern for High Quality of Work

Commitment to Work Contract

Efficiency Orientation

Systematic Planning

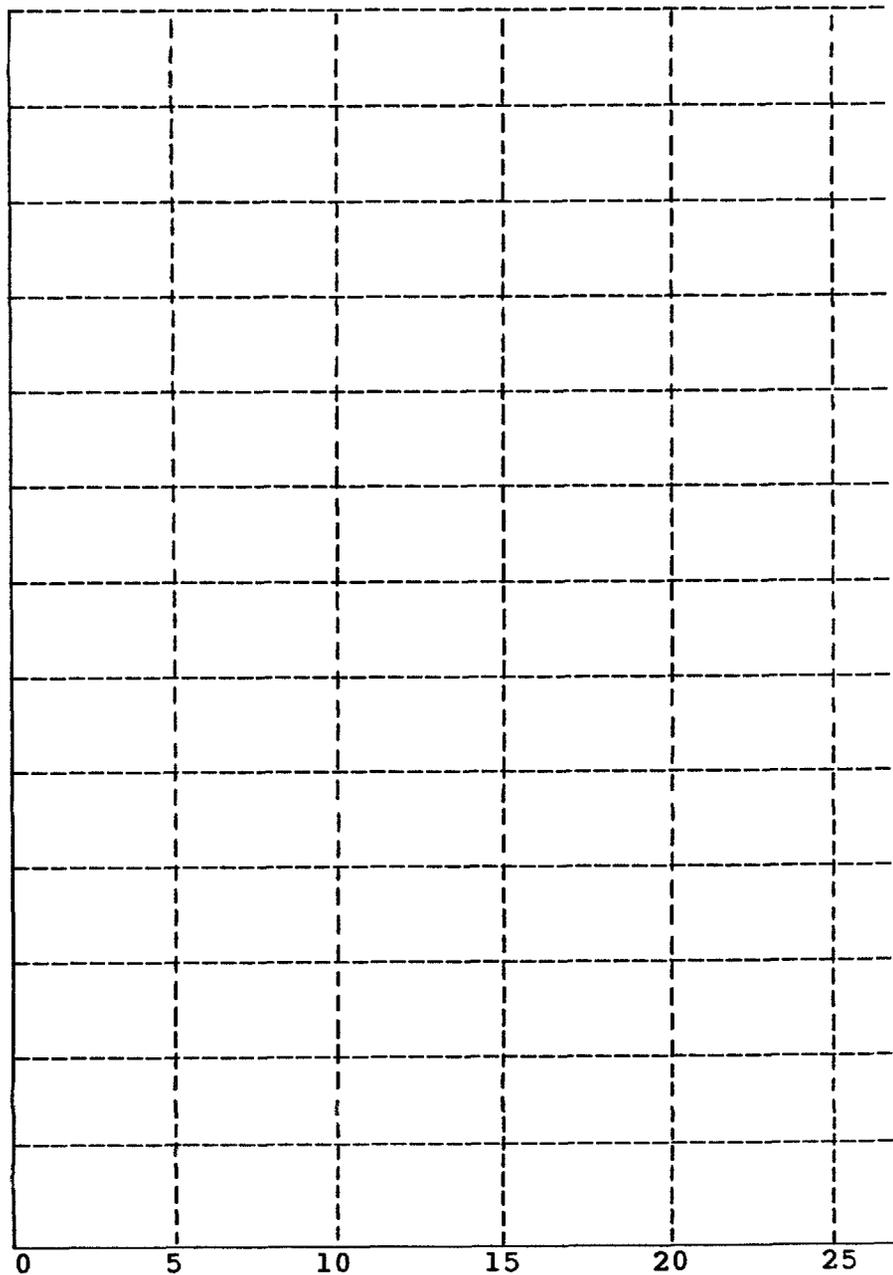
Problem Solving

Self-Confidence

Assertiveness

Persuasion

Use of Influence Strategies



Competency Scores

## SYMLOG

### Instructions for Rating Entrepreneurs

Reflect on your experience of the person you interviewed. Although the time you were able to spend with the person was limited, you nonetheless were able to form initial impressions. Try to answer the questions on the next page based on your interaction with the person and the values he or she expressed in critical incidents recounted during the interview.

The Answer Sheet lists 26 values that people may express in their behavior. Rate each person on all 26 items by circling the response that you feel is most appropriate.

- 1 Read the first descriptive item. Think of the person you are rating and how often this person actually expressed any of the values described--Rarely, Sometimes, or Often. Some of the items may seem contradictory or inconsistent, not all of the values in an item may apply. But if even one of the values seems to fit, use that as your guide.
- 2 Circle the answer you feel is most appropriate.
- 3 Continue down the column on the remaining 25 items. Rate the individual on each item.

SYMLOG ANSWER SHEET

Your Name \_\_\_\_\_

Candidate \_\_\_\_\_

QUESTION How often did this person express the following concerns in the incidents or behavior recounted during the interview?

Power, status, making a lot of money	Rarely	Sometimes	Often
Being popular, liked, and admired	Rarely	Sometimes	Often
Active teamwork toward common goals	Rarely	Sometimes	Often
Efficiency, getting things done	Rarely	Sometimes	Often
Having authority, enforcing rules and regulations	Rarely	Sometimes	Often
Being tough, competitive, out for himself	Rarely	Sometimes	Often
Resisting authority	Rarely	Sometimes	Often
Having a good time, expressing feelings	Rarely	Sometimes	Often
Helping others, making others happy	Rarely	Sometimes	Often
Friendship, letting everyone have a say	Rarely	Sometimes	Often
Working with others	Rarely	Sometimes	Often
Working hard, doing work <u>right</u>	Rarely	Sometimes	Often
Dissatisfied with others work	Rarely	Sometimes	Often
Unfriendly, putting self-interest first	Rarely	Sometimes	Often
Not following orders, rules	Rarely	Sometimes	Often
Being different, expressing new ideas	Rarely	Sometimes	Often
Having fun with others away from work	Rarely	Sometimes	Often
Trust in others	Rarely	Sometimes	Often
Loyalty to a business or organization	Rarely	Sometimes	Often
Obedience, following orders	Rarely	Sometimes	Often
Overburdened with too much work	Rarely	Sometimes	Often
Lack of interest in being liked liking going it alone	Rarely	Sometimes	Often
Inability to do things giving up	Rarely	Sometimes	Often
Being shy fearful uninvolved in work	Rarely	Sometimes	Often
Quiet happiness, taking it easy	Rarely	Sometimes	Often
Passive, meek, lack of interest in power, status or money	Rarely	Sometimes	Often

Adapted from a form by Symlog Consultants the original Bales questionnaire, and the Parke Children's Scale

SYMLOG SCORING SHEET

- 1 For each item, transfer information from the Answer Sheet by putting "0" (Rarely), "1" (Sometimes), or "2" (Often) in all boxes opposite the item
- 2 Add all numbers in the boxes for the six columns (U, D, P, N, F, B) to get the total for each
3. Calculate the Power, Affiliation, and Achievement scores by subtracting the column totals as indicated

Your Name \_\_\_\_\_

Name of Person Being Rated \_\_\_\_\_

	U	D	P	N	F	B
Power, status, making a lot of money .	<input type="checkbox"/>					
Being popular, liked, and admired .	<input type="checkbox"/>		<input type="checkbox"/>			
Active teamwork toward common goals	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Efficiency, getting things done .	<input type="checkbox"/>				<input type="checkbox"/>	
Having authority, enforcing rules and regulations	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
Being tough, competitive, out for himself	<input type="checkbox"/>			<input type="checkbox"/>		
. Resisting authority .	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>
Having a good time, expressing feelings . . .	<input type="checkbox"/>					<input type="checkbox"/>
. Helping others, making others happy . . .	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>
Friendship, letting everyone have a say . . .			<input type="checkbox"/>			
Working with others . . . .			<input type="checkbox"/>		<input type="checkbox"/>	
. Working hard, doing work <u>right</u> . . . .					<input type="checkbox"/>	
. Dissatisfied with others' work . . . .				<input type="checkbox"/>	<input type="checkbox"/>	
Unfriendly, putting self-interest first . . .				<input type="checkbox"/>		
Not following orders, rules . . . .				<input type="checkbox"/>		<input type="checkbox"/>
Being different, expressing new ideas . . .						<input type="checkbox"/>
Having fun with others away from work . . .			<input type="checkbox"/>			<input type="checkbox"/>
. Trust in others . . . .		<input type="checkbox"/>	<input type="checkbox"/>			
. Loyalty to a business organization . . . .		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
. Obedience, following orders . . . .		<input type="checkbox"/>			<input checked="" type="checkbox"/>	
Overburdened with too much work . . . .		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
. Lack of interest in being liked, liking "going it alone"		<input type="checkbox"/>		<input type="checkbox"/>		
Inability to do things, giving up . . . .		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
. Being shy, fearful, uninvolved in work . . . .		<input type="checkbox"/>				<input type="checkbox"/>
Quiet happiness, taking it easy . . . .			<input type="checkbox"/>			<input type="checkbox"/>
.. Passive, meek, lack of interest in power, status, or money	<input type="checkbox"/>					

TOTALS

- POWER Dominant vs Submissive
- AFFILIATION Friendly vs Aloof
- ACHIEVEMENT Task-Focused vs Emotional

U - D =

P - N =

F - B =

B39

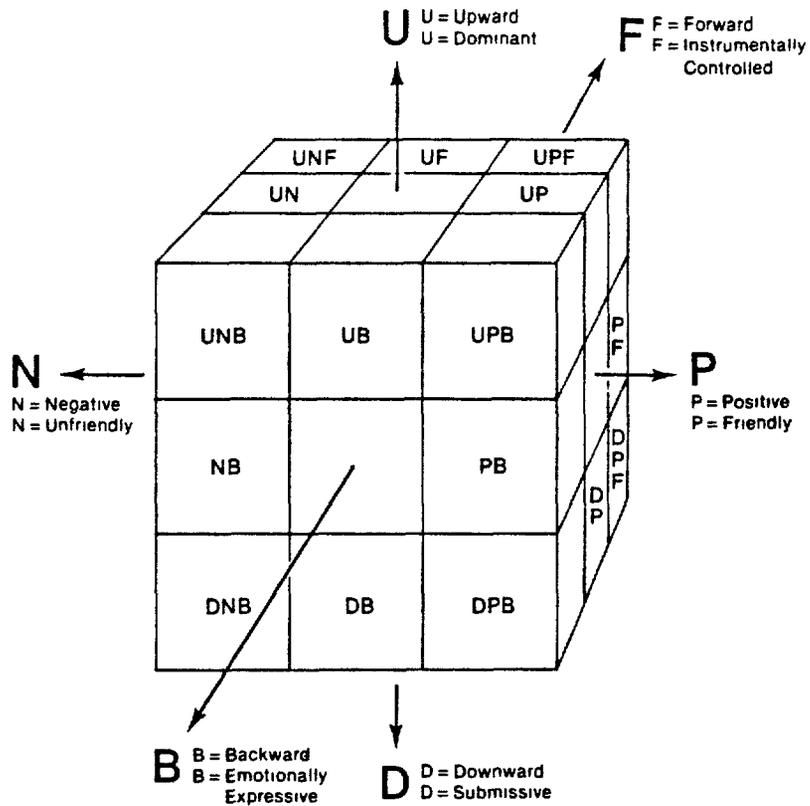
324

## SYMLOG

- Rates entrepreneur values expressed in interview, incidents on 3 axes

	<u>Low</u>	<u>High</u>
"Power"	<u>Downward</u> Quiet, Meek	<u>Upward</u> Active Dominant, Powerful
"Affiliation"	<u>Negative</u> Selfish, Self-sufficient, "Loner"	<u>Positive</u> Friendly, Concern for Others
"Achievement"	<u>Backward</u> Emotional	<u>Forward</u> Task Oriented

# THE SYMLOG THREE-DIMENSIONAL SPACE



From Symlog Case Study Kit by Robert F Bales

© 1980 by The Free Press, A Division of Macmillan Publishing Co, Inc

- SUCCESSFUL ENTREPRENEURS:

"UF": forceful, task oriented (not negative, but not people or team oriented)

or

"UpF": forceful, slightly positive, task oriented

vs

- MANAGERS:

"UPF": strong leadership (U) of active teamwork (P) to accomplish group or firm goals

- Best rating: average of several peers' or subordinates' (fellow group members') ratings

- "Values" and "Behavior" highly correlated

- "Values" have higher predictive power when rated by interviewer (close to group averages)

## SELF-RATING QUESTIONNAIRE MANUAL

The Self-Rating Questionnaire (SRQ) consists of 70 brief statements. Using a five-point scale, respondents rate the degree to which each statement describes them. The scale is then scored to assess the strength of each of the 13 competencies. A total score across all the competencies provides an index of overall strength.

### SRQ Administration

The Self-Rating Questionnaire can be self-administered or given orally. If it is self-administered, the instructions on the questionnaire explain how to complete it. If it is necessary to administer the questionnaire orally due to level of literacy, dialect or language differences, physical disabilities, or other practical problems, use the following guidelines:

- 1 Carefully read the instructions and ask questions to make sure the person understands how to complete the questionnaire.
- 2 Read each statement and then write down the number representing the person's choice next to the statement.
- 3 Read the five alternatives after each statement until you are certain that the respondent knows what each alternative is. You may need to continue this process for all 70 statements.

### SRQ Scoring

After the questionnaire is completed, follow the instructions on the scoring sheet to calculate the scores for the 13 competencies and the total competency score. Then follow the instructions on the SRQ Profile Sheet to make a graph of the competency scores that visually shows the relative competency strengths and weaknesses.

## SELF-RATING QUESTIONNAIRE

Your Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

### Instructions

1 This questionnaire consists of 70 brief statements Read each statement and decide how well it describes you Be honest about yourself

2 Select one of the numbers below to indicate how well the statement describes you

5 = Very Well

4 = Well

3 = Somewhat

2 = Very little

1 = Not at all

3 Write the number you select on the line to the right of each statement Here is an example

I remain calm in stressful situations 2

The person who responded to the item above wrote a "2" indicating that the statement described him or her very little

4 Some statements may be similar, but no two are exactly alike

5 Please answer all questions

Instructions Select one of the numbers below to indicate how well each statement describes you

- 5 = Very well
- 4 = Well
- 3 = Somewhat
- 2 = Very little
- 1 = Not at all

Write the number on the line to the right of each statement

- 1 I look for things that need to be done \_\_\_\_\_
- 2 I like challenges and new opportunities \_\_\_\_\_
- 3 When faced with a difficult problem, I spend a lot of time trying to find a solution \_\_\_\_\_
- 4 When starting a new task or project, I gather a great deal of information \_\_\_\_\_
- 5 It bothers me when things are not done very well \_\_\_\_\_
- 6 I give much effort to my work \_\_\_\_\_
- 7 I find ways to do things faster \_\_\_\_\_
- 8 I plan a large project by breaking it down into smaller tasks \_\_\_\_\_
- 9 I think of unusual solutions to problems \_\_\_\_\_
- 10 I feel confident that I will succeed at whatever I try to do \_\_\_\_\_
- 11 I tell others when they have not performed as expected \_\_\_\_\_
- 12 I get others to support my recommendations \_\_\_\_\_
- 13 I develop strategies to influence others \_\_\_\_\_
- 14 No matter who I m talking to, I m a good listener \_\_\_\_\_
- 15 I do things that need to be done before being asked to by others \_\_\_\_\_
- 16 I prefer activities that I know well and with which I am comfortable \_\_\_\_\_
- 17 I try several times to get people to do what I would like them to do \_\_\_\_\_

Instructions Select one of the numbers below to indicate how well each statement describes you

- 5 = Very well
- 4 = Well
- 3 = Somewhat
- 2 = Very little
- 1 = Not at all

Write the number on the line to the right of each statement

- 18 I seek the advice of people who know a lot about the problems or tasks I am working on \_\_\_\_\_
- 19 It is important to me to do a high quality job \_\_\_\_\_
- 20 I work long hours and make personal sacrifices to complete jobs on time \_\_\_\_\_
- 21 I am not good at using my time well \_\_\_\_\_
- 22 I think about the advantages and disadvantages of different ways of accomplishing things \_\_\_\_\_
- 23 I think of many new ideas \_\_\_\_\_
- 24 I change my mind if others disagree strongly with me \_\_\_\_\_
- 25 If I am angry or upset with someone, I tell that person \_\_\_\_\_
- 26 I convince others of my ideas \_\_\_\_\_
- 27 I do not spend much time thinking about how to influence others \_\_\_\_\_
- 28 I feel resentful when I don't get my way \_\_\_\_\_
- 29 I do things before it is clear that they must be done \_\_\_\_\_
- 30 I notice opportunities to do new things \_\_\_\_\_
- 31 When something gets in the way of what I am trying to do, I keep on trying to accomplish what I want \_\_\_\_\_
- 32 I take action without seeking information \_\_\_\_\_
- 33 My own work is better than that of other people I work with \_\_\_\_\_
- 34 I do whatever it takes to complete a job \_\_\_\_\_
- 35 It bothers me when my time is wasted \_\_\_\_\_

Instructions Select one of the numbers below to indicate how well each statement describes you

- 5 = Very well
- 4 = Well
- 3 = Somewhat
- 2 = Very little
- 1 = Not at all

Write the number on the line to the right of each statement

- 36 I try to think of all the problems I may encounter and plan what to do if each problem occurs \_\_\_\_\_
- 37 Once I have selected an approach to solving a problem, I do not change that approach \_\_\_\_\_
- 38 When trying something difficult or challenging, I feel confident that I will succeed \_\_\_\_\_
- 39 It is difficult for me to order people to do things \_\_\_\_\_
- 40 I get others to see how I will be able to accomplish what I set out to do \_\_\_\_\_
- 41 I get important people to help me accomplish my goals \_\_\_\_\_
- 42 In the past, I have had failures \_\_\_\_\_
- 43 I take action before it is clear that I must \_\_\_\_\_
- 44 I try things that are very new and different from what I have done before \_\_\_\_\_
- 45 When faced with a major difficulty, I quickly go on to other things \_\_\_\_\_
- 46 When working on a project for someone, I ask many questions to be sure I understand what that person wants \_\_\_\_\_
- 47 When something I have been working on is satisfactory, I do not spend extra time trying to make it better \_\_\_\_\_
- 48 When I am doing a job for someone, I make a special effort to make sure that person is satisfied with my work \_\_\_\_\_
- 49 I find ways to do things for less cost \_\_\_\_\_
- 50 I deal with problems as they arise, rather than spend time trying to anticipate them \_\_\_\_\_
- 51 I think of many ways to solve problems \_\_\_\_\_

Instructions Select one of the numbers below to indicate how well each statement describes you

- 5 = Very well
- 4 = Well
- 3 = Somewhat
- 2 = Very little
- 1 = Not at all

Write the number on the line to the right of each statement

- 52 I do things that are risky \_\_\_\_\_
- 53 When I disagree with others, I let them know \_\_\_\_\_
- 54 I am very persuasive with others \_\_\_\_\_
- 55 In order to reach my goals, I think of solutions that benefit everyone involved in a problem \_\_\_\_\_
- 56 There have been occasions when I took advantage of someone \_\_\_\_\_
- 57 I wait for direction from others before taking action \_\_\_\_\_
- 58 I take advantage of opportunities that arise \_\_\_\_\_
- 59 I try several ways to overcome things that get in the way of reaching my goals \_\_\_\_\_
- 60 I go to several different sources to get information to help with tasks or projects \_\_\_\_\_
- 61 I want the company I own to be the best of its type \_\_\_\_\_
- 62 I do not let my work interfere with my family or personal life \_\_\_\_\_
- 63 I get the most I can out of the money I have to accomplish a project or task \_\_\_\_\_
- 64 I take a logical and systematic approach to activities \_\_\_\_\_
- 65 If one approach to a problem does not work, I think of another approach \_\_\_\_\_
- 66 I stick with my decisions even if others disagree strongly with me \_\_\_\_\_
- 67 I tell people what they have to do, even if they do not want to do it \_\_\_\_\_
- 68 I cannot get people who have strong opinions or ideas to change their minds \_\_\_\_\_

Instructions Select one of the numbers below to indicate how well each statement describes you

- 5 = Very well
- 4 = Well
- 3 = Somewhat
- 2 = Very little
- 1 = Not at all

Write the number on the line to the right of each statement

69 I get to know people who may be able to help me reach my goals \_\_\_\_\_

70 When I don't know something, I don't mind admitting it \_\_\_\_\_

SCORING SHEET FOR SELF-RATING QUESTIONNAIRE

- Instructions
- 1 Enter the ratings from the completed questionnaire on the lines above the item numbers in parentheses Notice that the item numbers in each column are consecutive item number 2 is below item number 1, and so forth
  - 2 Do the addition and subtraction indicated in each row to compute each competency score
  - 3 Add all competency scores to compute the total score

<u>Ratings of Statments</u>	<u>Score</u>	<u>Competency</u>
$\frac{\quad}{(1)} + \frac{\quad}{(15)} + \frac{\quad}{(29)} + \frac{\quad}{(43)} - \frac{\quad}{(57)} + 6 = \underline{\quad}$		Initiative
$\frac{\quad}{(2)} - \frac{\quad}{(16)} + \frac{\quad}{(30)} + \frac{\quad}{(44)} + \frac{\quad}{(58)} + 6 = \underline{\quad}$		Sees & Acts on Opportunities
$\frac{\quad}{(3)} + \frac{\quad}{(17)} + \frac{\quad}{(31)} - \frac{\quad}{(45)} + \frac{\quad}{(59)} + 6 = \underline{\quad}$		Persistence
$\frac{\quad}{(4)} + \frac{\quad}{(18)} - \frac{\quad}{(32)} + \frac{\quad}{(46)} + \frac{\quad}{(60)} + 6 = \underline{\quad}$		Information Seeking
$\frac{\quad}{(5)} + \frac{\quad}{(19)} + \frac{\quad}{(33)} - \frac{\quad}{(47)} + \frac{\quad}{(61)} + 6 = \underline{\quad}$		Concern for High Quality of Work
$\frac{\quad}{(6)} + \frac{\quad}{(20)} + \frac{\quad}{(34)} + \frac{\quad}{(48)} - \frac{\quad}{(62)} + 6 = \underline{\quad}$		Commitment to Work Contract
$\frac{\quad}{(7)} - \frac{\quad}{(21)} + \frac{\quad}{(35)} + \frac{\quad}{(49)} + \frac{\quad}{(63)} + 6 = \underline{\quad}$		Efficiency Orientation
$\frac{\quad}{(8)} + \frac{\quad}{(22)} + \frac{\quad}{(36)} - \frac{\quad}{(50)} + \frac{\quad}{(64)} + 6 = \underline{\quad}$		Systematic Planning
$\frac{\quad}{(9)} + \frac{\quad}{(23)} - \frac{\quad}{(37)} + \frac{\quad}{(51)} + \frac{\quad}{(65)} + 6 = \underline{\quad}$		Problem Solving
$\frac{\quad}{(10)} - \frac{\quad}{(24)} + \frac{\quad}{(38)} + \frac{\quad}{(52)} + \frac{\quad}{(66)} + 6 = \underline{\quad}$		Self-Confidence
$\frac{\quad}{(11)} + \frac{\quad}{(25)} - \frac{\quad}{(39)} + \frac{\quad}{(53)} + \frac{\quad}{(67)} + 6 = \underline{\quad}$		Assertiveness
$\frac{\quad}{(12)} + \frac{\quad}{(26)} + \frac{\quad}{(40)} + \frac{\quad}{(54)} - \frac{\quad}{(68)} + 6 = \underline{\quad}$		Persuasion
$\frac{\quad}{(13)} - \frac{\quad}{(27)} + \frac{\quad}{(41)} + \frac{\quad}{(55)} + \frac{\quad}{(69)} + 6 = \underline{\quad}$		Use of Influence Strategies
TOTAL SCORE		<u>          </u>
$\frac{\quad}{(14)} - \frac{\quad}{(28)} - \frac{\quad}{(42)} - \frac{\quad}{(56)} + \frac{\quad}{(70)} + 18 = \underline{\quad}$		Correction Factor

CORRECTED SCORING SHEET

Instructions

1 The Correction Factor (the total of items 14, 28, 42, 56, and 70) is used to determine whether or not a person tries to present a very favorable image of himself. If the total score on this factor is 20 or greater, then the total scores on the 13 competencies must be corrected to provide a more accurate assessment of the strength of the competencies for that individual.

2 Use the following numbers when figuring the corrected score

If the Correction Factor score is	Subtract the following <u>correction number</u> from the <u>total score</u> for each competency
24 or 25	7
22 or 23	5
20 or 21	3
19 or less	0

3 Use the next page to correct each competency before using the Profile Sheet

CORRECTED SCORE SHEET

<u>Competency</u>	<u>Original Score</u>	-	<u>Correction Number*</u>	=	<u>Corrected Total</u>
Initiative	_____	-	_____	=	_____
Sees and Acts on Opportunities	_____	-	_____	=	_____
Persistence	_____	-	_____	=	_____
Information Seeking	_____	-	_____	=	_____
Concern for High Quality of Work	_____	-	_____	=	_____
Commitment to Work Contract	_____	-	_____	=	_____
Efficiency Orientation	_____	-	_____	=	_____
Systematic Planning	_____	-	_____	=	_____
Problem Solving	_____	-	_____	=	_____
Self-Confidence	_____	-	_____	=	_____
Assertiveness	_____	-	_____	=	_____
Persuasion	_____	-	_____	=	_____
Use of Influence Strategies	_____	-	_____	=	_____
CORRECTED TOTAL SCORE					_____

\* This number depends on a person's Correction Factor Score and will be 7, 5, 3, or 0, the same for each competency Use the instructions on the previous page to determine the correction number

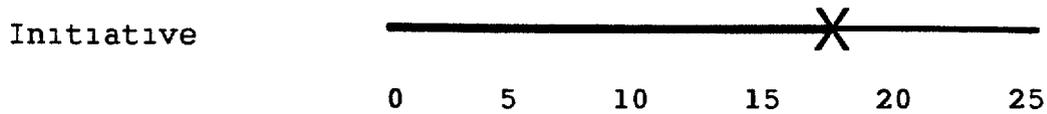
315

COMPETENCY PROFILE SHEET FOR SELF-RATING QUESTIONNAIRE

Instructions

- 1 Transfer the corrected competency score to the profile sheet by marking an "X" at the appropriate point on the dotted horizontal line for each competency
- 2 Draw a heavy line over the dotted horizontal line for each competency, from the left vertical line to the point you have marked with an "X" The heavy lines you have drawn graphically represent the strength of each competency
- 3 The following is an example of how to create the profile sheet

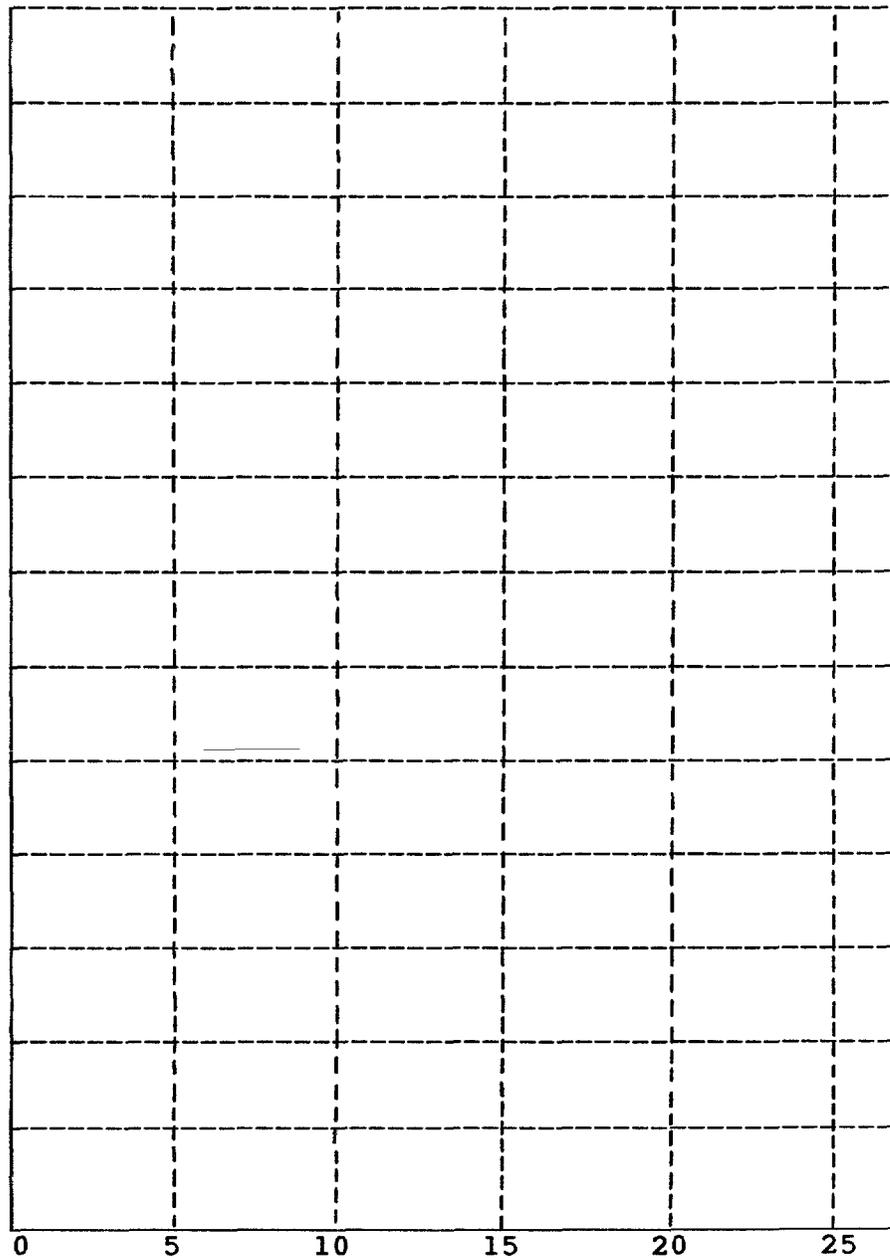
If the score for Initiative is 19, it will appear as follows



SELF-RATING QUESTIONNAIRE PROFILE SHEET

Competency

- Initiative
- Sees and Acts on Opportunities
- Persistence
- Information Seeking
- Concern for High Quality of Work
- Commitment to Work Contract
- Efficiency Orientation
- Systematic Planning
- Problem Solving
- Self-Confidence
- Assertiveness
- Persuasion
- Use of Influence Strategies



Competency Scores

## PICTURE STORY EXERCISE SCORING MANUAL

### PSE Background

The Picture Story Exercise consists of six pictures to which an individual responds by telling a story about each. These stories are then scored against a series of statements in order roughly to identify the level of Achievement, Affiliation, and Power motivation the person possesses. The relative strength of these motives provides data that can be used, along with other information, to make decisions about the probable success an individual will have as an entrepreneur.

### PSE Administration

The Picture Story Exercise can be given orally or in writing. To reduce errors, it is preferable to have a person write his or her responses to the six pictures. It may be necessary, however, to administer the PSE orally, depending on the respondent's level of literacy, dialect or language differences, physical disabilities, or other practical concerns.

If the responses are to be written by the individual, provide a quiet, comfortable work area. (In some cases it may be best to let the individual complete the exercise at home.) Mention the following points:

- 1 The purpose of the PSE is to find out more about those things that are important to the person.
- 2 The instructions in the PSE booklet are self-explanatory and should be read thoroughly.
- 3 The exercise should take no more than 30-45 minutes.

If you administer the PSE orally, it is very important that you write down the exact responses of the person to each story. If the person talks too fast, politely ask him or her to slow down so that you can accurately record what is said. If possible, use a tape recorder. This will increase the accuracy of scoring, since everything said will be available for review. If you do use a tape recorder, proceed as follows:

- 1 Request permission to record. Explain that your purpose is to make an exact record of everything that is said.

- 2 Indicate who will have access to what is said (in most cases this will be just you), and that the information will be treated as confidential
- 3 Make sure the recorder is working properly
- 4 Place the recorder close enough to the individual so that he or she can be heard

Make sure to explain the purpose of the exercise and to read to the respondent all instructions in the booklet. Be prepared to have the PSE take a little longer than it does when a person writes his or her own responses.

### PSE Scoring

When scoring the PSE it is useful first to review the nine behaviors and/or thoughts on the PSE scoring sheet. Keep in mind that you are to assign a score on a story for a particular behavior or thought only when the behavior or thought is specifically mentioned. Do not make inferences or read something into the story that is not there.

Scoring is easiest if you read the first story and then indicate which of the nine thoughts and/or behaviors are present. It may be necessary to read the story two or more times before you complete the scoring. Repeat the procedure for the remaining stories.

If you administer the PSE orally, scoring can take place immediately after the person tells each story. However, it is best to score the PSE after all parts have been completed, either when you review your written record of the responses or when you review the tape recording or transcript. By doing so, you will ensure that

- 1 The individual will not be distracted by your scoring
- 2 You will be able to review each story several times if necessary
- 3 Your scoring will be more accurate

In learning to score the Picture Story Exercise, it is useful to use the Practice Scoring Sheet for the Picture Story Exercise. One sheet is used for each story, and there are spaces to record the actual evidence for the nine behaviors and thoughts. In deciding whether one of these behaviors or thoughts is present, you must rely on evidence expressed in the story; you may not make inferences about what a story character probably did or thought.

It is also helpful to work with another person who independently scores the same stories. You can then compare your scoring and discuss any disagreements. When two scorers agree at least 80% of the time about the presence of the nine behaviors and thoughts, these scorers are ready to do scoring alone, and to use the Picture Story Exercise Scoring Sheet.

The following guidelines for each of the behaviors and/or thoughts are designed to assist you in making decisions about whether or not to score the item.

1 Doing something in an excellent way or better than others

- A person in the story acts to outperform others or to meet some self-imposed standard of excellence

Example Picture B

The architect is designing a building that will be stronger than others of this type designed by anyone else.

- A person in the story makes or wants to make improvements in something

Example Picture D

They are redoing the experiment because they felt the chemical could be even purer than it was the last time they did this experiment.

2 Creating or achieving something unique

- The accomplishment is one that few people, if any, have done

Example Picture F

She scored a 10, which is only the second time in the history of the competition that anyone has received this mark.

- The person accomplishes something in a new or different way

Example Picture C

The woman had just figured out a way to combine two seemingly opposite businesses and is excitedly telling a friend about it.

3 Working hard over a period of time to improve one's abilities or to advance one's career

- A person in the story mentions activities, such as practicing or studying, that will make him or her better at doing something

Example Picture F

She has been practicing 4 hours a day for the last two years, and it has paid off

- A person in the story mentions working hard to advance his or her career

Example Picture B

He spent 4 years in school, worked during the summers as an apprentice with a drafting firm, and is now lead designer for that same firm

- \* Do not score if the person mentions a career without mentioning hard work to advance that career

4 Establishing, restoring, or maintaining a close, warm relationship with another person

- Activities serve to bring one person close to another person

Example Picture A

He wants to get to know her better and figures the music and drinks will help them both be more comfortable

- A person in the story expresses positive feelings about another person

Example Picture C

He is telling her how much he likes her

- \* Do not score if the person mentions trying to develop the relationship for some ulterior motive, such as money or sex

Example Picture A

He wants to marry her to get access to her father's money

5 Being concerned about separation from another person or disruption of a personal relationship

- A person mentions feeling bad about problems he or she is having with another person

Example Picture B

He is unhappy because he had a fight with his wife before leaving for work

- A person indicates wanting to be with another person who is absent

Example Picture C

She is sitting with her business colleague thinking that Paris is nice, but she would now rather be back home with her husband whom she misses a lot

- \* Do not score if a person mentions a disrupted relationship but is not concerned with it

6 Participating in social activities with others

- The purpose of an activity is to be with others and enjoy their company

Example Picture A

Two people are taking a break from a party to catch up on events in each other's lives over the last two years

- One person is helping another person

Example Picture C

He is trying to make her feel better by having her talk about her problems

- \* Do not score if the social activities serve some ulterior motive that the person mentions, such as getting to know powerful people

7 Demonstrating forceful actions that affect others

- A person takes forceful actions that can negatively affect others or make them feel bad (e g , fighting, quarreling, hitting, capturing)

Example Picture E

The Captain is sternly lecturing the subordinate and indicating he will fire the person the next time a rule is broken

- A person takes forceful actions that can positively affect others (e g , praising, rewarding, saving)

Example Picture D

The teacher will reward the student for helping out on the project

8 Trying to influence or persuade others

- A person acts to change someone else's opinion or way of doing things

Example Picture A

Throughout the evening he has been trying to show her the reasons why she should join his business

- A person thinks about what will be persuasive to others

Example Picture F

The Captain is sure that the President of the shipping company will respond favorably to information that shows how to increase profits

9 Being concerned with one's reputation, status, or prestige level

- A person thinks about or acts to change his or her image or reputation

Example Picture D

The lead chemist realizes that with the new discovery she will become well-known and respected throughout the world

- A person acts to improve his or her status A person thinks about or actually attains a position of higher status

Example Picture B

He is at the top--the President of the best-known architectural firm in the country

- A person expresses dissatisfaction with his or her current status or reputation

Example Picture B

He is frustrated because, after ten years, he is still a junior member of the firm

PRACTICE SCORING SHEET FOR PICTURE STORY EXERCISE

Candidate \_\_\_\_\_ Date \_\_\_\_\_

Interviewer \_\_\_\_\_ Story A B C D E F (circle)

Use this sheet to practice coding the Picture Story Exercise After reading or listening to one story circle "Y" (yes), "?" (unsure), or "N" (no) to indicate whether each behavior or thought was demonstrated by some character in the story When "Y" or "?" is circled, briefly note the specific evidence

	<u>Behaviors or Thoughts</u>	<u>Demonstrated</u>			<u>Evidence (actual words)</u>
1	Doing something in an excellent way or better than others	Y	?	N	_____ _____
2	Creating or achieving something unique	Y	?	N	_____ _____
3	Working hard over a period of time to improve one's ability or to advance one's career	Y	?	N	_____ _____
4	Establishing, restoring, or maintaining a close, warm relationship with another person	Y	?	N	_____ _____
5	Being concerned about separation from another person or disruption of a personal relationship	Y	?	N	_____ _____
6	Participating in social activities with others	Y	?	N	_____ _____
7	Demonstrating forceful actions that affect others	Y	?	N	_____ _____
8	Trying to influence or persuade others	Y	?	N	_____ _____
9	Being concerned with one's reputation, status or prestige level	Y	?	N	_____ _____

325

PICTURE STORY EXERCISE SCORING SHEET

Instructions

Use this form to score each of the stories separately. After reading or listening to one story, consider each of the behaviors listed below. If any character thinks about or demonstrates the behavior, put a check mark opposite that behavior in the column for that story. Give credit only for those behaviors and thoughts specifically mentioned in the story. Only a few of the behaviors are likely to occur in any one story. In some stories none of the behaviors will be present.

Person's Name \_\_\_\_\_ Date \_\_\_\_\_

Scorer's Name \_\_\_\_\_

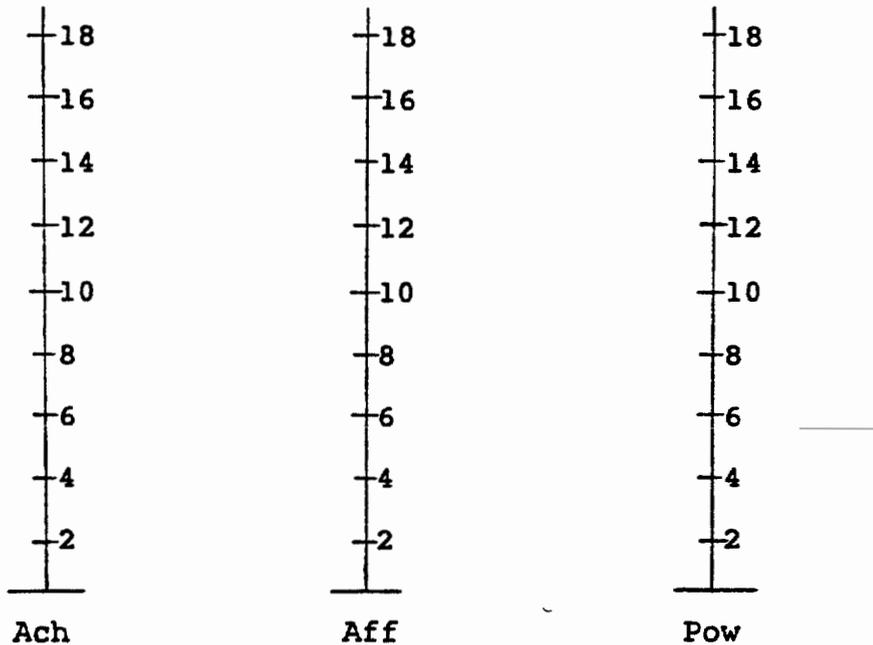
Story

<u>Item</u>	<u>Behaviors and/or Thoughts</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>Tot</u>
1	Doing something in an excellent way or better than others							
2	Creating or achieving something unique							
3	Working hard over a period of time to improve one's ability or to advance one's career							
4	Establishing, restoring, or maintaining a close, warm relationship with another person							
5	Being concerned about separation from another person or disruption of a personal relationship							
6	Participating in social activities with others							
7	Demonstrating forceful actions that affect others							
8	Trying to influence or persuade others							
9	Being concerned with one's reputation, status, or prestige level							

PSE PROFILE SHEET

Instructions

Add the checkmarks for each of the nine behavior and thought statements across the 6 stories and place the numbers in the Total column. Then transfer the scores from the Total column for each of the nine items to the appropriate spaces below. Note that items 1-3 focus on Achievement, items 4-6 on Affiliation, and items 7-9 on Power. Add the three items for each of these three motives to get a total score for each motive. Then place a circle on the appropriate vertical bar that indicates the total score for each motive. Connect the three circles to obtain a profile that shows the relative strength of each motive.



Achievement    Item 1 \_\_\_ + Item 2 \_\_\_ + Item 3 \_\_\_ = \_\_\_    Ach    Score

Affiliation    Item 4 \_\_\_ + Item 5 \_\_\_ + Item 6 \_\_\_ = \_\_\_    Aff    Score

Power            Item 7 \_\_\_ + Item 8 \_\_\_ + Item 9 \_\_\_ = \_\_\_    Pow    Score

## BUSINESS SITUATIONS EXERCISE

### Administration and Scoring Manual

#### Description

The Business Situations Exercise consists of 20 situations that might be faced by someone starting or operating a small business. Each situation is described in a brief paragraph and followed by two or more items. Each item consists of a pair of alternative thoughts or actions. Respondents must choose which of the two alternatives better represents what they would do or think in the situations described.

The Business Situations Exercise may be administered in written form or, if this is not possible, orally. Written administration takes about 30 minutes and oral administration about 40 minutes. The exercise can be scored by hand in about 10 minutes. It yields scores on 13 entrepreneurial competencies and a total score.

#### Written Administration

Written administration is appropriate when people taking the exercise can read and understand English or a language into which the BSE has been translated. First, make sure that the person or persons taking the exercise have a quiet, comfortable place to work. Group administration is possible. Next, review the instructions. Be sure that people understand that they are to indicate their choices by circling the letter of their chosen alternative. You may explain the meaning of words that are unclear in the situations and alternatives, but do not offer your own interpretations of the situations or alternatives. Under group administration, do not permit talking among persons taking the exercise.

#### Oral Administration

Oral administration is appropriate when people taking the exercise cannot read well or are not fluent in English or the language into which the exercise has been translated. Oral administration must be done individually, so that no one's answers are influenced by those of others taking the exercise. Read the following instructions.

"In this exercise I will read you descriptions of a number of situations that have been faced by people who start or run small businesses. After each situation are several pairs of thoughts or actions. Choose which thought or action best describes what you would do in the situation. Here is an example "

Your business has a good year and you make a big profit. What would you do?

a Save half of the profit to invest in your business

or

b Spend the profit on things you need for yourself and your family

Once you are sure the person understands the format of the items, move on to the actual items of the exercise. For each item, circle the letter of the alternative the person selects.

You may reread the situation or the alternatives if the person requests this or seems not to have paid attention. You may explain the meaning of words that are unclear in the situation and the alternatives, but do not offer your own interpretations of the situation or the alternatives.

### Scoring

Follow the scoring instructions on the Business Situations Exercise. You will obtain a total score and a profile of the person's relative strengths on 13 entrepreneurial competencies.

## BUSINESS SITUATIONS EXERCISE

Your Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

### Instructions

Described below is a series of business situations similar to those you might already have encountered or that you might encounter in the future. After every situation are several questions, each of which proposes two ways of dealing with the situation. To select the choice that best represents what you have done or would do in that situation, circle the appropriate letter for each question. If both choices are things you would either do or not do, then select the choice that comes closest to what you would do.

Here is an example

A Your business has a good year, and you make a large profit

1 Which would you do?

a Save half of the profit to invest in your business

or \_\_\_\_\_

b Spend the profit on things you need for yourself and your family

The person who answered this question circled alternative "a" indicating that he or she would save half of the profit to invest in the business

A You have visited a potential customer to see if he has a need for the service you offer. The potential customer tells you very bluntly that he doesn't think you can provide what he wants.

1 Which would you do?

a Tell the person that your service can precisely meet his needs and show him how this is so.

or

b Thank the person for his time and indicate you hope to be of service in the future.

2 In the same situation, which would you do?

a Tell the person you can understand his doubts and mention that he can call a well-known businessman who had had the same doubts but is now using your service.

or

b Tell the person that he should at least have the courtesy to hear what you have to say.

3 In the same situation, which would you do?

a Tell the person about all the services your company offers.

or

b Ask a series of questions to learn exactly what the potential customer wants.

B You have 14 employees working for you You discover problems with the products they are making

4 Which would you do?

a Talk with your employees and emphasize the need for significant improvement in the quality of the product

or

b Realize that problems with products frequently occur and feel certain they will straighten themselves out

5 In the same situation, which would you do?

-- a Tell your employees the problems their work is creating and tell them specifically what they must do to improve the quality of the products

or

b Tell your employees you know they have been working hard and that you would appreciate it if they could reduce the problems with the products in question

C You own your own business and are entering a time of year when you anticipate a strong increase in demand for your product. To produce the anticipated increase, you need to obtain financing from a bank to buy additional supplies.

6 Which would you do?

a Assume the banker will give you a loan because you have had no trouble receiving loans from the bank in the past.

or

b Show the banker a detailed plan that describes your financing needs, the use to which the money will be put, the effect of the increased supplies on product sales, and the payback schedule to the bank.

7 In the same situation, which would you do?

a Spend a great deal of time being precise in filling out the loan application.

or

b Talk to the banker and indicate the reasons why you feel your sales will increase.

D You have had your own business for three years. You recently received a complaint from a customer because your products were of poor quality.

8 Which would you do?

a Tell the customer you see his problem with the product as your problem and let him know the steps you are taking to fix the problem.

or

b Tell the customer that his complaint is the first you have had and that you stand by the quality of your products.

9 In the same situation, which would you do?

a Tell your employees you will give specific rewards if they improve the quality of the products.

or

b Tell the employees responsible for the products that they aren't doing their jobs well, and make clear what you expect.

E You are conducting a periodic review of the customers you have serviced over the past eight months. You realize that you haven't heard from several of your principal customers in a long time.

10 Which would you do?

a Call the customers and find out how you can be of continued service to them.

or

b Wait until the customers contact you, figuring they will call when they need your service.

11 In the same situation, which would you do?

a Decide it is more important to focus on customers who have recently used your services than to spend time on former customers who do not seem interested in doing more business with you.

or

b Think through a way to approach customers based on their past needs and their reactions to your services.

F You have been in business for six years Over that time, there has been growth in sales and profits, although it has been slower than you would have liked

12 Which would you do?

a Look for an additional area in which to extend your business

or

b Concentrate on existing products and maintain the current rate of growth

13 In the same situation, which would you do?

a Try to identify ways the product can be produced at a lower cost

or

b Decide that it takes time to build a reputation and that it could take another 2 to 3 years before growth will significantly increase

14 In the same situation, which would you do?

a Realize that your customers probably do not have the money to buy as much as they would like but will buy more when economic conditions improve

or

b Talk to your customers to get a clearer idea of their needs

15 In the same situation, which would you do?

a Develop a logical and detailed plan to double the rate of growth in sales and profits within one year

or

b Trust your ability to respond quickly to any increase in the demand for your products

G You have decided to start your own business. You have applied for financing from a bank and have just received word they have turned down your request.

16 Which would you do?

a Apply for financing at another bank

or

b Get the support of an important local businessman and make an appointment for both of you to see the loan officer at another bank

17 In the same situation, which would you do?

a Write an addition to your business plan and set up an appointment to discuss your application with the loan officer

or

~~b~~ Decide the bank may know more about your chances of success than you do and that the timing may not yet be right to start a business

18 In the same situation, which would you do?

a Submit applications for financing to two other banks

or

b Try to think of another type of business to start that would not require bank financing

19 In the same situation, which would you do?

a Try to save until you have enough money to start the business

or

b Look for a partner who might provide financing

H You have one main supplier to provide materials with which to make your product. You have increased your orders for materials from the supplier for the past three months, and you've noted recent problems with the quantity and quality of materials received.

20 Which would you think?

a The supplier is not used to producing such a high volume and probably needs another month or so to get things back to normal.

or

b The problems with the materials will affect how good your product is, and you will not tolerate anything less than an excellent product.

~~21~~ In the same situation, which would you do?

a Cancel all future orders for materials beginning two months from now, figuring you will find new suppliers by then.

or

b Tell the supplier that you are counting on him and that you know he will deliver the quality and quantity of materials needed. At the same time, do not tell the supplier you are looking for other suppliers.

I Your company has done business using the same processes and procedures for the last four years. Although the demands on the business keep growing, you are able to meet these demands.

22 Which would you do?

a Figure out what benefits might occur if you change the processes and procedures for doing business.

or

b Make no changes, since the way you are running the business is working fine.

23 In the same situation, which would you do?

a Figure out in a detailed way the problems that will occur if you make specific changes in the business system.

or

b Make changes quickly to keep people from getting too set in their ways of doing things.

24 In the same situation, which would you do?

a Try to develop new products or services.

or

b Work to maintain the systems that have been working well up to this point.

25 In the same situation, which would you do?

a Wait to hire new managers until the demands on your business are more than the current managers can deal with.

or

b Begin looking for new managers you will need if the business continues to grow.

J You are having a discussion with a supplier of materials for your business. The supplier asks you for a higher price for his products than you think they are worth.

26 Which would you do?

a Feel sure you will be able to change the supplier's mind and get the price you feel is fair.

or

b Assume the supplier deals with a lot of people and knows what he can get for his materials. You therefore decide you will pay the price, even though you don't like it.

27 In the same situation, which would you do?

a Tell the supplier you feel the prices are too high and that he will not be able to do business with you unless he is willing to reduce the asking price.

or

b Thank the supplier for his time and find another supplier.

K You have a small financial business that has been using the same bank for over one year. You have recently discovered that the bank is not providing the services that you and others you know want.

28 Which would you do?

a Think about how you might provide the very services the bank is not providing

or

b Realize that if the bank is not providing the services, there is probably no market for them

29 In the same situation, which would you do?

a Find ways to do without the services you would like

or

b Discuss your needs with the bank president and show him why it is in the bank's interest to offer the services

L You have produced your line of goods at a steady rate for the past year. A week ago a customer placed a much larger order for goods than you have ever provided in the past. Furthermore, the customer wants the goods delivered within two weeks, while you have always had one month to produce and deliver orders in the past. You will be unable to meet the customer's requirements while operating with your normal production schedule.

30 Which would you do?

a Tell the customer that you cannot guarantee delivering the goods on time but that you will do your best to produce them as quickly as possible

or

b Tell the customer you will deliver the order on time and work with your staff seven days a week and at night in order to deliver the goods on time

31 In the same situation, which would you do?

a Start overseeing production immediately

or

b Spend two hours trying to think of ways to speed up the production of goods

32 In the same situation, which would you do?

a Try to subcontract part of the work to another businessman, to meet the delivery time

or

b Try to produce all of the goods yourself, even though you may not meet the delivery time

33 In the same situation, which would you do?

a Prepare a detailed plan specifying the supplies and people needed to produce the goods

or

b Start your workers on this job immediately

M You are facing the opportunity of significantly expanding the types of goods you provide. If you do this, you need to place an order with your supplier now. You need financing, however, to pay the supplier, and you had a loan application turned down only two months ago.

34 Which would you do?

a Decide not to place an order with the supplier because--it being so soon after the previous rejection--you will probably get turned down again

or

b Decide that you are still right in thinking you can get a loan and therefore place your order with the supplier

35 In the same situation, which would you do?

a Offer the supplier a share of any profits if he will help finance the expansion

or

b Wait for a year or two before expanding, and hope that conditions improve

N You have owned your business for six months You are attending a meeting of other area businessmen One of the individuals at the meeting is particularly well respected and knows many important people in business and government

36 Which would you do?

a Increase your chances of having a conversation with him by standing with the same group of people In this way, you won't appear too eager or intrusive

or

b Introduce yourself and ask questions about his business

37 In the same situation, which would you do?

a Tell the individual you hope you will get to talk with him again sometime soon

or

b Take a chance on getting turned down and ask for a private meeting for the following week

0 You have learned through discussions with other business-people that there is a need for a service similar to the one you are already providing

38 Which would you do?

a Get information through books and talks with several experts on what would be required to offer the new service

or

b Trust your own business knowledge and judgment and decide whether the new service is worth your attention

39 In the same situation, which would you do?

a See the new service as a good opportunity to build and expand your business

or

b Focus your efforts on maintaining the service you are now providing and which has been profitable so far

P You have observed a business competitor doing very well  
You conclude that he is more successful than you are  
because he knows the business better

40 Which would you do?

a Read more about your business but accept the fact  
that your competitor will probably always know  
more than you After all, you will always find  
someone ahead of you

or

b Try several ways to increase your knowledge of the  
business, even though your competitor seems to hold  
an advantage

41 In the same situation, which would you do?

a Do not worry since you are still making a good  
profit

or

b Spend as much spare time as you can learning more  
about the business so that you can better satisfy  
your customers

42 In the same situation, which would you do?

a Decide to do whatever is necessary to make sure  
your services are better than your competitor's

or

b Decide that there is no need to have the best ser-  
vices as long as your services are selling well

Q In your manufacturing business a small but annoying defect occasionally appears in the production of one product. You have tried several times to fix the problem by using an approach suggested in the manual that came with the machinery, but you have been unsuccessful.

43 Which would you do?

a Try again to solve the problem and be willing to try several more times if necessary in order to solve it

or

b Let the problem go--as long as it does not occur very often

44 In the same situation, which would you do?

a Call several people who are familiar with the machinery you are using and ask for advice

or

b Read and reread the manuals that came with the machinery, because the answer clearly has to be in them

45 In the same situation, which would you do?

a Get one of your employees to try to fix the problem using the approach suggested in the manual

or

b Try to think of a completely new approach to solving the problem

R Your business has been good, but it cannot grow unless you can improve existing methods and maintain controls over costs There does not seem to be time to do everything

46 Which would you do?

a Focus more on quantity than quality so that the business will expand faster

or

b Stress to your workers the importance of maintaining high quality so that your company's products will remain better than any of the competitors'

47 In the same situation, which would you do?

a Do one thing at a time and use the methods that you know best and that have worked for you in the past

or

b Use the latest business tools available to you to shorten the time needed to perform your tasks

48 In the same situation, which would you do?

a Keep all your tasks but make sure that you spend part of each week on each important task

or

b Hire an assistant who can take over some of the tasks you usually do

S Your business involves selling goods to retail stores  
Twice in the past six months, you have called on a huge  
retailer in a city some distance from where you live Both  
times he has shown very little interest in buying the goods  
you have shown him

49 Which would you do?

a Feel confident that you can eventually get this  
retailer to buy your goods

or

b Think it is unlikely you will be able to sell to  
someone who has shown little interest in your  
goods

50 In the same situation, which would you do?

a Forget about this retailer and call on others who  
have shown more interest in your products

or

b Make another trip to call on this retailer

T Your four workers come to you as a group to tell you that they are prepared to go on strike if you do not give them a large increase in wages. This is the third time in the past three months that your workers have come to you with demands. You have promised a new customer that you will complete an important job. It is only three days to the date that you promised, and the job is only half done.

51 Which would you do?

a Try to find a way to give the workers enough of a wage increase so that they will not go on strike

or

b Tell the workers that you will fire them if they do not keep working

52 In the same situation, which would you do?

a Tell the customer you will do the work yourself-- day and night if necessary--to complete the job on time

or

b Explain to the customer that you cannot complete the job on time if your workers are on strike

BUSINESS SITUATIONS EXERCISE

Scoring Sheet

Instructions

1 Transfer the circled letters on the test booklet pages to the appropriate spaces below Circle the number of each answer that matches the "correct" answer, which is in parentheses

- |    |        |    |        |    |        |    |        |    |        |
|----|--------|----|--------|----|--------|----|--------|----|--------|
| 1  | ___(a) | 11 | ___(b) | 21 | ___(b) | 31 | ___(b) | 41 | ___(b) |
| 2  | ___(a) | 12 | ___(a) | 22 | ___(a) | 32 | ___(a) | 42 | ___(a) |
| 3  | ___(b) | 13 | ___(a) | 23 | ___(a) | 33 | ___(a) | 43 | ___(a) |
| 4  | ___(a) | 14 | ___(b) | 24 | ___(a) | 34 | ___(b) | 44 | ___(a) |
| 5  | ___(a) | 15 | ___(a) | 25 | ___(b) | 35 | ___(a) | 45 | ___(b) |
| 6  | ___(b) | 16 | ___(b) | 26 | ___(a) | 36 | ___(b) | 46 | ___(b) |
| 7  | ___(b) | 17 | ___(a) | 27 | ___(b) | 37 | ___(b) | 47 | ___(b) |
| 8  | ___(a) | 18 | ___(a) | 28 | ___(a) | 38 | ___(a) | 48 | ___(b) |
| 9  | ___(b) | 19 | ___(b) | 29 | ___(b) | 39 | ___(a) | 49 | ___(a) |
| 10 | ___(a) | 20 | ___(b) | 30 | ___(b) | 40 | ___(b) | 50 | ___(b) |
|    |        |    |        |    |        |    |        | 51 | ___(b) |
|    |        |    |        |    |        |    |        | 52 | ___(a) |

Competency Scores

2 Count the number of items you have circled for each of the competencies listed below Enter this number in the space provided

<u>Competency</u>	<u>Items</u>	<u>Score (number of circled items)</u>
Initiative	10,12,25,36	_____
Sees/Acts on Opportunities	24,28,35,39	_____
Persistence	18,40,43,50	_____
Information Seeking	3,14,38,44	_____
Concern for High Quality of Work	4,20,42,46	_____
Commitment to Work Contract	8,30,41,52	_____
Efficiency Orientation	13,22,31,47	_____
Systematic Planning	6,15,23,33	_____
Problem Solving	19,32,45,48	_____
Self-Confidence	26,34,37,49	_____
Assertiveness	5,9,27,51	_____
Persuasion	1,7,17,29	_____
Use of Influence Strategies	2,11,16,21	_____

3 Plot the competency scores on the Business Situations Exercise Profile Sheet to obtain a graphic representation of the relative strength of each competency

352



APPENDIX C

MATERIALS FOR INFORMATION INTERVIEW  
AS USED IN INDIA PHASE II RESEARCH

---

BACKGROUND INFORMATION  
(From AGENCY)

Name of Entrepreneur \_\_\_\_\_

Name of Business \_\_\_\_\_

Address of Business \_\_\_\_\_

\_\_\_\_\_

Business Telephone \_\_\_\_\_

Type of Products manufactured \_\_\_\_\_

Sole Proprietor (SP)  
or Key Proprietor (KP) \_\_\_\_\_

(Note Drop from sample if neither SP or KP)

Number of years as SP or KP of above business \_\_\_\_\_

(Note If less than 3 years, determine how many years in a business they have owned as SP or KP, if less than 3 years, total, drop from sample ) \_\_\_\_\_

PRE-INTERVIEW INFORMATION\* (1, 2, 3, 9)

Name of Data Collector \_\_\_\_\_

Date(s) contacted \_\_\_\_\_

\*1 Verify information provided by Agency adding the following

When did you start your business? \_\_\_\_\_

Did you start it \_\_\_\_\_ on your own, or \_\_\_\_\_ with others?

How many others? \_\_\_\_\_

35

STARTED

\*2 Do you own any other businesses? \_\_\_\_\_ Yes, \_\_\_\_\_ No

Names and types of businesses? On With Partners  
Own (If so, how many)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In which businesses have you spent the majority of your time over the last year and a one half?

Focus of Interview  
(X Business)

\*3 Do you manage X business yourself? \_\_\_\_\_ Yes, \_\_\_\_\_ No

If no, what is your role? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

What role do others play? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4 What products do you produce at present? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

5 Have you dropped any products over the past 3 years? \_\_\_\_\_

If so, what are they and why dropped? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

6 Have you added any new product over the past 3 years? \_\_\_\_\_  
If so, what are they? \_\_\_\_\_

---

---

7 What were your reasons for starting X business?

---

---

---

---

---

---

8 If more than one business started What were your reasons  
for starting your first business?

---

---

---

---

---

---

\*9 Regarding X business, from what sources have you gotten money?

FOR START UP

AFTER START UP

_____	Bank Name	_____
_____	Government Agency Name	_____
_____	Self	_____
_____	Partners	_____
_____	Family	_____
_____	Friends	_____
_____	Other Name	_____

10 Regarding your first business (if different from above)

FOR START UP

AFTER START UP

_____	Bank Name	_____
_____	Government Agency Name	_____
_____	Self	_____
_____	Partners	_____
_____	Family	_____
_____	Friends	_____
_____	Other Name	_____

11 (If applicable) What major problems did you have in starting your first business?

---

---

---

---

---

12 Regarding the business

Do you keep written records of sales and expenditure for your business?

\_\_\_\_\_ Yes, \_\_\_\_\_ No

SALES AND PROFITS DATA (round figures)

	<u>Sales</u>	<u>Profits</u>	<u>Year</u>
Last complete year	_____	_____	_____
Two years ago	_____	_____	_____
Three years ago	_____	_____	_____
Second year in business (if business has been in existence for more than 4 years)	_____	_____	_____

What is your business's monthly sales (turnover)?

During the dry season \_\_\_\_\_

During the rainy season \_\_\_\_\_

How many months are there in the rainy season? \_\_\_\_\_

How much income do you take from the business each month after expenses have been paid?

During the dry season \_\_\_\_\_

During the rainy season \_\_\_\_\_

Do you bring home goods from the business? \_\_\_\_\_

(If yes) What is the value of the goods you take home each month?

During the dry season \_\_\_\_\_

During the rainy season \_\_\_\_\_

How is X business doing?

Compared to One Year Ago

Compared to Three Years Ago

\_\_\_\_\_ Much better

\_\_\_\_\_ Much better

\_\_\_\_\_ A little better

\_\_\_\_\_ A little better

\_\_\_\_\_ About the same

\_\_\_\_\_ About the same

\_\_\_\_\_ A little worse

\_\_\_\_\_ A little worse

\_\_\_\_\_ Much worse

\_\_\_\_\_ Much worse

If you have several businesses thinking of all of them as a whole, how are they doing?

Compared to One Year Ago

Compared to Three Years Ago

\_\_\_\_\_ Much better

\_\_\_\_\_ Much better

\_\_\_\_\_ A little better

\_\_\_\_\_ A little better

\_\_\_\_\_ About the same

\_\_\_\_\_ About the same

\_\_\_\_\_ A little worse

\_\_\_\_\_ A little worse

\_\_\_\_\_ Much worse

\_\_\_\_\_ Much worse

POST INTERVIEW BACKGROUND INFORMATION

Name of Entrepreneur \_\_\_\_\_

Name of Business \_\_\_\_\_

Name of Interviewer \_\_\_\_\_

Date \_\_\_\_\_

1 How many years of schooling have you completed?  
\_\_\_\_\_

2 What is the highest level of education you have completed?

\_\_\_\_\_ No formal schooling

\_\_\_\_\_ Some primary

\_\_\_\_\_ Primary completed

\_\_\_\_\_ Some secondary

\_\_\_\_\_ Secondary completed

\_\_\_\_\_ Some Diploma Studies in \_\_\_\_\_

\_\_\_\_\_ Diploma completed in \_\_\_\_\_

\_\_\_\_\_ Some university in \_\_\_\_\_

\_\_\_\_\_ University degree completed in \_\_\_\_\_

\_\_\_\_\_ Some post-graduate studies in \_\_\_\_\_

\_\_\_\_\_ Post-graduate degree in \_\_\_\_\_

3 Have you received any distinctions or merit scholarships  
in connection with your schooling?

Specify \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Any other awards after schooling? (entrepreneurial, military, company awards)

---

---

4 Since finishing your schooling, have you had any other technical training? \_\_\_\_\_

If so, please specify

---

---

---

---

5 Have you had any management training? \_\_\_\_\_

If so, please specify (part of schooling? post-schooling?)

---

---

---

---

6 Prior to starting your first business (or X business) did you hold a job? \_\_\_\_\_

If yes, what was your job title?

What type of company was it?

---

7 Have you held any other jobs relating to your business? \_\_\_\_\_

If yes, specify

---

---

8 How old were you? \_\_\_\_\_

9 Where were you born and brought up?

\_\_\_\_\_  
(\_\_\_\_rural, \_\_\_\_urban) (While living there, regionwise  
\_\_\_\_undeveloped, \_\_\_\_developing,  
\_\_\_\_developed)

10 Are you married? \_\_\_\_\_

11 Number of children? \_\_\_\_\_

12 How many brothers do you have? \_\_\_\_\_  
sisters? \_\_\_\_\_

Are you the oldest? \_\_\_\_\_

If not, how many older brothers? \_\_\_\_\_  
older sisters? \_\_\_\_\_

13 What is your religion? \_\_\_\_\_

14 Which caste were you born into? \_\_\_\_\_

15 What is your native language? \_\_\_\_\_

Do you speak other languages? \_\_\_\_\_  
(If yes, provide answers below )

<u>LANGUAGE</u>	<u>LEVEL OF SPEAKING/UNDERSTANDING</u>		
	<u>FAIR</u>	<u>GOOD</u>	<u>EXCELLENT</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

16 Do you own your own home? \_\_\_\_\_

If not, specify \_\_\_\_\_  
\_\_\_\_\_

17 How many rooms are there in your home besides the kitchen and bath? \_\_\_\_\_

18 When you were 12 years old, how many rooms were there in your home besides the kitchen and bath? \_\_\_\_\_

19 What is/was your father's occupation? \_\_\_\_\_  
(If farming, for own use only?)

20 What is/was your mother's occupation \_\_\_\_\_

21 Has anyone in your family ever started a business?  
(parents, brothers, sisters, uncles, aunts)  
\_\_\_\_\_  
\_\_\_\_\_

22 Do any close relatives have jobs in government? (brothers, sisters, uncles, aunts)  
\_\_\_\_\_  
\_\_\_\_\_

23 Do any close relatives have professional jobs? (brothers, sisters, uncles, aunts)  
\_\_\_\_\_  
\_\_\_\_\_

24 Did you ever work in a business owned by someone in your family?  
\_\_\_\_\_  
\_\_\_\_\_

25 Before you started your business, how many of your close friends had started a business? \_\_\_\_\_

26 Before you started your business, about how many people did you personally know who had started a business? \_\_\_\_\_

NOTE Complete any missing information from phone interview

INFORMATION INTERVIEW FOR POTENTIAL ENTREPRENEURS

NOTE This interview should be conducted for persons interested in starting a business but not yet in business

Name of Potential Entrepreneur \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

1 What type of business would you like to start? \_\_\_\_\_

2 Do you have a specific idea for a business? \_\_\_\_\_

(If yes) What is it?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3 Do you plan to start this business alone or with partners?

\_\_\_\_\_

4 Do you have any other businesses right now? \_\_\_\_\_

(If yes) What are they?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5 How many years of education have you completed? \_\_\_\_\_

6 What is the highest level of education you have completed?  
(Check the appropriate category below )

- None
- Some Primary
- Primary
- Some Secondary
- Secondary
- Some University
- University Degree
- Some Graduate Work
- Graduate Degree
- Not Clear Which Category

7 Have you had any other technical training? \_\_\_\_\_

(If yes) Specify

---

---

8 Have you had any business training? \_\_\_\_\_

(If yes) Specify

---

---

---

9 Do you have a job now? \_\_\_\_\_ (If yes) What is it? \_\_\_\_\_

---

---

10 What do you do in this job? \_\_\_\_\_

---

11 What is your monthly wage or income from this job? \_\_\_\_\_

---

Have you held any other jobs related to this business? \_\_\_\_\_

(If yes) What were they?

---

---

12 Have you started any other businesses? \_\_\_\_\_

(If yes) What were they?

---

---

13 How old are you? \_\_\_\_\_

14 Are you married? \_\_\_\_\_

15 Number of children? \_\_\_\_\_

16 What is/was your father's occupation? \_\_\_\_\_

17 What is/was your mother's occupation? \_\_\_\_\_

18 Has anyone in your family ever started a business (parents, brothers, sisters, uncles, aunts)?

---

---

19 Did you ever work in a business owned by someone in your family?

---

---

20 How many of your close friends started a business? \_\_\_\_\_

---

21 About how many people do you personally know who have started businesses? \_\_\_\_\_

22 What are your reasons for starting this business?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

23 From what sources do you think you can get money to start a business? (Check all that apply )

Sources

- \_\_\_ Banks
- \_\_\_ Partners
- \_\_\_ Family
- \_\_\_ Self \_\_\_\_\_
- \_\_\_ Friends
- \_\_\_ Government
- \_\_\_ Other \_\_\_\_\_

24 What major problems, if any, do you foresee in starting a business?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPENDIX D

MATERIALS FOR FOCUSED INTERVIEW  
AS USED IN INDIA PHASE II RESEARCH

## FOCUSED INTERVIEW FIELD MANUAL

### Field Preparation

Be sure each field packet includes the following

#### Left Packet

- a Schedule and directions to locale of interview
- b Completed and incompleted background sheets
- c Focused Interview Profile Scoring Sheet
- d Focused Interview Profile Graph
- e Symlog Scoring Sheet
- f New batteries
- g Two fresh tapes Pre label one of them with interviewee's and your name and date

#### Right Packet

- a Focused Interview Field Manual
- b Complete Competency Model
- c Field Interview Quick Reference Guide
- d Note pad and dark blue or black pen

## INTERVIEW

1 Introductions (This portion is to establish rapport Use whatever order of questions that seems most relaxed and natural )

- Greetings and casual exchange of background information, etc
- Purpose of Project To interview small-scale manufacturing entrepreneurs to find out how they approach their work, so we can design entrepreneurial training programmes
- Business Overview How did you get started in business? How have things been going these past two years? (Note any clues to situations )

2 Overview of Interview

Briefly outline the sections of the interview

- We will take about an hour and fifteen minutes to discuss 5 situations relating to X business (this entrepreneur's primary business) during the past 18 months (Only explain reasons if the entrepreneur reacts negatively to this time frame )
- We will then take about 10 minutes to ask you some additional questions and get your ideas of what it takes to be successful in business
- We will conclude by spending a few minutes collecting any missing information on your background

3 Tape Recorder and Confidentiality

- Give a sample explanation of tape recorder and confidentiality I need the tape recorder to remember the details If you need me to shut it off to talk about some sensitive information just let me know Only the EDI research team will have access to the tapes Okay?
- If he/she is in agreement, switch recorder on

4 Adjust Seating and Recorder

Try to sit beside interviewee with recorder pickup as close to interviewee as feasible, and with your voice audible

5 Let's move now to the interview We will be covering five different events or situations relating to X business over the past 18 months or so

- To begin, I would like you to think about a time when you had to work hard to convince or persuade someone to do something It can be people in your company or outsiders, as long as it relates to X business

6 Questioning Strategy

- Quick description
- When did this happen?
- Key parts beginning, middle, end
- What happened first/What led up to this?

What he did

Thoughts

Feelings (If relevant)

What he said

Key conversations Dialogue

His role if he worked with others

- What happened next?

e t c

(Cover key parts of situation using questions only if needed)

- What was the outcome?
- How did you feel about the way things turned out?
- Is there anything else important that is left out of this discussion or have we covered everything?

7 Situation #2

A time when you felt happy with something you achieved in your business

8 Situation #3

A time when you were unhappy with the way things were going in your business

9 Situation #4

A time when you felt happy with something you achieved in your business

10 Situation #5

A time when you played a key or prominent role in doing something for your business

11 Additional Research Questions

A Name three qualities that you have that you think are important to success as an entrepreneur?

Think back and try to remember when you first had this quality or ability

How did this quality develop in you?

B Same as above, naming two dominant competencies from FBEI

12 COMPLETE personal and any missing background information

13 Score SYMLOG

## ENTREPRENEURIAL COMPETENCIES

- 1 Initiative Takes actions that go beyond job requirements or the demands of the situation
  - Does things before being asked or forced to by events
  - Acts to extend the business into new areas, products, or services
  
- 2 Sees and Acts on Opportunities Looks for and takes action on opportunities
  - Sees and acts on opportunities (business, educational, or personal growth)
  - Seizes unusual opportunities to obtain financing, equipment, land, work space, or assistance
  
- 3 Persistence Takes repeated action to overcome obstacles that get in the way of reaching goals
  - Takes repeated or different actions to overcome an obstacle
  - Takes action in the face of a significant obstacle
  
- 4 Information Seeking Takes action on own to get information to help reach objectives or clarify problems
  - Does personal research on how to provide a product or service
  - Consults experts for business or technical advice
  - Seeks information or asks questions to clarify what is wanted or needed
  - Personally undertakes research, analysis, or investigation
  - Uses contacts or information networks to obtain useful information

- 5 Concern for High Quality of Work Acts to do things that meet or beat existing standards of excellence
- States a desire to produce work of high quality
  - Compares own work or own company's work favorably to that of others
- 6 Commitment to Work Contract Places the highest priority on getting a job completed
- Makes a personal sacrifice or expends extraordinary effort to complete a job
  - Accepts full responsibility for problems in completing a job for others
  - Pitches in with workers or works in their place to get the job done
  - Expresses a concern for satisfying the customer
- 7 Efficiency Orientation Finds ways to do things faster or with fewer resources or at a lower cost
- Looks for or finds ways to do things faster or at less cost
  - Uses information or business tools to improve efficiency
  - Expresses concern about costs vs benefits of some improvement, change, or course of action
- 8 Systematic Planning Develops and uses logical, step-by-step plans to reach goals
- Plans by breaking a large task down into sub-tasks
  - Develops plans that anticipate obstacles
  - Evaluates alternatives
  - Takes a logical and systematic approach to activities
- 9 Problem Solving Identifies new and potentially unique ideas to reach goals
- Switches to an alternative strategy to reach a goal
  - Generates new ideas or innovative solutions

- 10 Self-Confidence Has a strong belief in self and own abilities
- Expresses confidence in own ability to complete a task or meet a challenge
  - Sticks with own judgment in the face of opposition or early lack of success
  - Does something that he says is risky
- 11 Assertiveness Confronts problems and issues with others directly
- Confronts problems with others directly
  - Tells others what they have to do
  - Reprimands or disciplines those failing to perform as expected
- 12 Persuasion Successfully persuades others
- Persuades someone to buy a product or service
  - Persuades someone to provide financing
  - Persuades someone to do something else (besides the above-mentioned items) that he would like that person to do
  - Asserts own competence, reliability, or other personal or company qualities
  - Asserts strong confidence in own company's or organization's products or services
- 13 Use of Influence Strategies Uses a variety of strategies to affect others
- Acts to develop business contacts
  - Uses influential people as agents to accomplish own objectives
  - Selectively limits the information given to others
  - Uses a strategy to influence or persuade others

14 Monitoring Takes action to ensure that others' work is done on schedule and acceptably

- Develops or uses procedures to ensure that work is completed or that work meets standards of quality
- Personally supervises all aspects of a project

15 Concern for Others' Welfare Takes action to respond to others' personal concerns and needs

- Takes action to improve the welfare of employees or others
- Takes positive action in response to employees' or others' personal concerns
- Expresses concern about the welfare of employees or others

## FOCUSED INTERVIEW MANUAL

### Focused Interview Background

The Focused Interview is a method of obtaining specific information on how a respondent has acted and thought in five designated situations. These situations are representative of those that everyone has encountered, and they can provide a reliable way to determine the extent to which a respondent exhibits the 15 competencies associated with successful entrepreneurship. Immediately after the administration of the Focused Interview, there are some additional questions to be used for research purposes.

### Focused Interview Administration

The Focused Interview is administered orally, immediately after establishing rapport with the interviewee. Each of the five situations is presented to the respondent, and he is asked to describe, in some detail, a specific situation from the past that exemplifies it. During each situation, the interviewer asks a set of questions intended to elicit as much information as possible about what the respondent did, said, thought, and felt.

This section presents general instructions, identifies the five situations to be covered in the interview, and gives the specific questions used to probe for information not given by the respondent.

### General Instructions

- 1 Tell the respondent that the purpose of the interview is to get a better understanding of how he has actually gone about handling past situations.
- 2 Explain that you will ask the person to give detailed descriptions of what he did, said, thought about, and felt in five situations from his recent past.
- 3 Say you will be making some notes throughout the interview to help you remember what the person said.
- 4 If you have a tape recorder, explain why you would like to record the interview (to help you remember sections of the interview), and request permission to use it.

- 5 Stress the confidentiality of the interview
- 6 Ask for questions and give whatever information is necessary to make the process and reasons for the interview clear
- 7 Present each situation and spend an average of 15 minutes per situation gathering information
- 8 Ask each follow-up question in its natural place, unless the person has already given the information freely
- 9 Before interrupting to ask for clarification or to pose a follow-up question, let the person finish his thought. Make a mental note of where things left off, so you can get back on track after the interruption
- 10 Let the person know, by thanking him, when he has given a lot of detail on what he said, thought, and felt in a situation
- 11 When you have asked the questions for all five situations, ask the additional questions to be used for research
- 12 At the end of the interview thank the person for the information and time. Respond to any questions

## SITUATIONS FOR THE FOCUSED INTERVIEW

A time when

- 1 You had to work hard to convince or persuade someone to do something
- 2 You were happy with something you achieved in your business
- 3 You were not very happy with the way things were going in your business
- 4 You were happy with something you achieved in your business
- 5 You did something relating to your business where you played the key role or prominent role

## ADDITIONAL RESEARCH QUESTIONS

- 1 Can you tell me three qualities that you have that you feel are critical to success in business
- 2 Pick one of three you have named where you feel strongest and tell me
  - a Thinking back as far as you can, when did you first show this quality?
  - b How did this quality develop in you?
- 3 In the situations you described earlier you demonstrated \_\_\_\_\_ (name a strong competency) You demonstrated it when you \_\_\_\_\_ (example or two) Do you remember when you first showed this quality? How did it develop in you?
- 4 Repeat above using a second strong competency
- 5 If person is willing to give you a few more minutes, then ask questions "a" and "b" above for the remaining two qualities the interviewee mentioned

## SCRIPT FOR FOCUSED INTERVIEW

### Existing Entrepreneurs

#### Note

- 1 The Information Interview should be conducted immediately before this interview
- 2 Fill in the interview cover sheet

#### Introduction

"What you have told me so far gives me some excellent background on your business. What I would like to do now is have you tell me about some specific work situations you have been involved in over the past 18 months or so. We must keep this time frame because we need details, and our memories tend to forget details as time passes.

"Your descriptions of what you did in each situation will give me a clearer picture of the way you do things at work. For each situation, I will ask you to tell me how you first got into it, what you were trying to do or achieve, the things that you did and thought, what you said in any meetings or conversations that you remember, what your part in the situation was, and how the situation turned out. Don't worry about remembering these questions, since I will be repeating them for you as we go along. We will be talking about five situations, and then I will have a few questions about qualities you feel are important for success in starting and running a business. This should take about an hour and a half.

"I will be taking notes as we go along, but it would be helpful for me to be able to tape record the interview to help me remember what you have said. Everything you tell me will be completely confidential.

"Do you have any questions for me before we begin?"

(Give whatever additional information is necessary to make the purpose and process of the interview clear.)

SITUATION #1

"To begin with, thinking about the last 18 months or so, I would like you to tell me about a time when you did something relating to your business where you played the key role, the prominent role. I would like you to begin with just a quick picture of what you want to talk about, then we will start at the beginning and cover the whole situation. And so now relating to your business where you played the key role, what would that be, briefly?"

After you get the main idea, ask

"What was the first important thing that happened?"

If they give you events or actions and do not say what led up to them, ask

"How did you get into this?"

Also, you need to get their thinking

"What were you thinking as you were getting into this?"

"Did you talk to anyone about this? What did you say?  
What was their response?"

Now jump to the first key thing that happened

"I see. So the first key thing that happened was  
(refresh his memory) Tell me more

Ask any questions as you go along so you fully understand what he did, said, and thought. And if you hear anger or joy in his voice, but he hasn't talked about his feelings, ask

"How did you feel about that?"

Other follow-up questions you can use are

"What did you say to him/her?"

"What did you mean by we? What was your part in that?"

"What was the response?"

"Did you work with anyone else on that?"

If so what exactly was your part in it - What did you do?"

When he mentions doing something complicated, ask

"How did you prepare for that?"

After he is back talking about the first thing that happened, he may go on naturally with other key parts of the situation  
If not ask

"What was the next important part of this situation?"

Use follow-up questions whenever

- 1 You are unclear about what happened and his part in it
- 2 You sense complex thinking behind an action
- 3 You sense intense emotion

When the situation concludes, if he has not already told you how things turned out and how he felt about, ask

"How did things turn out?"

"How did you feel about it at the time?"

If he has not talked about any planning activities ask

"Was there anything you did in this particular situation that required planning? What did you do?"

Were there any other parts of this situation that you think it is important to tell me about? Or any key meetings or conversations we did not cover?

Thanking him for the good details, say

"Now we will move along to a second situation "

Note Remember that in each situation we want a clear picture of the interviewee interacting with other people, so for any (important) interactions he mentions, get the dialogue, say

'I need a picture of you here - the dialogue What exactly, as far as you can remember you said and they said "

There is not time to probe every interaction, so choose a few that seem central in the situation

SITUATION #2

"Still staying in the past 18 months or so, tell me about a time when you had to work hard to convince or persuade someone to do something relating to your business. Please begin with a quick picture of what you are going to talk about, then we will start at the beginning and cover the whole situation. And so now - a situation where you had to work hard to convince or persuade someone to do something, a brief picture

After getting an idea of the situation, ask

"How did you get into this?"

If he did not say what he was thinking, ask

"What were your thoughts on that?"

If he has not told you or it is not clear to you who he was trying to persuade or what he wanted them to do, ask

"Who was it you wanted to convince?"

"What was it you wanted them/him/her to do?"

The interviewee may go on naturally to tell you what happened, what he did and said, to whom and with what result. If not, here are some probes to use as needed

"So, what did you do?"

"What did you say to them/her/him?"

"What was their/his/her response?"

"How did it turn out? Did you ultimately convince them or what?"

Be sure to ask, if they have not told you

"How did you feel about how things turned out?"

Before concluding, ask

'Were there any other key parts of this situation or any other key people involved?'

Use probes as necessary to keep clear on his part in things

SITUATION #3

"Now, I would like you to think of a time in the past year or so when you were not very happy with the way things were going in your business" First, a quick picture so I understand what you were unhappy about

Use the following probes, as necessary, to develop the situation

When did this situation first catch your attention?

What led up to it?

What was the first key thing you did?

Who else had a part in this?

What, exactly did you do?

As before, use the "thoughts," "preparation," and "feelings" probes when you sense there may be complex thinking, planning, or emotions that the interviewee has not explicitly mentioned

When the situation concludes, if he has not already told you how things turned out and how he felt about it, ask

"How did things turn out?"

"How did you feel about it at the time?"

If he has not talked about any preparation or planning activities, ask

"Was there anything you did in this situation that required planning? What did you do?"

Ask

"Were there any other parts of this situation that you think it is important to tell me about? Or any key meetings or conversations we did not cover?"

Thank him, and move to situation 4

SITUATION #4

"Now I would like you to tell me about a time in the past year or so when you were happy with something you achieved in your business, etc"

Use same dialogue and follow-up strategies as used in situation 1

SITUATION #5

"Now I would like you to tell me about another time in the past year or so when you were happy with something you achieved in your business, etc"

Use same dialogue and follow-up strategies as used in situation 1

---

REMAINING PARTS OF INTERVIEW

- 1 Ask the additional research questions
- 2 Close with thanking him for providing you an excellent interview Answer any additional questions he may have

## FOCUSED INTERVIEW PROFILE INSTRUCTIONS

### Instructions

- 1 In scoring this interview, you will be deciding whether or not the person presented evidence for 15 entrepreneurial competencies during each of the five situations
- 2 Scoring is done during the interview, as you go along in each situation
- 3 Before each interview, review the 15 competencies presented in detail in Appendix C, "Manual for Selection and Impact Measures "
- 4 During the first situation (1), decide whether the person is demonstrating any behaviors or thoughts that match the definition of each competency Place a check mark in Column 1 opposite each competency that the person has demonstrated For repeated demonstrations of the same competency within a situation, use the following convention ~~++~~ meaning that the interviewee demonstrated the competency four times in this situation
- 5 Repeat this procedure after situations 2, 3, 4, and 5, putting check marks in the appropriate column for each situation Should the sequence of situations be altered, be certain to record each situation in its correct column (that is, #3 in #3 only, etc)
- 6 Give credit for a competency only when there is clear evidence that the person demonstrated it in a specific past situation
  - Do not give credit when more than one person was involved and it is unclear whether the person being interviewed demonstrated the competency
  - Do not give credit for things that the person says he might do in the future
- 7 After recording the competencies demonstrated for each situation, add the number of checkmarks (✓) across situations for each competency and place the number under the Total Score column Do Not Count repeat occurrences of the competency within a situation Then add the numbers in the Total Score column to give a final total that represents an overall index of competency use

- 8 Transfer the information to the Focused Interview Profile Sheet, following the instructions associated with that sheet, to produce a competency profile that graphically represents the relative competency strengths and weaknesses

	<u>COMPETENCIES</u>	<u>SITUATIONS</u>					<u>TOTAL SCORE</u>
		<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	
1	INITIATIVE Takes actions that go beyond job requirements or the demands of the situation						
2	SEES AND ACTS ON OPPORTUNITIES Looks for and takes action on opportunities						
3	PERSISTENCE Takes repeated action to overcome obstacles that get in the way of reaching goals						
4	INFORMATION SEEKING Takes action on own to get information to help reach objectives or clarify problems						
5	CONCERN FOR HIGH QUALITY OF WORK Acts to do things that meet or beat existing standards of excellence						
6	COMMITMENT TO WORK CONTRACT Places the highest priority on getting a job completed						
7	EFFICIENCY ORIENTATION Finds ways to do things faster or with fewer resources or at a lower lower cost						
8	SYSTEMATIC PLANNING Develops and uses logical, step-by-step plans to reach goals						
9	PROBLEM SOLVING Identifies new and potentially unique ideas to reach goals						
10	SELF-CONFIDENCE Has a strong belief in self and own abilities						
11	ASSERTIVENESS Confronts problems and issues with others directly						
12	PERSUASION Successfully persuades others						
13	USE OF INFLUENCE STRATEGIES Uses calculated strategies to affect others						
14	MONITORING Acts to ensure that others' work is done on schedule and acceptably						
15	CONCERN FOR OTHERS' WELFARE Acts to respond to others' personal concerns and needs						

TOTAL COMPETENCY SCORE \_\_\_\_\_

