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ENTREPRENEURIAL ACTIVITY.

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MODELS' ABILITY TO PREDICT SUCCESSFUL
ENTREPRENEURIAL ACTIVITY

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AN INVESTIGATION OF SELECTED ENTREPRENEURIAL
MODELS' ABILITY TO PREDICT SUCCESSFUL
ENTREPRENEURIAL ACTIVITY

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AN INVESTIGATION OF SELECTED ENTREPRENEURIAL
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CHAPTER I

PURPOSE AND ORGANIZATION

Introduction to the Study

The entrepreneur and his actions have received considerable thought and discussion over a significant span of modern economic thinking. Until recent times most of this consideration was in terms of his place in the economic schema. During approximately the last fifty years a number of researchers in additional areas of the social sciences have begun examining the entrepreneur and his actions much more carefully. For example, Harvard University's Research Center in Entrepreneurial History (1948-1958) had as its objective "to channel the efforts of historians, economists, sociologists and other scholars interested in the entrepreneur."¹ The Center published Explorations in Entrepreneurial History which served as a forum for scholars

¹James H. Soltow, "The Entrepreneur in Economic History," American Economic Review, Vol. 58 (May, 1968), p. 85.

interested in the entrepreneur and his actions. Even though not published for a few years, Explorations in Entrepreneurial History started its second series in 1965. With this continuing interest in the entrepreneur, it is only natural that one would find various ways of defining the entrepreneurial function.

J. B. Say is usually considered as the first economist to "assign to the entrepreneur--per se and as distinct from the capitalist--a definite position in the schema of economic process."¹ Say viewed the entrepreneur as a planner and coordinator of the productive process. Another view, stressing the often impersonalized function of risk bearing, is usually associated with Frank W. Knight. One can observe this view, somewhat vulgarized, when entrepreneurs are said to be people who handle "venture capital."² J. A. Schumpeter believed introduction of innovation to be the main function of the entrepreneur. Today, entrepreneurial action has become, to many people, action which is creative in the sense of doing the new and untried. If one pursues the popular literature, the entrepreneur is pictured as somewhat of a daring, mysterious individual who is willing

¹Joseph A. Schumpeter, History of Economic Analysis (New York: Oxford University Press, 1966), p. 555.

²John W. Atkinson and Bert F. Hoselitz, "Entrepreneurship and Personality," Explorations in Entrepreneurial History, Vol. X (April, 1958), p. 107.

to take risk in order to achieve a profit.¹

Arthur H. Cole, questioning the views of both Knight and Schumpeter, defines entrepreneurship as:

...purposeful activity (including an integrated sequence of decisions) of an individual or group of associated individuals, undertaken to initiate, maintain, or aggrandize a profit-oriented business unit for the production or distribution of economic goods and services with pecuniary or other advantage the goal or measure of success, in interaction with (or within the conditions established by) the internal situation of the unit itself or with the economic, political, and social circumstances (institution and practices) of a period which allows an appreciable measure of freedom of decision.²

Professor Cole's definition allows one to focus major emphasis on the individual in the entrepreneurial endeavor.

This study will use a somewhat simplified version of Cole's definition. Here the entrepreneur is defined as "the individual who is primarily responsible for bringing together the necessary resources for either initiation and/or significant aggrandization of a business."³

¹Norman R. Smith, The Entrepreneur and His Firm: The Relationship Between the Type of Man and Type of Company (East Lansing, Michigan: Bureau of Business and Economic Research, Michigan State University, 1967), p. 2.

²Arthur H. Cole, "Entrepreneurship and Entrepreneurial History: The Institution Setting," Change and the Entrepreneur, prepared by the Research Center in Entrepreneurial History (Cambridge, Mass., Harvard University Press, 1949), p. 88.

³Arthur Cole observes that even if a group of individuals undertake the initiation or aggrandizement of a firm, and this is often the case, there is still one individual who "...exerts more influence than any other individual in the team, and sometimes, depending on personality or force of character may have almost the power of veto over

Both initiation and aggrandization must be taking place in a growing economy. As some business organizations, for various reasons, cease to exist, new enterprises must be initiated or existing businesses must grow sufficiently to more than compensate for the economy's loss. This cycle is dependent on the availability of entrepreneurial talent. The entrepreneur is the moving force in creation or adoption of new commodities, applying new technology, adapting existing technology to new uses and combining the men, capital, technical and managerial expertise in initiation or aggrandizement of an organization. William J. Baumol, in a paper before the American Economic Association in 1968, summarized the need for the entrepreneur in this way:

If we seek to explain the success of those economies which have managed to grow significantly with those that have remained relatively stagnant, we find it difficult to do so without taking into consideration differences in the availability of entrepreneurial talent and in the motivational mechanism which drives them on.¹

Baumol, in the preceding comment, alluded to the effect of the quality of entrepreneurial talent on an economy's development. Thus, one must concern oneself not only with having entrepreneurs, but having good entrepreneurs. A good entrepreneur will, ceteris paribus, yield a

the rest." Arthur H. Cole, Business Enterprise in its Social Setting (Cambridge, Massachusetts: Harvard University Press, 1959), p. 8.

¹William J. Baumol, "Entrepreneurship in Economic Theory," American Economic Review--Papers and Proceedings, Vol. 58 (May, 1968), p. 66.

much higher return to resources used than will a poor entrepreneur.

When the problem of limited social and economic resources is considered, the ability to identify good entrepreneurs or at least screen out those who probably would not be successful becomes very desirable.¹

Statement of the Problem

The problem investigated in this study is: Can certain instruments define the unique quality that is successful entrepreneurship and what is the possibility for utilization of these instruments in identifying good entrepreneurs at an early stage?

Null hypotheses investigated are:

H₁ - The group of successful entrepreneurs will not have certain early personal influences which will tend to increase their propensity to be an entrepreneur later in life.

H₂ - The group of selected entrepreneurs will not significantly differ from the model of an Opportunistic-Entrepreneur.²

¹See Scope and Limitations section for this study's definition of the successful entrepreneur.

²Norman R. Smith, The Entrepreneur and His Firm: The Relationship Between Type of Man and Type of Company (East Lansing, Michigan: Bureau of Business and Economic Research, Michigan State University, 1967), pp. 31-58. See Chapter II in this dissertation for a discussion of the factors evaluated in typing the entrepreneur as an Opportunistic-Entrepreneur.

- H₃ - The group of selected entrepreneurs' firms will not significantly differ from the model of firms classified as adaptable.¹
- H₄ - The group of selected entrepreneurs will not as a group have company financial ratios significantly different from their industry norms.²
(It is expected that the successful entrepreneurs' performance ratios will be higher than average.)
- H₅ - The group of selected entrepreneurs will not significantly differ from the person exhibiting a tendency to achieve success.³
- H₆ - The group of selected entrepreneurs will not significantly differ from people classified as Achievement Motivated.⁴
- H₇ - The group of selected entrepreneurs will not

¹Ibid., pp. 71-86. See Chapter II in this dissertation for a discussion of the factors evaluated in typing the firm as Adaptable (vs. Rigid).

²The norms used in this study will be the normal industry ranges for various financial ratios as developed by Robert Morris and Associates. For the specific financial ratios used in this study see Chapter III, pp. 89 to 91.

³John W. Atkinson and Norman T. Feather, eds., A Theory of Achievement Motivation (New York: John Wiley and Sons, Inc., 1966), p. 328.

⁴The achievement motivated individual will exhibit a strong need for achievement as measured by McClelland's Exercise of Imagination a special version of the Thematic Apperception Test (TAT).

significantly differ from the first generation conglomerator's characteristics.¹

Definition of Terms

The following definitions of terms are used in this study:

Entrepreneur - the individual who is primarily responsible for bringing together the necessary resources for either initiating and/or significantly aggrandizing of a business.

Successful Entrepreneur - an entrepreneur whose company exceeds the growth rate of his particular industry in sales and/or profit.

Tendency (Motivation) = $f(\text{Motive} \times \text{Expectancy} \times \text{Incentive})$ - an active impulse to engage or not to engage in a particular action which is expected to have a certain consequence.²

Expectancy - a cognitive anticipation, usually aroused by clues in a situation, that performance of some act will be followed by a particular consequence.

Incentive - represents the relative attractiveness of a specific goal that is offered in a situation,

¹Stanley C. Vance, Managers in the Conglomerate Era (New York: John Wiley and Sons, Inc., 1971), p. 70.

²The definitions are those used by John W. Atkinson and Norman T. Feather, op. cit., pp. 12-13 and 328.

or the relative unattractiveness of an event that might occur as a consequence of some act.

Motive - a disposition to strive for a certain kind of satisfaction, as a capacity for satisfaction in the attainment of a certain class of incentives. (Examples of these motives include achievement, affiliation and power.)

Scope and Limitations of the Study

This study's objective is to both field test previously developed models and to examine certain new predictive instruments or methodologies to aid in an early identification of a potentially successful entrepreneur. In terms of this objective the models will be used "as given." This writer is aware that certain criticisms have been advanced concerning them. Rather than attempting to prove or disprove the criticism of the models used, this study will present the criticism while discussing the models in the literature search phase of the research. This study's primary concern is "can the models either individually or when used in conjunction with other entrepreneurial models be of significant help in identifying a potentially successful entrepreneur?"

The successful entrepreneurs interviewed in the study met certain criteria. First, their principal company must have met the quantitative criteria for the Oklahoma Young

President's Organization (YPO).¹ The quantitative criteria for a manufacturing company had to be \$1,000,000 or more in sales and seventy-five or more employees. Individual YPO quantitative criteria included the requirement that the president must have been elected to that office prior to his fortieth birthday. Age was not used as a criteria in defining the entrepreneurial group to be interviewed for the study. Certain additional requirements were also developed when defining the group of entrepreneurs to be interviewed. Each business included was engaged in manufacturing within the state of Oklahoma. In order to eliminate the influence of a totally war-time economy, each entrepreneur, to be included, must have built his firm subsequent to World War II. Because of the difficulty in evaluating the influence of a significant amount of family money behind a new enterprise, those firms which might have started in this circumstance were also eliminated.

Another limitation was the possibility of censored responses because of the entrepreneur either consciously or unconsciously biasing his answers or his being familiar with research or the instruments used in the study. Although

¹These quantitative requirements were verbally given to this researcher by a YPO official when the study was being developed. Apparently these requirements have, for a manufacturing firm, changed to \$1,500,000 and 50 or more employees. See brochure entitled "Membership Requirements," New York: Young President's Organization. No date given.

there were no overt indications of this, the possibility always exists in gathering original data.

The group resulting after the above limitations have been applied constitutes a convenience sample from which inferences will be drawn. The group used is not considered a representative sample of Oklahoma entrepreneurs, Oklahoma YPO members or entrepreneurs in general.

An Estimate of the Oklahoma Entrepreneurial Population
Meeting the Requirements of the Study

In determining the total number of Oklahoma entrepreneurs meeting this study's requirements, a number of problems were encountered. After checking with various public and private agencies, it was concluded that the information, in the form needed was unavailable at any one place. Thus, an estimation of the "population" was undertaken by combining the information from the 1963 and 1967 editions of the U.S. Census of Manufacturers, and the Oklahoma Directory of Manufacturers, 1970.¹

The 1967 Census of Manufacturers listed 395 firms in Oklahoma which employ fifty or more employees.² The information source used to eliminate those firms not meeting

¹Oklahoma Directory of Manufacturers, 1970, 1970 edition, Oklahoma City, Oklahoma: Oklahoma Industrial Development and Park Department, 1970.

²U.S., Department of Commerce, Bureau of the Census, Census of Manufacturers, 1967, Area Series: Oklahoma M C 67(3)--37, U.S. Government Printing Office, Washington, D.C., 1970, 37-14.

the criteria of number of employees, age of firm, and whether or not it was a subsidiary was the Oklahoma Directory of Manufacturers, 1970, published three years later. Thus, some estimation had to be made of the growth rate during these three years.

Mr. Neil Dikeman¹ indicated that his estimate of the yearly growth rate in number of firms in the state during the 1967-1970 period should be about 10% above the 1963-1967 period. In 1963 the Census of Manufacturers listed 342 firms (53 less than the 1967 figure) within the state that employ fifty or more employees.² Thus, the growth rate during these four years was approximately thirteen firms per year. If one adds two firms per year to the 13 per year for the 1963-1967 period (which is actually a 15+% increase in the growth rate over the 1963-1967 period, 5% higher than estimated by Mr. Dikeman above) the growth rate for the 1967-1970 period should be approximately 15 firms per year. The estimated number of firms employing fifty or more employees in 1970 is approximately $440 \sqrt[3]{395 + (15 \text{ per year} \cdot 3 \text{ years})}$ ⁷.

Next, a tally was made based on information included

¹Acting Director, Bureau of Business and Economic Research, University of Oklahoma.

²U.S., Department of Commerce, Bureau of the Census, Census of Manufacturers, 1963, Volume III, Area Statistics, U.S. Government Printing Office, Washington, D.C., 1966, 37-11.

in the Oklahoma Directory of Manufacturers, 1970 edition, of firms starting prior to 1945, having fifty to seventy employees (there was no employment grouping 75-100 employees). These two tallies totaled 280 firms which did not meet the requirements of the study. In addition, 115 firms were shown as being a subsidiary of another corporation. In many cases this subsidiary was established when a major firm came into the state and established a facility rather than as a result of a firm starting here and later being bought by another company. Thus, those firms which had been built within the state, then sold by the original builders within the past three years, were also included in the population, if the firms met the study's requirements prior to selling out. After examining the Oklahoma Directory of Manufacturing, 1970, an estimated twenty-five of these subsidiary firms had been sold during the 1967-1970 period.¹ The ninety firms remaining (115 subsidiary firms less 25 sold during 1967-1970 period), when added to the 280, gave a sum total of 370 firms not meeting the study's requirements. One additional limitation which had not been applied to these firms was the matter of a significant amount of family money being behind the firm when starting. Based on the experience of this interviewer at least one-third of

¹Also consulted during this phase of the estimation was the Oklahoma Directory of Manufacturers, 1967, 1967 edition, Oklahoma City, Oklahoma: Oklahoma Industrial Development and Park Department.

the firms started with significant amounts of family money behind them. Often the present principal of these firms will use second or third generation money. Thus, the study is concerned with an estimated population of roughly forty-seven firms (See Table 1).

Organization of the Study

Chapter I presented a brief background to the area of research with which this dissertation is concerned--the character and place of the entrepreneur in economic development. The problem investigated is presented and its related hypotheses are established. In addition, the scope and limitations of the study are noted. Also included was a discussion of the number of Oklahoma entrepreneurs which are estimated to meet the requirements of the study.

The second chapter will be an examination of the literature of previous work concerned with describing the entrepreneur or behavior which would characterize the entrepreneur. Particular attention will be given to those models which have been developed to explain entrepreneurial actions. Examples of the models examined are the work of David McClelland, John Atkinson, the Michigan State group, Norman Smith, Stanley Vance and others.

Chapter III presents background on the financial analysis to be utilized in the study. Certain bases by which the entrepreneurs could be compared to others in their respective industries are examined and the reason for the

Table 1

An Estimate of the Study's Entrepreneurial Population

	Number of Companies	
<u>Census of Manufacturers,</u> <u>1967^a</u>		395
Additional firms added 1967-1970 period ^b		<u>45</u>
1970 potential population		440
Less: Companies started prior to 1945	180	
Companies employing 50-70 employees	100	
Companies which are subsidiaries	<u>115</u>	<u>395</u>
		45
Add back twenty-five firms sold since 1967 ^c		<u>25</u>
		70
Less: Firms starting with significant family money ^d		<u>23</u>
Estimated entrepreneurial population meeting study requirements		<u><u>47</u></u>

^aCompanies having 50 or more employees.

^bEstimated; see text for a discussion of this calculation.

^cEstimated; see text for a discussion of this calculation.

^dEstimated; one-third of the firms had significant amounts of family money behind them when starting, see discussion.

base selected is discussed. There are certain problems inherent in the external ratio method which will be used and these problems are also discussed. Next, the ratios selected for use are presented and the method used to compute them is given. Lastly, the external sources which will be used for comparison purposes are discussed.

Chapter IV will present the methodology used to develop the interview list of entrepreneurs, set up the interviews and conduct the interviews.

Chapter V will present individual background information and the results of the financial statement analysis of the entrepreneurial group.

Chapter VI will include the classification of the entrepreneur and his company, based on Norman Smith's Typologies. The results of McClelland's Exercise of Imagination in terms of the entrepreneurial group's need for achievement, need for power and need for affiliation will be given. Next, the entrepreneur's veridical perception and anxiety level will be presented. Lastly, those findings on the variables and methodology used by John Atkinson et al. in describing entrepreneur's attitudes toward risk will be discussed.

The summary and conclusions will comprise the seventh and concluding chapter of the dissertation.

CHAPTER II

THEORIES OF ENTREPRENEURIAL BEHAVIOR

Introduction

Entrepreneurship can be examined from at least two main viewpoints, neither of which is unique from the other. First, entrepreneurial behavior is an integral aspect of economic development as applied to underdeveloped countries. One can hardly pursue the literature of economic development without being confronted with one basic problem of development--the stimulation of internal economic activity.

Secondly, in recent years both the public and private sectors of our country have become increasingly concerned with the identification and developments of America's entrepreneurial talents. Many sectors of our economy, for example, are increasingly interested in identifying and developing entrepreneurs because of their significant impact on industrialization with its attendant economic benefits to a given geographic region.

An increasing number of researchers have been examining the entrepreneurs and their actions. These researchers are using a variety of tools from the various disciplines to aid in studying the entrepreneur and his

actions. This chapter will examine the research of a number of selected theorists in various disciplines which this writer believes might be of aid in achieving the objective of the dissertation--developing a methodology to identify potentially successful entrepreneurs or at least eliminate those people who have the least potential of being successful entrepreneurs. The theories discussed will be presented along with those criticisms which are appropriate to the use this study will make of the respective theories.

Personal Influences on the Entrepreneur

Personal Background of the Entrepreneur

Early influences to which an entrepreneur is exposed will probably arise primarily from his family background and the environment of his home. In this early environment the individual's need for achievement is nurtured.¹ In addition to McClelland, whose research will be examined in the subsequent section, other research has indicated that parental attitudes have a marked impact on the strength of the achievement motivation in a child.² Achievement

¹This is one of the major variables of personality used by David McClelland. This variable will be discussed in more detail in the section entitled "McClelland--A Theory of Achievement Motivation." It is defined as "a desire to do well, not so much for the sake of social recognition or prestige, but to attain an inner feeling of personal accomplishment." David E. Novack and Robert Lekackman, Development and Society (New York: St. Martins Press, 1964), pp. 180-1.

²Everett E. Hagen, On the Theory of Social Change Homewood, Ill.: The Dorsey Press, 1963), pp. 105-6 and 136.

motivation is often associated with entrepreneurship or self-employment, as the reward system in this type of endeavor allows the individual to better meet his need for achievement.¹

Roberts and Wainer in their study of technical entrepreneurs found that a simple familiarity with a business environment when young may increase the probability of that person becoming an entrepreneur.² This familiarity often comes about because the entrepreneur's father had his own business.

The Entrepreneur's Father

Roberts and Wainer gathered two types of information on their entrepreneurial group's fathers--their occupational status group and whether or not they were in their own business. Their findings are presented in Table 2.

By applying the percentages of each occupational status group from the general population (45 years and over), who are self-employed, to the percentage in the study sample (from Table 2) Roberts and Wainer calculated the expected self-employed percentage from their sample (See Table 3). The expected percentage would be 24%, however, when comparing

¹Edward B. Roberts and Herbert A. Wainer, "Some Characteristics of Technical Entrepreneurs" (An unpublished report on research supported by the M.I.T. Center for Space Research and the National Aeronautics and Space Administration), p. 5. (Mimeographed.)

²Ibid.

TABLE 2

Paternal Occupational Status and Self-employment:
Comparison with Census Statistics

Occupational Status Group		Total Included in Each Group # %	% Whose Fathers Were in Their Own Businesses	A % in Each Group U.S. Census 1960 ^a Whose Fathers Were in Their Own Businesses	B U.S. Census 1960 ^a Age: 45 & Over % Self-employed within Each Group	Ratio A/B
Professional	non-technical	7	2	33%	22%	1.5
	technical	8	3			
Managerial	non-technical	12	11	80%	45%	1.8
	technical	3	1			
Clerical and sales		4	1	25%	26%	1.0
Skilled labor		15	5	35%	9%	3.7
Unskilled labor		5	2			
Farmer		4	3	75%	--	---
TOTAL		58	28			

^aAll figures reported from the census are totals for the self-employed individuals in the 45 years and over age group. It is believed that fathers of the entrepreneurs included in the study sample would fall into this age grouping.

Source: Edward B. Roberts and Herbert A. Wainer, "Some Characteristics of Technical Entrepreneurs" (An unpublished report on research supported by the M.I.T. Center for Space Research and the National Aeronautics and Space Administration), p. 7. (Mimeographed.)

this to the study sample they found 50% of the sample fathers had their own businesses.

TABLE 3

A Comparison of the Study Sample Fathers with the
Expected Frequency of Self-employment as
Indicated by Census Figures

Occupational status group	% in study ^a sample (1)	Expected % self-employed (from census) (2)	Expected self-employed % from sample (1) x (2)
Professional	25%	22%	5.5
Managerial	29%	45%	13.0
Clerical & Sales	8%	26%	2.1
Laborers	38%	9%	3.5
TOTAL	100%	102% ^b	24.0%

^aThe total sample for this analysis was not inclusive of the farmer group.

Source: Edward B. Roberts and Herbert A. Wainer, "Some Characteristics of Technical Entrepreneurs" (An unpublished report on research supported by the M.I.T. Center for Space Research and the National Aeronautics and Space Administration), p. 9. (Mimeographed.)

^bDue to rounding error.

This would seem to indicate that entrepreneurial fathers have a higher incidence of entrepreneurial sons than would be expected.¹ Roberts and Wainer then tested this hypothesis by means of a chi square analysis. They found this relationship significant at less than the $p < .01$ level (See Table 4).

¹Ibid., p. 9.

TABLE 4

Relationship of Expected to Actual
Number of Self-employed Fathers

	Self-employed fathers	Non self-employed fathers
Expected frequencies as indicated by the census figures	15 (23.4%)	49 (76.6%)
Actual frequencies as observed from the study sample	32 (50%)	32 (50%)

The chi-square statistic calculated from this table was 8.60 which is significant at the $p < .01$ level (one-tail).

Source: Edward B. Roberts and Herbert A. Wainer, "Some Characteristics of Technical Entrepreneurs" (An unpublished report on research supported by the M.I.T. Center for Space Research and the National Aeronautics and Space Administration), p. 10. (Mimeographed.)

The Entrepreneur's Religion

Starting with the basic idea that differences in religious background should produce differences in the behavior and character of offspring, Roberts and Wainer then examined the relationship between religion and entrepreneurship. They cite McClelland, Terman, and Super as supporting this basic assertion.¹ Table 5 presents religious preferences of their entrepreneurial group. One interesting thing to observe is the percentage of Jewish fathers who were in their own business (80% which is 20% more than any

¹Ibid., p. 10.

TABLE 5

Percent in Each Religious Group and Percent of Fathers in Own Business

Religion	Total # of entrepreneurs in each group	% of total entrepreneurs in each group	# of fathers in own business	% of each religious group whose fathers were in own business	% of total entrepreneurs whose fathers were in their own businesses supplied by each group
Protestant	29	46	11	38	37
Catholic	14	22	6	43	20
Jewish	10	16	8	80	27
None	5	8	3	60	10
Other	5	8	2	40	7
TOTAL	63	100%	30		101% (round off error)

Source: Edward B. Roberts and Herbert A. Wainer, "Some Characteristics of Technical Entrepreneurs" (An unpublished report on research supported by the M.I.T. Center for Space Research and the National Aeronautics and Space Administration), p. 14. (Mimeographed.)

other religious group). Of even more significance was that the Jewish group comprised 16% of the entrepreneurs studied (by Roberts and Wainer) yet had 27% of the fathers who were in their own businesses. Thus, there appears to be certain links between childhood environment and the propensity to become an entrepreneur. McClelland was one early researcher interested in this relationship.

McClelland--A Theory of Achievement Motivation

McClelland asserts that entrepreneurship is a function of the personality. He believes that individuals with the personality characteristic of high "need for achievement" (Abbreviated n Ach) are particularly well suited for the entrepreneurial roles.¹ High n Ach is a function of early child rearing practices (particularly early self mastering or independence training).²

Winterbottom, in an earlier study, found that mothers of sons with "high" n Ach tended to expect their sons to master certain activities earlier than mothers of the "lows."³

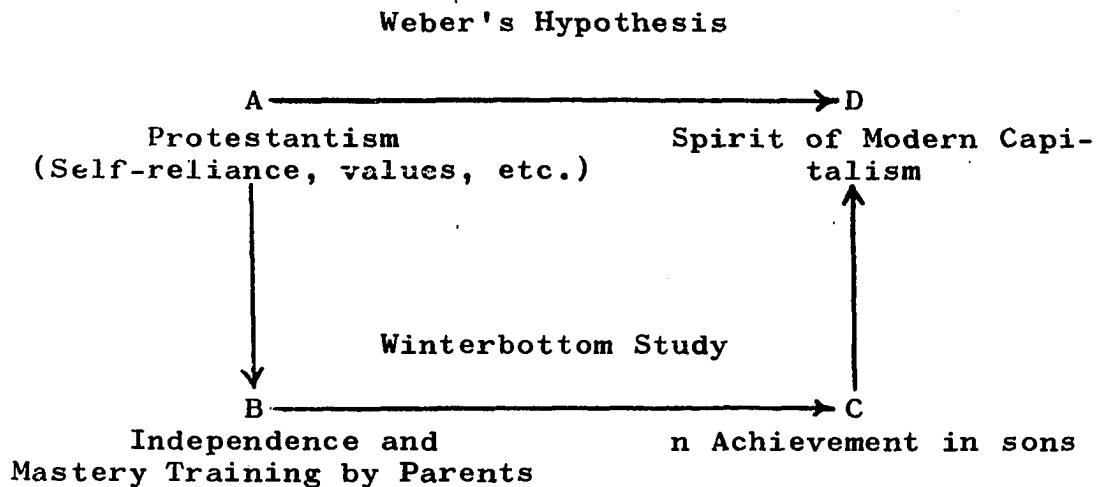
¹Professor Fritz Redlich is very critical of McClelland's attempt to explain men's actions based primarily on their need for achievement. See Fritz Redlich, "Economic Development, Entrepreneurship, and Psychologism: A Social Scientist's Critique of McClelland's Achieving Society," Explorations in Entrepreneurial History, I#1 (Second Series, Fall, 1963), p. 17.

²David C. McClelland, The Achieving Society (Princeton: D. Van Nostrand Co., Inc., 1961), pp. 46-56.

³Even though originally it was felt by many researchers that motives were acquired in early childhood and remained stable through adulthood, McClelland and others now

McClelland continues his analysis by tying the Winterbottom study to Weber's description of the individual produced by the Protestant Reformation. The product of the Protestant Reformation was a more aggressive, self-reliant individual which ultimately was to bring about the rise of modern capitalism. Figure 1 shows the relationship between Weber's analysis and Winterbottom's study.¹

FIGURE 1



McClelland then notes the rather striking parallel between the characteristics of Weber's personality type and

think achievement motivation can also be taught to adults. For example, see: "As I See It," Forbes Vol. 103 (June 1, 1969), p. 55, and David C. McClelland and David G. Winter, Motivating Economic Achievement (New York: The Free Press, 1969), pp. 43-3. Perhaps McClelland is reacting to the criticism of John H. Kunkel who cites evidence that adults whose environment is changed change their attitudes toward entrepreneurship. John H. Kunkel, "Psychological Factors in the Analysis of Economic Development," Journal of Social Issues, XIX (Jan., 1963), 85-86.

¹McClelland, op. cit., p. 47.

the person high in n Ach.¹ Research had shown that people high in n Ach tend "to work harder at certain tasks; to learn faster; to do their best work when it counts for the record, and not when special incentives, like money prizes are introduced; to choose experts over friends as working partners; etc."² After noting these similarities McClelland then attempts to empirically develop his case for the relationship between entrepreneurial activity and economic development.

The Measurement of n Ach

Before examining the entrepreneurial role discussed by McClelland, an examination of how n Ach is defined and the method used to measure this need is appropriate. Need for achievement is defined as: "a desire to do well, not so much for the sake of social recognition or prestige, but to attain an inner feeling of personal accomplishment."³ n Ach is measured by how frequently achievement--related ideas, i.e. thoughts and fantasies which in some way reflect a concern with achievement, are found in protocols written for a special version of the Thematic Apperception Test.⁴

¹Ibid., p. 47.

²Novack and Lekackman, op. cit., pp. 180-1.

³Ibid., p. 180.

⁴Often this instrument is known as McClelland's Exercise of Imagination.

McClelland concluded that a simple count of achievement related ideas found in a series of protocols written under neutral conditions (i.e. without "outside" achievement pressure), would reflect a person's strength of his concern with n Ach.¹ As McClelland tested his central hypothesis (entrepreneurship is a function of the personality characteristic n Ach) he found that people high in n Ach tend to exhibit those behavioral characteristics which one generally considered to be an integral part of the entrepreneurial role.²

McClelland's Modes of Entrepreneurial Behavior

A person with high n Ach tends to display seven modes of action in his entrepreneurial role.³ In the area of risk, the "high" n Ach person has certain preferences. In those situations where his skill can influence the outcome he prefers to avoid high risk (where success depends on luck) preferred by the "gambler" and low risk (where he gets little sense of achievement).⁴ This predisposition toward moderate risk will be considered with in more detail

¹McClelland, op. cit., p. 43.

²Ibid., pp. 205-239.

³McClelland outlines his strategy for changing these modes of behavior in a 1965 article. See David C. McClelland, "Toward a Theory of Motive Acquisition," American Psychologist XX #5 (May, 1965), pp. 321-333.

⁴Ibid., pp. 210-214.

in examining John Atkinson's model of risk behavior later in this chapter.

The second component of McClelland's entrepreneurial role is energetic, innovating activity. Evidence is cited which leads McClelland to conclude that high n Ach does not lead to harder work under all conditions. People high in n Ach tend to work hardest when there is chance that their personal effort will make a difference in the outcome. For them to work harder, the task must permit challenge or be a task which requires an innovative or original approach.¹ Of particular interest to this study is the similarity between the above discussion and the typology of the Opportunistic-Entrepreneur developed by Norman Smith.²

The third characteristic of entrepreneurial behavior is that of individual responsibility. A man with high n Ach will select work situations which he can take personal responsibility for goal achieving performance or situations where he gets a sense of personal achievement. Achievement satisfaction arises from having "initiated action that is successful, rather than from public recognition for an individual accomplishment."³ McClelland here inserts a note of caution that an individual must retain some individual

¹ Ibid., pp. 225-228.

² See the section, later in this chapter, on Norman Smith's extension of the Michigan State Study of Collins, Unwalla and Moore.

³ McClelland, op. cit., p. 230.

freedom and responsibility for generating and choosing among courses of action if he is to get any achievement satisfaction, but it is not true that he must work for himself rather than some group enterprise.¹ In this study the sample limitations will exclude those individuals that do not have a personal responsibility for their respective organizations.

Knowledge of results of actions is the fourth area McClelland cites in discussing the characteristics of entrepreneurship. Often the assumption is made that all kinds of people like to have specific knowledge of the results of their actions. Such is not the case. Knowledge of the results of action is a source of anxiety to the individual. This knowledge may serve as either proof of success of the selected course of action or proof of failure. To the entrepreneur of our study this yard stick is the profitability of the firm.² The next question one might logically ask is: What is the function of money to the entrepreneur? A number of studies indicate that people high in n Ach are influenced by money rewards--but not in the sense used to get more wealth--rather, their primary concern is achievement.³

¹Ibid.

²Ibid., p. 231.

³For example note the comments of the very wealthy individual entrepreneurs in "The Incurables," Forbes, Vol. 104 (July 1, 1969), pp. 21-23+.

Money to the person high in n Ach is a measure of success-- a symbol of higher achievement.¹

The long-range planning and organizational abilities, the fifth and sixth components, are treated together by McClelland. To him both are related to the planning activity. Various theorists have concluded that industrial entrepreneurship requires more than just reacting to emergencies. The industrial entrepreneur is required to make an investment in the future through planning ahead. Thus, if people with high n Ach are to be successful entrepreneurs they should look to the future more.² Other research has shown people high in n Ach do, in fact, tend to be oriented forward in time toward longer-range goals, even when that means foregoing immediate pleasures.³

The final role characteristic developed by McClelland is involved with organizing human activities of the firm. He observes that there is no research evidence showing that people high in n Ach have superior organizational skill. However, French has shown that in a problem solving situation people high in n Ach tend to choose experts over friends as working partners.⁴ McClelland then observes that in

¹McClelland, op. cit., pp. 231-237.

²Ibid., p. 237.

³Ibid., p. 238.

⁴Elizabeth G. French, "Motivation as a Variable in Work Partner Selection," Journal of Abnormal and Social Psychology, Vol. 53 (1956), 99.

personnel selection this attitude should promote business success because individuals are selected based on task oriented skills rather than friendship.¹

The Atkinson Model of Motivation

Professor John Atkinson's theoretical model attempts to explain the strength of the motivation to perform certain acts. Even though in an earlier formulation of his model, motivation was used to refer to an activated goal-directed tendency, now Atkinson encourages the use of the term tendency when referring to the product of motive, expectancy and incentive.²

Atkinson very succinctly states:

The theory of achievement motivation is one of a class of theories which attribute the strength of a tendency to undertake some activity to the cognitive expectation (or belief) that the activity will produce a certain consequence and the attractiveness (or value) of the consequence to the individual. The theory refers, specifically, to a very important but limited domain of behavior, namely, achievement-oriented activity. Achievement-oriented activity is activity undertaken by an individual with the expectation that his performance will be evaluated in terms of some standard of excellence. It is presumed that any situation which presents a challenge to achieve, by arousing an expectancy that action will lead to success, must also pose the threat of failure by arousing an expectancy that action may lead to failure. Thus achievement-oriented activity is always influenced by the resultant of a conflict between two opposed tendencies, the tendency to achieve success and the tendency to avoid failure.³

¹McClelland, op. cit., p. 238.

²Atkinson and Feather, op. cit., pp. 327-8.

³Ibid., p. 328.

Let us now look more closely at Atkinson's model itself. The model involves six variables:

P_S - the subjective probability of success

P_F - the subjective probability of failure

I_S - the incentive value of success

I_F - the negative incentive value of failure

M_S - the achievement motive

M_F - the motive to avoid failure¹

The difficulty of the task to be performed will affect both P_S and P_F . P_S will decrease as the difficulty of the task increases. In addition, Atkinson also asserts I_S is a positive function of the difficulty of the task (i.e., $I_S = 1 - P_S$). For easy task I_S is low, for difficulty task I_S is high. The converse of this is also true so that $I_F = -P_S$. Thus, the humiliation is great when an easy task is failed.² With this framework in mind now we can examine the tendency to achieve success and the tendency to avoid failure.

The tendency to achieve success, (T_s) i.e. to be interested in a task and have full intention of performing it well, is considered to a product of the motive to achieve success, the expectancy that the activity will be successful and the incentive value of success of that particular activity

¹Ibid., p. 320.

²Ibid., pp. 14-17.

($T_S = M_S \times P_S \times I_S$). Thus, the two basic assumptions are $T_S = M_S \times P_S \times I_S$ and $I_S = 1 - P_S$. Table 6 illustrates this model. As one can see the tendency to achieve success is strongest when a task is of intermediate difficulty. If task difficulty is held constant, T_S is stronger when M_S is stronger. However, the T_S based on different M_S is substantial only when task difficulty is on the intermediate range.

TABLE 6

Tendency to Achieve Success (T_S) as a Joint Function of Motive to Achieve (M_S), Expectancy of Success (P_S , and Incentive Value of Success $T_S = M_S \times P_S \times I_S$ (I_S) for Individuals in Whom $M_S = 1, 2$, and 3 , Assuming $I_S = 1 - P_S$

Task	P_S	I_S	when $M_S=1$	when $M_S=2$	when $M_S=3$
A	.90	.10	.09	.18	.27
B	.70	.30	.21	.42	.63
C	.50	.50	.25	.50	.75
D	.30	.70	.21	.42	.63
E	.10	.90	.09	.10	.27

Source: Atkinson and Feather, p. 330.

From this theoretical base one can develop a hypothesis, which has been confirmed in numerous studies. People who have high n Ach will show greater preference for intermediate risk than those persons low in n Ach.¹

¹Ibid., pp. 328-330.

The tendency to avoid failure (T_F) is a parallel theoretical concept to the T_S . The $T_F = M_F \times P_F \times I_F$. In addition Atkinson assumes that the incentive value of failure becomes more negative as the task becomes easier. As in T_S there is a parallel relationship of $I_F = -P_S$. These concepts are illustrated in Table 7.

TABLE 7

Tendency to Avoid Failure (T_F) as a Joint Function of Motive to Avoid Failure (M_F), Expectancy of Failure (P_F), and Negative Incentive Value of Failure (I_F) for Individuals in Whom $M_F = 1, 2, \text{ and } 3$. Assuming $I_F = -P_S$.

$$T_F = M_F \times P_F \times I_F$$

Task	P_F	I_F	when $M_F=1$	when $M_F=2$	when $M_F=3$
A	.10	-.90	-.09	-.10	-.27
B	.30	-.70	-.21	-.42	-.63
C	.50	-.50	-.25	-.50	-.75
D	.70	-.30	-.21	-.42	-.63
E	.90	-.10	-.09	-.10	-.27

Source: Atkinson and Feather, op. cit., p. 332.

Table 7 indicates the tendency to avoid failure should be strongest when a task is of intermediate difficulty. If task difficulty is held constant, T_F is stronger when M_F is stronger. However, the I_F based on differing M_F is substantial only when task difficulty is in the intermediate range.¹ The sign of the tendency to avoid failure

¹Note also that in the intermediate range the uncertainty of the outcome is greatest. There is an increasing likelihood that the individual will fail as the tasks become more difficult and that he will succeed as the task becomes

(T_F) is negative because the incentive value of failure (I_F) is negative. Thus the T_F operates in an opposite manner to the T_S . This negative tendency must then be viewed as a tendency to avoid actions which are expected to lead to failure.¹ A person in whom the motive to avoid failure is high would then select either the easiest of the alternatives (where the chance of success is very high) or set his level of aspiration speculatively high (here there is very little chance of success and any success experienced can be attributed to sheer chance). These actions, thus, minimize his anxiety about failure.²

As indicated earlier T_S and the T_F are conflicting forces in the individual. The achievement oriented tendency will come about when $M_S > M_F$.³ In this project we are concerned with these two motives' effect on entrepreneurial behavior. Therefore, an examination of how these motives are evaluated will now be undertaken.

Measuring the Motive To Achieve Success and the Motive To Avoid Failure

In their analysis researchers have followed the path of thinking that when one measures n Ach one is actually

easier. The person having a high achievement motive will therefore select the level of aspiration in order to maximize his anxiety about failure.

¹Atkinson and Feather, op. cit., pp. 331-333.

²Ibid., pp. 17-18.

³Ibid., p. 333.

measuring T_S . Conversely, in measuring anxiety level one is really measuring T_F . A brief examination of this line of thought is appropriate. In attempting to measure motive (or need) to achieve success, two types of measures have been examined by researchers. The first of these are the direct preference measures. These measures have been unsuccessful in measuring n_{Ach} as measured by the projective techniques.¹ One example of the direct measurement method is the Edwards Personal Preference Schedule.²

The second type of measure, the projective technique, has been much more successful in yielding consistent results. The French Test and the Thematic Apperception Tests (TAT) are two of the projective measures most often used. This study will use a special version of the TAT, the McClelland Exercise of Imagination.³ This version of the TAT has been

¹John W. Atkinson and George H. Litwin, "Achievement Motive and Test Anxiety Conceived as Motive To Approach Success and Motive To Avoid Failure," Journal of Abnormal and Social Psychology, Vol. 60 (#1, 1960), 60.

²A. L. Edwards, Edwards Personal Preference Schedule Manual (New York: Psychological Corp.), 1954. In this direct measurement instrument 225 paired statements lead to scores on 15 "needs." Examples of the needs include: Abasement--acceptance of blame when things go wrong, Achievement--to be a recognized authority, Affiliation--to be loyal to friends, etc.

³Motives in Fantasy, Action, and Society, ed. John W. Atkinson (Princeton, N.J.: D. Van Nostrand Company, Inc., 1958), Appendix IV, especially pages 834-837. The multiple purpose set of pictures used (#5, 28, 83, 9, 24, and 53) were developed to measure $n_{Achievement}$, n_{Power} , and $n_{Affiliation}$. (See Appendix IV.)

used numerous times prior to this study.¹ Atkinson and Litwin concluded, after a 1957 research project which addressed itself to the problem of what the three instruments discussed above did actually measure, that the French Test of Insight and the TAT did in fact measure n Ach while the Edwards Personal Preference Schedule apparently measures a different variable.²

Researchers have found that test anxiety scores yield results which cause them to believe the variable actually being measured is a disposition (motivation) to avoid failure.³ There is no disagreement between this conclusion and the discussion by Mandler and Sarason in their research concerning anxiety.⁴ Even though psychologists have defined two types of anxiety--"general anxiety" and "specific anxiety"--our concern is with specific anxiety. While each individual is assumed to have a fairly constant level of general anxiety, "specific anxiety" is aroused in response to

¹ See for instance: Harry Schrage's "The R & D Entrepreneur: Profile of Success," Harvard Business Review, XLIII #6 (November-December, 1965), pp. 56-69; Herbert H. Meyer, William B. Walker and George H. Litwin, "Motive Patterns and Risk Preferences Associated with Entrepreneurship," Journal of Abnormal and Social Psychology, Vol. 63 (Number 5, 1961), 570; and David C. McClelland, The Achieving Society, op. cit., p. 43.

² Atkinson and Litwin, op. cit., pp. 59-60.

³ Atkinson and Feather, op. cit., p. 87.

⁴ George Mandler and Seymour K. Sarason, "A Study of Anxiety and Learning," Journal of Abnormal and Social Psychology, Vol. 47 (1952), 166-73.

a specific situation. The specific situation we are concerned with is the entrepreneurial role. Even though no tests have been devised for the measurement of anxiety specific to the entrepreneurial role, we will use a version of the Alpert and Haber Achievement Anxiety Test (AAT) modified by Harry Schrage of MIT (see Appendix I).¹ Alpert and Haber developed the AAT based on the earlier Mandler and Sarason theory used in developing the Test Anxiety Questionnaire (TAQ).

Mandler and Sarason assert that there are two major categories of drives associated with a testing situation. First, the learned drives which are a function of the task (i.e. the urge to do well or finish the task). The second category, learned anxiety drives, can be divided into two segments. First, there are those responses which are not specifically related to the nature of the task or materials. Often these drives are called the task-irrelevant drives and will manifest themselves in the form of feelings of inadequacy, helplessness, loss of status and esteem, etc. Secondly, in addition to the above task-irrelevant drives, there are also task-related anxiety responses. Task-related anxiety responses are directly related to the completion of the task. When a task is completed, anxiety is reduced in

¹The AAT was modified by Harry R. Schrage of MIT for use in an unpublished thesis entitled "The R and D Entrepreneur: Personality and Profitability" (an unpublished Masters thesis, MIT, Cambridge, Mass., 1965).

the individual. Mandler and Sarason then indicate specific anxiety is directly caused by the conflict between task-relevant and task-irrelevant responses in a given situation.¹

As indicated above, Alpert and Haber based their AAT on the theory advanced by Mandler and Sarason. The AAT deals with both task-relevant (facilitative) and task-irrelevant (debilitative) responses to the situation. When the AAT is compared to the TAQ in a testing situation, the AAT has been found to have the higher negative correlation to student performance.² However, since the AAT is a "specific anxiety" test of anxiety it must be adapted to the entrepreneurial situation.

Harry Schrage notes two instances in which the AAT has been modified to specific situations (for salesmen, and for engineers and production employees). These two research projects found a negative correlation between anxiety level and performance.³ However, Schrage found the scores on the AAT he had modified were positively correlated with profits.⁴ This positive correlation will be discussed

¹Mandler and Sarason, op. cit., pp. 166-67.

²Richard Alpert and Ralph N. Haber, "Anxiety in Academic Achievement Situations," Journal of Abnormal and Social Psychology, Vol. 6 (1960), 207-15.

³Harry Schrage, "The R and D Entrepreneur: Personality and Profitability" (an unpublished Masters Thesis, MIT, Cambridge, 1965), p. 34.

⁴Ibid., pp. 40-41.

in more detail later in this chapter. In addition to the above measure of anxiety, this project will measure if the person is a failure avoider or motivated to achieve success in the ring toss game which will now be examined.

The Motive To Achieve Success and Risk Taking Behavior

As pointed out earlier, when a person's motive to achieve success is stronger than the motive to avoid failure ($M_S > M_F$), he will select a task of intermediate difficulty. Atkinson and Litwin performed a study examining the effect of high and low n Ach and high and low test anxiety (using TAQ) on selection of risk level preference with a group of students. They used the two other types of variables (Persistence on an examination and Efficiency--final exam score) in addition to the ring toss, which will be used in this research. Table 8 presents their findings in the ring toss game.

Table 8 indicates the various ways of analyzing the ring toss data by easy, intermediate and difficult regions in terms of distance from the peg. Each of the methods give very similar results. Those low in Test Anxiety and high n Ach most strongly prefer the intermediate region.

As indicated in Table 9, the results of the ring toss game for both Test Anxiety and n Ach indicate a statistically significant ($p = .04$) lack of deviation from the median for individuals high n Ach and low in Test Anxiety.

TABLE 8

Percentage of Ten Ring Toss Shots Taken by S_S Simultaneously Classified High and Low in n Achievement and in Test Anxiety Using Alternative Criteria for Definition or Degree of Difficulty (or Risk)

Basis for Definition of Three Degrees of Difficulty (or Risk)	Distance in Feet	Motivation (n Achievement-Test Anxiety)			
		H-L N=13	H-H N=10	L-L N=9	L-H N=13
I. Using geographic distance: equal thirds	1-5 6-10 11-15	8% 70 22	15% 55 30	9% 49 42	21% 43 36
II. Using obtained distribution of shots:					
A. approximate thirds	1-8 9-10 11-15	22 55 22	31 39 30	28 30 42	39 25 36
B. approximate interquartile range vs. extreme quarters	1-7 8-11 12-15	11 73 16	26 48 26	18 48 34	32 41 28
III. Using both obtained distribution of shots and geographic distance: middle third of distance about the obtained median shot (9.8 ft.)	1-7 8-12 13-15	11 82 7	26 60 14	18 58 24	32 48 20

Source: John W. Atkinson, et al., Journal of Abnormal and Social Psychology, Vol. 60 (No. 1, 1960), 56, Table 7.

TABLE 9

Median Score on the Dependent Variable for Subjects Classified High or Low in n Ach or Test Anxiety and Percentage of Subjects Above or Below Combined Group Median

		Test Anxiety		High vs.
		High	Low	Low ^a
Risk taking: average deviation score in ring toss game	N	23	22	
	Mdn.	1.00	.63	U = 177
	% below combined group Mdn.	35	64	p = .04
		n Achievement		High vs.
		High	Low	Low ^a
	N	23	22	
	Mdn.	.63	.91	U = 177.5
	% below combined group Mdn.	61	36	p = .04

^aMann-Whitney U Test.

Compiled from: John W. Atkinson et al., Journal of Abnormal and Social Psychology, Vol. 60 (No. 1, 1960), 56-7, Tables 2 and 3.

TABLE 10

Median Score on Three Dependent Variables for S_s Simultaneously Classified High or Low in n Achievement and Test Anxiety and Percentage of S_s Above or Below the Combined Group Median

Variable	Item	n Achievement-Test Anxiety				High- Low vs.
		High-Low	High-Low	Low-Low	Low-High	Low-High ^a
Risk taking: average deviation score in ring toss game	N	13	10	9	13	
	Mdn.	.48	1.03	.93	.93	U=42.5
	% below combined group Mdn.	77	40	44	31	p < .025

^aMann-Whitney U Test.

Compiled from: John W. Atkinson et al., Journal of Abnormal and Social Psychology, Vol. 60 (No. 1, 1960), 57, Table 4.

As the Atkinson-Litwin results are combined, as in Table 10, the results become even more statistically significant. Based on these results Atkinson and Litwin concluded that persons in whom the motive to achieve success is stronger than the motive to avoid failure should prefer tasks of intermediate difficulty.¹

The entrepreneurs of this study group will be expected to strongly prefer the intermediate area when participating in a situation in which their skill can influence the outcome. In games of chance the results are much less clearly defined.

Even though persons high in *n* Ach (and low in Test Anxiety) strongly prefer an intermediate level of risk in situations in which their own skill and competence can influence the outcome, the case is not as clear cut in games of chance. In a research project written up in 1960, Atkinson et al. found the subjects having high *n* Ach had only a relative preference for intermediate risk.² First, their methodology will be briefly examined.

In the betting part of the research, subjects were asked to select one bet from each pair of 15 paired bets (representing all possible pairs of the six bets indicated

¹Atkinson and Litwin, op. cit., p. 62.

²John W. Atkinson, et al., "The Achievement Motive, Goal Setting, and Probability Preferences," Journal of Abnormal and Social Psychology, Vol. 60 (#1, 1960), p. 32.

below). The bets each had a different probability of winning (6/6, 5/6, 4/6, 3/6, 1/6), but all were of a constant monetary value. Subjects were asked to imagine they were in a gambling situation where they were rolling a single die. The stated options were interpreted as: a 3/6 meant that if the numbers 1, 2, or 3 came up on the six-sided die, they won the dollar amount specified, otherwise they won nothing.¹

Two expected value options (30¢ and \$300) were given the subjects. With these options an unexpected finding emerged. Subjects high in Ach tended to prefer intermediate risk in the predicted direction, but it is not statistically significant (See Table 11). After combining the two conditions and analyses, the difference between the high and low Achievement groups using chi square analysis shows evidence of substantial difference ($\chi^2 = 7.43$, $df = 1$, $p < .005$) in the predicted direction. What will be the actions of the low Achievement group in this situation?

Atkinson and his research group then examine the degree of significance of the preferences of the low Achievement group's attitude toward betting.² They found that the low Achievement group had a strong preference for the extreme risk bets on the small value bets (30¢), ($p = .02$).

¹Ibid., p. 29.

²The test used for this evaluation of the probability preference was the Binomial Test for "goodness of fit" using 2-tailed probabilities.

TABLE 11

Percentage of Ss High and Low in n Achievement Showing a Preference for Intermediate Probability Bets (4/6, 3/6, or 2/6) of Extreme Probability Bets (5/6, or 1/6) or No Preference in Two Imaginary Dice Games

Expected Value of Options	n Ach	N	Probability Preferences			Intermediate vs. Extremes ^a
			Intermediate (4/6, 3/6, or 2/6)	No Pref.	Extremes (5/6 or 1/6)	
\$.30	High	17	%	%	%	p = .04
	Low	12	53	18	29	
\$300	High	15	17	17	67	p = .16
	Low	22	33	33	33	
Both groups combined	High	32	18	18	64	$\chi^2 = 7.13$ p .005
	Low	34	44	25	31	
			18	18	65	

^aAll significance tests are for one-tailed Fisher exact probability tests.

Source: John W. Atkinson et al., Journal of Abnormal and Social Psychology, Vol. 60 (No. 1, 1960), 31, Table 2.

This degree of significance for the low group shows a strong preference for extreme risk bets ($p = .003$) when the amount of the bet increases to \$300. The findings concerning the high n Achievement group are not different than what would be expected by chance.¹

Morgan's Thesis Concerning Attitude Toward
Hard Work and n Achievement

The Atkinson model involves three variables--the motive to achieve success or avoid failure, the incentive value of the expected outcome and the subjective probability that a particular course of action will lead to that outcome. The variables of the motive to achieve success and avoid failure have previously been discussed. Now a brief examination of the incentive value of success and the subjective probability of the individual will be undertaken.

James Morgan asserts that "variations in the incentive value of economic success are uncontrolled, difficult to measure, and perhaps not so different from one person to another within one culture."² Continuing, Morgan believes a major factor effecting a person's desire for more economic success might be the number of people dependent on him.³

¹Atkinson et al., op. cit., p. 32.

²James N. Morgan, "The Achievement Motive and Economic Behavior," Economic Development and Cultural Change, Vol. 12, 1964, p. 257.

³Ibid., p. 257.

The second variable, the subjective probability expectancy that working hard, or improving one's education or accumulating capital, may vary significantly from person to person.

A brief look back at Atkinson's theoretical model indicates that expectancy working with the motive value determines actual behavior.

In order to measure this variable of expectancy Morgan asked one question:

Some people say that people get ahead by their own hard work; others say that lucky breaks or help from other people are more important. What do you think about this?¹

It was felt that those who had high n Ach and believed hard work resulted in success would be the hardest workers.²

Morgan then proceeded to empirically examine this hypothesis using multivariate analysis.³ After examining a number of variables (such as education, earnings, etc.) he concluded that the achievement motive and beliefs about the probabilities

¹Ibid., p. 257.

²Morgan also points out the problem that expectancy may change through experience. A person who has worked hard and failed may have lost his confidence that hard work is rewarded. Successful application on the other hand will reinforce this belief.

³Morgan in an appendix to his article makes this comment, "Multiple regression models are not the best way of investigating complex systems of influences, particularly where the factor one is most interested in may only operate under some conditions or with some kinds of people." Ibid., p. 263.

of hard work being rewarded are related to economic behavior of individual members of a culture.¹ Thus we have another potentially useful variable to examine when evaluating the entrepreneur.

The Michigan State Study--Collins,
Unwalla; and Moore

Professors Orvis F. Collins and Darab B. Unwalla and David G. Moore studied 150 manufacturing entrepreneurs in the state of Michigan. This study used both unstructured, depth interviewing and the projective Thematic Apperception Tests to analyze both the social and psychological environments of the men who start their own businesses.²

The researchers in this study were primarily sociologists, with (by their own admission) fairly strong "clinical" leanings.³ This background would obviously have an effect on the emphasis of their study. The researchers describe the focus of their study in this manner:

...from the very start we were interested in the structure or entrepreneurial activities, the demands it made on the entrepreneurial role in our society, and the way in which the entrepreneur interpreted and met the demands made upon him. We were interested also in the constellation of values, attitudes, and beliefs found among entrepreneurs, and in assessing whether

¹Morgan, op. cit., p. 263.

²Orvis F. Collins, David G. Moore and Darab B. Unwalla, The Enterprising Man (East Lansing, Michigan: Michigan State University, 1964), pp. 28-31.

³Their original book (The Enterprising Man) was oriented toward an academic audience. In 1970 the authors published a revision of The Enterprising Man titled The Organization Makers which was slanted toward a broader audience.

entrepreneurial activities tended to attract individuals of particular character-formations or whether the role itself shaped values. In addition, we were interested in the psychodynamics of the successful entrepreneur and especially in the relation of his personality and need structure to the demands of the entrepreneurial role. Finally, we were interested in the social origins of entrepreneurs and the influence of early family experiences and occupational careers on their subsequent patterns of behavior.¹

Roger Coup, of Social Research, Inc., in analyzing the TAT stories in the Michigan State study found the entrepreneurs to be steeped in the "American Way," the Protestant Ethic.² In addition he found:

1. Lack of social mobility drives - Found lacking in these entrepreneurs was "the values of 'getting ahead', rising in the social hierarchy, and achieving positions of authority and reward associated with power and status."³
2. Punishing pursuit of tasks and chronic fatigue - The entrepreneur feels a need to drive himself as a hardworking man. His work will have periods of great activity followed by periods of guilt induced rest. The entrepreneur does not love his work, even though he may be devoted to it, nor does he enjoy the fruits of his labor because he is "...left with

¹Ibid., p. 58.

²Ibid.

³Ibid., p. 60. Collins et al. note six cardinal social values, consistent with American middle class values are found in that TAT stories given by their entrepreneurs are:

1. The values and experiences of childhood are basically inferior to those of adulthood.
2. Children should honor their fathers and mothers--especially the latter.
3. The mind is inherently superior to the body.
4. Conspicuous display of abilities for the purpose of self-aggrandizement is wrong.
5. Infidelity is wrong.
6. Sloth is evil.

a feeling of never being quite able to reach any satisfactorily definable and rewarding goal."¹

3. Lack of problem-resolution - Even though the entrepreneur sees both the problem and the various solutions on each card (TAT picture card) he avoids bringing them together. The world of the entrepreneur is one of irreconcilable dichotomies (e.g., black or white, work or enjoyment, etc.). He sees no "range of alternatives."²
4. The relations of the entrepreneur with subordinates - relations with subordinates are most satisfactory when they are paternalist. In this case there may be a warm relationship between the entrepreneur and his subordinates. However, often the entrepreneur views his subordinates in a derogatory manner. He believes his subordinates as "...entertaining the sloth, lechery, rebelliousness and similar 'vices' that the entrepreneur resists within himself. This suggests that the labor relations prevailing in the entrepreneur's plant might tend to be extremely good or bad (and/or mercurial), depending on whether employees are perceived as the embodiment of "good" or "bad" aspects of the entrepreneurial self."³
5. Peer relations and partners - Even though these relationships may be on the verge of turning into superior-subordinate relationships, for the most part the male peer relationships are the least strained of the entrepreneurial relationships. In those peer relationship situations, in which group leadership is at stake, the entrepreneur becomes very anxious as the relationship moves to one of a superior-and subordinate. Thus, the entrepreneur will break away from the large established organization to begin his own business. In this new firm he is not a good potential partner. "His need to dominate or fear of domination would tend to make the 'partnership' an unstable one."⁴
6. Relations to Authority - Collins et al. characterize the entrepreneur as one who is unwilling to "submit" to authority because he is unable to work with it.

¹ Ibid., p. 61.

² Ibid., p. 62.

³ Ibid., p. 62.

⁴ Ibid., pp. 62-63.

He attempts to "escape" authority whenever possible. This need for autonomy, however, is not necessarily met even in starting a business.¹

The entrepreneur, thus pictured by Collins and Moore, is that of a somewhat marginal person in terms of large scale industry. By the very nature of his psychological makeup he does not fit well into a large formal organization.

Collins and Moore were able to distill the above attitudes of their entrepreneurs toward authority by the use of depth interviews, often of several hours or more in duration. Then the interview had to be evaluated by a psychoanalyst. Because of the problems (cost etc.) involved it was decided this methodology was unfeasible for this study.

The Allport-Vernon-Linzey Study of Values was selected to measure authority in terms of the entrepreneur's interest in power.² An additional value measured by this instrument was the economic interest of the individual. As discussed below the man scoring high on the Economic Value is what one would expect from an entrepreneur. There are six basic interests which are measured in this instrument:³

¹Ibid., pp. 63-64.

²Gordon W. Allport, Phillip E. Vernon and Gardner Lindzey, Study of Values, 3rd ed. (Boston: Houghton Mifflin Company, 1960).

³The Study of Values is based on a classification developed by Edward Spranger. See Edward Spranger, Types of Men, Translated from 5th German edition of Lebensformen (New York: Stechert-Hafner, Inc.).

1. The Theoretical--The dominant interest of this man is to discover truth. His interests are empirical, critical and rational. Often he is an intellectualist, a scientist or a philosopher.
2. The Economic--This man is characterized as being interested in what is useful. His interest usually develops the practical affairs of the business world--producing and marketing goods, developing credit, and accumulating tangible wealth.
3. The Aesthetic--This man sees his apex of value in harmony and form. An event is judged on its grace, symmetry, or fitness. Life is a series of events, each of which should be enjoyed for its own sake.
4. The Social--This man highly values a love of people. The Study of Values measures his unselfish love of the individual as a person. These individuals are usually treated kindly, sympathetically, and unselfishly.
5. The Political--This man's primary interest is in power. This does not mean that he will operate only in the field of politics. He will usually attempt a direct expression of this motive. His utmost wish is for personal power, influence and renown.
6. The Religious--This man's highest value may be called unity. These men, who are often mystical, attempt to comprehend how he fits into the total universe. "Spranger defines the religious man as one 'whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience.'"¹

One additional thing should be noted about the Study of Values. This instrument is not an absolute measure of each of the six values, but rather a measure of the relative importance of each of the six values in a given personality. The Study of Values does not measure the intensity of motivation possessed by an individual. Possibly the

¹Allport, Vernon and Lindzey, op. cit., pp. 4-5.

highest value of one person may be less intense and effective than the lowest value of another.¹

Schrage's Findings Concerning Profitability and
Need for Achievement

Harry Schrage built on the work of both McClelland and Collins, Moore and Unwalla in his 1965 study of entrepreneurs. His sample was drawn from the new technology companies which had come into existence as a result of research done at MIT laboratories. Often the entrepreneurs starting this type of firm are called technical entrepreneurs. Schrage developed a composite of the above models of the entrepreneurial personality in which he examined achievement motivation, power motivation, and anxiety as three variables. In addition, Schrage was looking for those areas (e.g. customers, bankers, suppliers, etc.) where there were significant relationships between veridical perception and profitability.² Schrage summarizes his findings in this way:

- (1) Achievement motivation does increase the man's awareness of his customers and employees. Its effect on operations, however, is to increase profit or loss.
- (2) Power motivation, as predicted, fogs the individual's perception of customers and employees. But instead of simply hurting profits, it causes either profits or losses to decrease.
- (3) Awareness of impaired performance in tight or difficult situations--what I shall call self-awareness--goes hand in hand with awareness of customers

¹Ibid., p. 8.

²Harry Schrage, "The R and D Entrepreneur: Personality and Profitability," op. cit., p. 51.

and employees. Presidents high in one are generally high in both; those low in one are also low in the other.

- (4) Self-awareness, including a measure of what is often called "anxiety" is strongly related to profitability. Greater self-awareness leads to higher profits.
- (5) Power motivation has a negative effect on self-awareness. The highly power-oriented men report little, if any, impairment of performance in tight situations.
- (6) When self-awareness scores are added to market-and employee-awareness ratings, their sum--representing "total awareness"--exhibits a strong influence on profits. Total awareness increases profits significantly.¹

Now an examination of some of these findings will be undertaken.

As discussed earlier, McClelland links entrepreneurship to achievement motivation. This need for achievement (n Ach) is actually the desire of an individual to do well in those situations which his ability can influence the outcome and the results of these efforts can be objectively measured. McClelland indicated that in addition to the above fact the achievement motivated individual also wants concrete feedback as to how he is doing. However, this feedback acts as a source of anxiety. Accurate feedback is like a two-edged sword because it provides proof of success or of failure. Schrage, building on this assertion, states that "Achievement motivation leads to problem-solving and

¹Ibid., p. 59.

information seeking behavior, while anxiety is seen as a possible deterrent to either of these."¹ Schrage then examines the effect of anxiety on performance. As discussed earlier, a modified Alpert-Haber Achievement Anxiety Test (AAT) was used by Schrage to measure anxiety. Results indicate a significant positive correlation between Achievement Anxiety and Profitability.² This type of finding is different from that of most situations in which anxiety is matched to performance. Schrage asserts, however, that the entrepreneur's success depends not on short-run stress situations, which the AAT measures, but on his ability to perceive things clearly and take corrective action.³ Then Schrage turns his attention to why anxiety should help the entrepreneur.

Two conclusions were drawn by Schrage concerning the function of anxiety in the entrepreneurial role. Because of certain comments made by the interviewees during his research interviews he concluded that anxiety makes the entrepreneur work harder, thus increasing his chances of success. Secondly, Schrage suspected that the less successful entrepreneurs tended to be less honest with themselves than

¹Harry Schrage, "The R & D Entrepreneur: Profile of Success," op. cit., pp. 56-65.

²Schrage, "The R and D Entrepreneur: Personality and Profitability," op. cit., p. 40.

³Ibid., p. 61.

the successful ones. Schrage explains:

The entrepreneur in our society tends to see himself as brave, aggressive, always full of ideas, always able to produce in tight situations. Deliberative-anxiety responses characterize almost the exact antithesis of these traits. Is it not then natural that the individual whose self-esteem is already threatened by losses should tend to protect himself from further loss of face by denying any traits that might further disqualify him from his role? The successful individual, on the other hand, should perceive far less threat to himself in admitting to occasional debilitating responses.¹

As indicated above, achievement motivation's effect on operations was found to increase profits or losses. This particular finding is somewhat inconsistent with both McClelland's work and the finding of Rubin and Wainer. These two groups of researchers maintain profitability is only positively correlated with need for achievement.²

Need for Achievement and Profitability in the Rubin and Wainer Study

Rubin and Wainer interviewed almost three times as many R & D entrepreneurs (51 vs 20) as Schrage. Their sample was drawn from the same type of population as that of Schrage's research (spin-off companies resulting from MIT research). They found high n Ach was associated with high company performance. However, the relationship was

¹Schrage, "The R & D Entrepreneur: Profile of Success," op. cit., p. 63.

²Herbert A. Wainer and Irwin M. Rubin, "Motivation of Research and Development Entrepreneurs: Determinants of Company Success," Journal of Applied Psychology, LIII (No. 3, 1969), 178.

not linear along the whole spectrum of high to low n Ach. Rubin and Wainer did find there was a marked linearity for the entrepreneur whose n Ach is moderate to high.¹ On the other hand they found those entrepreneurs in their sample who scored low in n Ach did not perform significantly lower than those whose n Ach was moderate.² These above factors cause them to conclude that some ". . . threshold level of n Ach is necessary before one could assume that the strength of the need is significantly affecting the individual's behavior."³

Wainer and Rubin found that the combination of high n Ach and a moderate need for power (n Pow) characterized the owners of the highest performing companies in their sample.⁴

Veridical Perception and Entrepreneurial Performance

Another dimension considered by Schrage was Veridical Perception. Schrage defined veridical perception as:
 ". . . the act of recognizing people, things, or situations as they truthfully are, rather than attributing to them qualities which are the products of one's emotions or

¹Ibid., p. 183.

²Wainer and Rubin were using rate of growth in sales volume as their performance factor.

³Wainer and Rubin, op. cit., p. 183.

⁴Ibid., p. 183.

imagination."¹ The areas in which Schrage examined the veridical perception of the R and D entrepreneur were: Customers, Employees, Stockholders or Board of Directors, Banks, Credit Agencies, Internal Accounting controls, Competition, Suppliers, First Line Subordinates, Quits, Salary and Wage Levels.² The only significant relationships found were between customers and profit or loss ($p = .005$) and other employees and profit or loss ($p = .025$). All other sources yielded no significant relationships.³

Two additional findings were used by Schrage in attempting to explain entrepreneurial success. First, achievement anxiety correlates positively with veridical perception ($p = .036$). Secondly, achievement anxiety shows a strong negative correlation with power need \sqrt{p} (2-tail) = .0077. Schrage used this information to explain entrepreneurial behavior in this way:

Since power impulses are viewed as suspect in our culture, few people admit to themselves or to others that what most concerns them is a desire to control people or an aversion to being led or influenced by others. In fact, psychologists have observed that power impulses are extremely anxiety arousing, causing the individual to repress, deny or project them as a defense. If high in power-need, he denies anxiety, frequently projects, and therefore fails to perceive veridically.

¹Harry Schrage, "R & D Entrepreneur: Profile of Success," op. cit., p. 57.

²Harry Schrage, "The Entrepreneur: Personality and Profitability," op. cit., pp. 19-25.

³Ibid., p. 37.

We can now view the individual who admits to anxiety - the high achievement anxiety scorer - as the man who tends not to project and who therefore perceives veridically.¹

Thus, Schrage's research would indicate the successful entrepreneur would be high in n Ach, in self awareness, and have high veridical perception of the market and his employees, and a low n power.² As discussed earlier, Weiner and Rubin found in their entrepreneurs that the highest performing group tended to have high n Ach and a moderate n Power.

An Extension of the Michigan State Study-- Smith's Typologies

Professor Norman Smith used the data collected by Collins, Unwalla, and Moore to develop typologies for both entrepreneurs and their firms.³ These typologies were developed based on certain variables associated with the firm or the entrepreneurs.

Smith defined his two "pure" types of entrepreneurs as the Craftsman-Entrepreneur (C-E) and the Opportunistic-Entrepreneur (O-E). Using these two "pure" types each entrepreneur can then be typed based on four broad groups of attributes. These attributes are:

¹Ibid., p. 63.

²Harry Schrage, "R & D Entrepreneur: Profile of Success," op. cit., p. 64.

³Smith, op. cit., p. 5.

- I. Breadth in Education and Training
- II. High Social Awareness and Involvement
- III. Ability to Deal With Economic and Social Environment
- IV. Time Orientation¹

Each of these four attributes is then further divided into sub-areas.

The Entrepreneurial Typologies

Breadth in Education and Training

Formal education. At whenever point the C-E leaves school his education is characteristically rather narrowly limited to technical areas. When exposed to non-technical areas, which he thinks will not in any way help him, he usually doesn't do very well. His primary concern is the pragmatic learning of practical skills.²

The O-E on the other hand is usually characterized as an "all-around" person. He is involved in many areas such as sports, social life, organizations (often as an officer), etc. Even though the O-E usually has more years of formal education than the C-E the most important thing is the breadth of education he acquires. He usually chooses a combination of liberal arts, or business and technical courses. If unable to attend college, the O-E will in some way (perhaps through night school) acquire a facility with

¹Ibid., pp. 59-63.

²Ibid., p. 14.

both physical and conceptual tools useful to him in both administrative and technical areas.¹

Work experience. The C-E's work experience is exemplified by the success theme. He soon develops a reputation of being an outstanding worker. Whatever the job, he is able to accomplish it better (more efficiently and effectively) than his co-workers. In developing his reputation as a "mechanical genius" the C-E may either become an intra-company or inter-company job hopper. As his work experience and reputation increases, he gets to know people and people get to know him. He will depend heavily on these contacts when starting his own business. One fact needs to be pointed out whether he is an inter-company or intra-company job hopper, his training and outlook remain relatively narrow. His concern is limited to the plant and production problems. The C-E usually climbs to the top of the skilled-worker hierarchy, however, since he doesn't relate to or identify very well with top management, he usually doesn't understand broader company policies. Because of this he seldom leaves his world, the plant.²

In contrast to the C-E's relatively narrow technical work experience, the O-E gets a variety of work experience in his career. However, the O-E doesn't job hop like the

¹Ibid., pp. 32-3.

²Ibid., pp. 15-17.

C-E. The O-E will remain on a particular job until he believes he has accomplished his goals. He is oriented to his role-model or sponsor and remains with him until he (the O-E) feels he has accomplished his goals, then will switch role models. These jobs serve a number of functions. The O-E is able to prove his competence in both the technical and the broader administrative aspects of business. Rather than the narrow technical world of the C-E (the C-E seldom leaves the industry in which he received his "training"), the O-E has no problem moving from one industry to another. In this movement the O-E gets to know top management in different firms and different types of industries both locally, regionally or nationally. The O-E's ability to move across industry borders arises because the O-E is perceived both by himself and others as being a "good" businessman.¹ His ability can be applied to a variety of industries and thus he does not feel tied to one industry as does the C-E. When the O-E starts his business, he does not feel limited to the industry or community in which he gained his experience and early training.²

Reference group. As discussed above, the C-E usually quickly reaches the top of the skill ladder. One

¹One gets the impression that during his employment with other firms the C-E is known for being a good craftsman who also just happens to be a supervisor while the O-E is known for being a good manager.

²Smith, op. cit., pp. 33-40.

could then logically ask "Does he identify with management or the worker (union)?" He does not relate well or identify with top management because of his lack of understanding of any non-plant problems or objectives. The C-E is most concerned about having an efficient plant. Thus, it would be logical that the C-E identify himself with the union. Such is not the case, even though he occasionally does join the union. He feels strongly that a man should give a good day's work for a good day's pay. In attempting to accomplish this he conflicts with unions which are opposed to rate-busters. Thus, he is a "no-man's" man, unable to identify with either management or the union.¹

There is no problem in deciding who the O-E identifies with. The O-E is management oriented. Because of his work experience (reputation of being a "good" manager) he has no problem of withdrawing his identification from the worker as does the C-E when starting his firm.²

Role-models. The C-E comes from the blue-collar background of the skilled crafts. His father and often a number of relatives are in trades such as plumbing, masonry, carpentry, pattern making, etc. His environment is very task-oriented with a clearly defined role-model path. Usually he chooses his father or some other relative as a

¹Ibid., pp. 16-17.

²Ibid., pp. 39-40.

role-model. Often the C-E will be, after starting work early in life, grounded in the practical aspects of the work world. To him practical accomplishments are what are important.¹

In contrast to the C-E's family, the O-C's family is predominately middle class. The environment he is exposed to is often one in which his father owns a small business, thus, the O-E internalizes the business and middle class values of his environment.² Even if his father is a skilled worker, the O-E will be influenced by other people he comes in contact with. The O-E, in contrast to the C-E, is able to switch role-models later in life.³

High Social Awareness and Involvement

Social involvement. For the most part the C-E exhibits rather low involvement in the community. Neither he nor his wife are active in community affairs. Those organizations to which he does belong are usually directly related to his particular job (for example, in association of machinists or engineers). Even those clubs to which he belongs are not vehicles for business contacts. His social

¹Ibid., pp. 13-14.

²Roberts and Wainer examined the relationship between childhood familiarity with entrepreneurship and the propensity toward entrepreneurship as an adult. Their findings indicate a very significant relationship between the two ($p < .01$). See Roberts and Wainer, op. cit., p. 5.

³Smith, op. cit., pp. 31-32.

life is not used to further his business organization.¹

The O-E and his wife are both highly involved in the community's social life. His and his family's affiliations include: businessmen's organizations, the appropriate social clubs, service clubs, etc. Usually he and the family have traveled a great deal. He is an active participant in his church's affairs. Children of the O-E go to the better schools. Often these are private schools on the primary and secondary level. His children will usually attend college--often an Ivy League College, possibly even an overseas University. All things considered, the O-E has high social involvement with his environment.²

Communications ability. Dealing with people makes the C-E very uncomfortable because of his limited communication ability.³ The C-E, hampered by both lack of verbal ability and lack of confidence in new situations (stemming from his narrow background and education), dislikes traveling. This forces him to depend on word-of-mouth advertising to develop new business. The alternative method of communication, since he isn't a good verbal

¹Ibid., pp. 28-29.

²Ibid., pp. 56-58.

³Henry Ford, Senior's actions especially in later years were very similar to the C-E that is described here. See Allan Nevins and Frank E. Hill, Ford: Decline and Rebirth, 1933-1962 (New York: Charles Scribner's Sons, 1963), especially Chapter IX.

communicator, is written communication. However, the C-E also has limited ability in written communication. Thus one can visualize the C-E, an individual very "plant oriented", who is unable to effectively use the various media of communication.¹

In vivid contrast to the C-E, the O-E is a highly skilled communicator in various media. He feels equally at ease expressing himself in either verbal or written communication. In nonverbal communication one receives the impression of a successful executive through both his physical surroundings, dress, etc.²

Ability To Deal with Economic and Social Environment

Planning and delegation. The orientation of the C-E is with the present. He does very little planning for the future.³ Any planning he does is concerned with the internal production process. He can be characterized as having little concern for meeting external changes in the environment in which his firm operates. Because of this unconcern, the firm's continuity is in a somewhat precarious position. The C-E has no one to take over in case anything happens to him because he does not delegate authority or

¹Ibid., pp. 24-25.

²Ibid., pp. 51-52.

³This time perspective of the C-E is in contrast to the time perspective exhibited by the person high in n Ach. See McClelland, The Achieving Society, op. cit., pp. 237-239.

responsibility.¹ Perhaps one could best characterize the C-E as a person whose primary concern is with the details of today with little thought or interest about tomorrow.

In contrast, the O-E moves as quickly as possible to relieve himself of detail daily activities. The O-E doesn't feel as if he must know every detail of day-to-day activity. He wants to hire individuals who are capable and willing to handle the responsibilities of day-to-day operations. This delegation of the routine is natural because the O-E is concerned with the total company rather than the plant alone. Smith comments in explaining the reasons for the lack of delegation, "The C-E cannot delegate as easily because his main concern is to turn out the best product at the lowest possible price. He limits his aspirations and consequently does not feel that his company should grow. He does not need to develop an organizational vehicle which will free him from routine day-to-day details."²

Employee hiring criteria. The C-E attempts to hire people with whom he is personally acquainted (usually because of his work career) or someone whom one of his friends knows

¹Smith, op. cit., p. 22.

²Ibid., pp. 45-46.

Another parallel in the Ford Motor Company was the very different way Henry, Sr. and Henry II managed Ford Motor Company. Henry, Sr. until later years made all the decisions. In contrast Henry II upon assuming the presidency immediately began building a pool of managerial talent. See Nevins and Hill, op. cit., especially Chapters X, XI, XII, XIII.

personally. The people selected as his employees are usually non-union members who, like himself, are very task oriented. Often these people will be relatives. Even though nepotism is practiced, he still requires that his relatives meet his standards of a "good worker."¹

While the C-E has to have a personal link with a new employee, this is not the case with an O-E.² He believes he is capable of evaluating each individual concerning his potential as an employee and then making an accurate decision concerning that person.³

Capital sources. Many sources of capital carry the implicit hazard of losing control of the company. The C-E has a fear of losing control of his company to "outsiders." As a result the C-E uses personal saving as his capital source when starting a business. If additional capital is needed, he will then go to personal friends or relatives. Perhaps he may even start with one or more partners, but the C-E soon buys them out in order to gain complete control.⁴

While the C-E basically sees and uses only two sources of capital, an O-E will see and utilize a variety of

¹Smith, op. cit., p. 22.

²Elizabeth French, as pointed out earlier, found people high in n Ach preferred experts over friends in problem solving situations. See French, op. cit., p. 99.

³Smith, op. cit., pp. 44-45.

⁴Ibid., p. 23.

sources of capital. He doesn't fear outside control by either banks or equity holders. The O-E feels, because of the skills and abilities he has developed, as though he can deal with outside individuals effectively. In searching for funds, the O-E will approach what he feels to be additional sources of capital and attempt to "sell" them on his proposition. Overall, the O-E has a very broad perspective on source of capital available to him.¹

Marketing and selling strategies. Customer relationships for the C-E is based on personal reputation he has developed in his industry. His customers usually know him well and he knows them on a personal basis. He rather passively reacts to his market rather than anticipating and planning for change.² Such is not the case with the O-E, as he actively searches for new markets and/or new products which fits these markets. Even though the O-E can adjust his company to independent market forces, in certain cases, he may be able to manipulate his market to a minor degree. In other words, he may feel that he can in certain cases, convince customers to purchase what he desires to produce.³

Competitive strategies. In competing the primary concern of the C-E is building a good product at the lowest possible cost. He will cut costs in every area possible,

¹Ibid., pp. 46-47.

²Ibid., pp. 23-24.

³Ibid., pp. 47-51.

for example, in the office area and its furnishings. However, he considers good equipment essential to the success of his business. The C-E is very careful to obtain the best possible equipment with the funds he has available. To him the thing of prime importance is not the physical surroundings but the machinery, which he feels is a paramount consideration with his customers. Since his business is built on his personal reputation, this reputation must be protected by producing a dependable product. This dependable product is produced by using good honest workers who are willing to give a good day's work for a good day's pay. To sum up, the C-E competes primarily in the areas of quality, price and personal reputation.¹

While the C-E competes on the basis of price, quality and personal reputation the O-E doesn't feel his competitive strategy is limited to these three areas. For example, the O-E may utilize new product development as a competitive strategy. The new product (or for that matter, an existing product) may then be marketed through a new channel of distribution. As can be seen above the O-E will use a variety of strategies to compete while the competitive strategy of the C-E is limited to price, quality and personal reputation.²

¹Ibid., pp. 35-36.

²Ibid., pp. 52-53.

Time Orientation

Circumstances of initiation. The C-E usually has not had the ideas of starting his company from early in his work career. There are probably a number of considerations which cause him to start his business. First, the C-E believes that if he is to continue to be the "best" this is the way he must move. Secondly, since the C-E is an "isolate" (he doesn't identify with either management or the worker) he believes by starting his own business he will be able to get good workers, such as he is, and they can do a good job together. Thirdly, by starting his own business he can avoid the "politics" of getting ahead and remaining close to the work world. Even with the above mentioned lures usually some critical event must serve as a trigger. He may be fired, be able to buy into a company in his industry or find equipment at a good buy.¹

While the C-E decides rather suddenly to initiate his own company the O-E has a long-range plan to start his own business and follows this plan. His broad background work experience and education was not an end in itself but a means to the end of his long range plan--to start his own business. In contrast to the C-E, the O-E usually is not affected by an unexpected catalyst which causes him to start his own business but carefully selects his own time to start.

¹Ibid., pp. 18-19.

He moves when he feels the time is right.¹

Plans for future growth. The only area of growth to the C-E is within his present industry. Thus, the only way he can grow is at the expense of others in the industry. However, to the C-E growth is closely associated with those things which he fears. If he expands his operation too quickly he is afraid of losing control of his firm. With growth there is always the possibility that the union will force its way in and break down the personal relationship he has with his workers. Growth brings an increase in administrative detail which will take him away from where the "real" work is accomplished--the plant. This would also require that he deal with certain external institutions which he feels unable to deal with. Taxation also acts as a deterrent to expansion in the C-E's thinking. These reasons cause the C-E to do very little or no planning for growth or change.²

While the world of the C-E is rather close-ended the O-E sees his as very open-ended. The O-E will not hesitate to move in a variety of directions seeking corporate growth. However, this search is very orderly. His plans for the future are carefully thought out, researched, very specific and usually detailed. Perhaps the planning is a reflection of the O-E's attitude concerning growth. He

¹Ibid., pp. 40-43.

²Ibid., pp. 27-28.

wants growth as he is not satisfied with the status quo. As soon as possible he wants to build an organization which will free him from day-to-day detail to allow him to see the broader picture. The O-E's concern is with total company growth rather than the quality of his produce-process. To him the attainment of a quality product is assumed and then he moves on to bigger things.¹

To the C-E, his employees are part of his family. This feeling leads to a great deal of paternalism. The C-E sees his role as one of a father protecting his "children" from the outside world. This protection may take many forms. Examples of this protection include unionism (it prevents a man from giving a good day's work), helping them with personal problems, financial help, etc.² The C-E is very close to his employees in a paternalistic way.³ The O-E, in contrast, is psychologically removed from his employees. He feels that he must objectively evaluate his employees. Those employees who don't measure up must be released. Neither the C-E nor the O-E wants a union in his plant. However, the O-E's reasons are not as emotional.

¹Ibid., pp. 55-56.

²Ibid., p. 20.

³It is this writer's opinion, that the degree of paternalism may be significantly influenced by the number of employees in the firm. At some point in a firm's growth this function will be taken over by the formal organization. An examination of this relationship will not be undertaken here because it falls outside the thrust of this study.

The O-E feels the union will inhibit his company's ability to be an effective competitor and maintain steady growth.¹

A Tool for Typing the Entrepreneurs of This Study

The foregoing discussion has considered both the Opportunistic-Entrepreneur and the Craftsman-Entrepreneur in some detail. Based on the information just discussed Professor Smith developed a condensed working instrument which is much more useful in typing entrepreneurs. This instrument in its entirety is presented in Appendix VI. This instrument will be used in this study to aid in typing the entrepreneurs.

Typologies of Entrepreneurial Firms

Smith, in addition to his typologies of entrepreneurs, developed two polar types of firms--the Rigid Firm and the Flexible Firm. These two polar types are constructed based on certain strategic behavior which alters the character of a firm.² The criteria, each of which will be examined below, are: customer mix, product mix, production methods, concentration of production facilities, concentration of markets and concrete plans for changes in any of the foregoing areas.³

¹Smith, op. cit., pp. 43-44.

²Ibid., p. 71.

³Smith notes that "these criteria are not meant to be exhaustive but rather indicative of the character of the firm in terms of its strategies of adjustment." Ibid.

Customer Mix

In customer mix one is concerned with the changing character or lack of change of the type of customers over time. Some firms will start with one customer group and have virtually the same customer mix five years later. This situation can be contrasted with the firm which may have added customers in a number of industries in the past and is continually searching for, and successfully establishing good customer relations with new customers and industries. Thus, Smith asserts that alterations in the customer mix may be one way of distinguishing between the Rigid and Adaptable Firm.¹

Product Mix

This criterion is similar to the Customer Mix variable. Here we are concerned with the number of different products instead of the number of different customers as discussed in the preceding section. In order to analyze the firms one must first distinguish between those producing only consumer goods and those producing industrial goods.² Smith, in his analysis, used industrial subdivisions

¹Smith, op. cit., pp. 71-72.

²Smith differentiates between industrial goods and consumer goods as follows: "The term consumer goods is used to indicate those goods destined for the ultimate consumer that will be purchased in substantially the same form as they leave the factory. Industrial goods are defined as those products which are converted into more finished products." Ibid., p. 72.

developed by Beckman and Davidson. The subdivisions used by Smith are:

- a) Installation and Equipment
Installation: Major items of production equipment regarded as part of the fixed plant, such as lathes, punches, etc. .
Equipment: Not regarded as part of fixed plants such as small motors, tools, portable drills, etc.
- b) Semi-Manufactured Goods
Those items subject to additional changes in form when used in manufacturing processes, such as extruded aluminum for windows, lumber, and chemicals.
- c) Parts
Manufactured articles which can be installed as part of a larger product without further processing; includes items like plastic parts, chrome molding for cars, tubing in refrigerators and small motors.
- d) Supplies
Items essential to a business operation that are consumed in a relatively short period of time, such as sandpaper, oils, polishing compounds and wiping materials.¹

Using Smith's procedure a company would be placed in diversified or changed category if the company, at its inception, produced only one of the major groups (i.e. consumer or industrial) of goods and since then had added the other type of goods to their output. To be classified as diversified or changed it must have added two or more subtypes of industrial goods, if it started producing industrial goods at its inception.²

¹Ibid., p. 73.

²Ibid., p. 76.

Production Methods

Smith divided production methods into three categories. Each category was unique enough that it will have some effect on the characters of the company. Smith's three categories were:

1. Custom made products produced for a specific customer.
2. Standardized products that are produced only after they have been ordered by a customer.
3. Standardized products that are produced for inventory.¹

These three types of production methods have an effect on internal organization of the firm. These three production methods require various types of labor, pricing methods, etc. Those companies which use all three production methods will have to cope with a greater variety of problems than the firm using only one of the production methods. In order to be classified in the changed category the firm must now use all three types of production methods.²

Concentration of Production Facilities

As production facilities become more dispersed geographically, management must deal with the increased problems of communication, delegation of authority and responsibility, etc. These increased complexities of management were an

¹Ibid., p. 73.

²Ibid., pp. 73-74.

additional variable used to distinguish between the two types of firms.¹ Those firms which have production facilities in two different geographic locations, which are three miles or more apart, are considered to have dispersed production facilities.

Concentration of Markets

As a company's product market becomes broader, both the number and difficulty of the problems associated with this dispersion increase. In addition to the problem of dispersed markets are the opportunities with which a dispersed company must cope.² Thus, as a firm sells outside its own state, the firm is considered to have dispersed markets.³

Concrete Plans for Change

This dimension considers the amount of concrete planning for change of the previous five factors the firm is doing. Merely thinking about change was not enough for the firm to be considered as actually planning for change.⁴

In Appendix VII the working definitions for classifying firms as Rigid or Adaptable are presented. These

¹Ibid., p. 74.

²Ibid., p. 75.

³Ibid.

⁴Ibid.

definitions will be used as is for the most part in this study. However, the type of firms in this study may require some modification to these working definitions.

The Man, the Firm, and How They Work Together

Smith found that Opportunistic-Entrepreneurs are usually associated with flexible firms. On the other hand, the rigid firms tend to be headed by a Craftsman-Entrepreneur.¹ Now, we should briefly look at the growth behavior of these two types of combinations of man and firm.

The growth of twelve C-Es, associated with adaptable firms, was compared with the growth of the ten O-Es, associated with flexible firms, to determine the performance of each. The O-E--Adaptable Firm combination had an average gross sales of twelve times that of the C-E--Rigid Firm combination.

One influence on this difference in gross sales noted by Smith is the average time the two groups had been in business (C-E--Rigid--9.5 years vs. O-E--Flexible--11.9 years). However, with this significant difference (12 times) it would be difficult to attribute all this difference to the 2.4 years difference in company life.²

¹Ibid., p. 88.

²Ibid., pp. 89-92.

An Examination of the First Generation
Conglomerator

Professor Stanley Vance has completed an in depth study of the trend toward building conglomerate firms.¹ One aspect of his analysis was concerned with the manner in which the management of: (1) First and (2) Second Conglomerating firms, (3) Old Line Conglomerating Firms and (4) Major Non-Conglomerating Firms differ with respect to certain managerial aspects. As shown in Table 12, the difference is rather sharp when comparing the head of the First Generation Conglomerate firms with the chief executive of the Major Non-Conglomerate firms. How would the Vance profile of First Generation Conglomerator compare with the entrepreneurs of this study?

One problem encountered in comparing this entrepreneurial group with the Vance group was the lack of a precise means of comparing the two groups. Thus, certain assumptions had to be made concerning how to quantify the degrees of relative importance of Professor Vance. From comments made in the text of his book it would appear that when fifty percent of his group were found with a particular variable it was assumed to have "some" relative significance.² In

¹Stanley C. Vance, Managers in the Conglomerate Era (New York: John Wiley and Sons, Incorporated, 1971).

²Ibid., p. 64.

TABLE 12

Relative Significance of Selected Management Aspects
in Four Corporate Categories

	Conglomerating Firms			
	First Genera- tion n=50	Second Genera- tion n=6	Old Line n=25	Major Non- Conglomerates n=25
Education	**	****	****	*****
Ivy League	*	**	****	****
Elitist	*	**	*****	*****
Founding families	*	**	****	***
Who's Who	**	****	*****	*****
Civic participation	**	***	*****	*****
Image	*	**	****	*****
Corporate Interlock	*	**	***	*****
Management Experience	*	*****	***	*****
Executive Committee: O.P.	*	****	**	*****
Collegiality	*	***	**	****
Ownership	***	**	****	**

Key: *-Little; **-some; ***-average; ****-much; *****-very much

Source: Stanley Vance, op. cit., p. 70.

the following discussion there is a brief commentary on how each of the variables will be evaluated.¹

¹This writer makes no claim that this type of analysis is a precise one; rather in this part of the study a macro-approach is taken.

Professor Vance found that 50% of his First Generation Conglomerators had college degrees and less than 10% had earned graduate degrees.¹ Also, few of his First Generation Conglomerators were Ivy League Graduates.

They are not members of American aristocracy or the founding families of the area in which they live. Some of them are listed in Who's Who, however, not nearly to the extent that their counterparts in Major Non-Conglomerates are listed. They do have some civic participation, however, on a rather limited scale.

These First Generation Conglomerators have little concern for their image, holding multiple board of director memberships or sharing their power with subordinates. The executive committee concept is seldom used in their company. Few of them have previous management experience.

Ownership is more important than the above discussed variables. Perhaps they feel this control of ownership is important because of the manner in which they operate their firms.²

Even though the above discussion is fairly general,

¹This is in marked contrast to today's top industrial leaders of which 83% have received one degree and 25% have earned an advanced degree. See Stanley C. Vance, "Higher Education for the Executive Elite," California Management Review, VIII, p. 22.

²In this respect the First Generation Conglomerator's attitude is very similar to the C-E previously discussed.

the entrepreneurs will be compared to the First Generation Conglomerators of Professor Vance's model.

Summary

Chapter II has presented the literature review. Various selected approaches to the study of the entrepreneur and his firm have been examined as well as certain theoretical models of expected entrepreneurial behavior. The results of research on these approaches and applications of the models were also examined. Four major areas of this review were of particular concern to this research: (1) David McClelland's work with n Ach and his use of this variable in terms of entrepreneurial behavior, (2) John Atkinson's theoretical formulation of the motivational variables included in those people motivated by a tendency to achieve success, (3) The suggested personal background influences on an individual's propensity to become an entrepreneur, and (4) The Michigan State Study from which a tool for typing entrepreneurs and firms was developed.

CHAPTER III

ANALYZING THE ENTREPRENEUR FINANCIALLY

Introduction

Certain aspects of the entrepreneur's company's financial picture will be examined in this study. The entrepreneurs selected are all considered to be successful and run moderate size companies (by sample design). Even though the men interviewed in this study are uniquely different from most chief executive officers (they have started their own business or have built up a small business), this writer believes their firm's financial picture will not vary significantly from other businesses of similar size within their respective industries. There are obviously going to be differences in the ratios in those areas where a successful business would be expected to differ. As a background to this analysis Chapter III will be concerned with presenting the possible bases of comparing the company figures, discussing certain problem areas inherent in the method selected, the ratios used, and the source used for comparison purposes in this study.

Bases of Comparing Company Performance¹

Professor Robert Anthony discusses three types of standards against which an actual figure can be compared. These three are: a goal, a historical figure, and an external figure, such as using another company's or companies' figure for comparison. A brief examination of each and its usefulness for our study is, thus, appropriate.

Goals

Many companies set predetermined goals or objectives of performance which they feel should be achievable in the environment in which their company performs. If the company then achieves this objective, assuming goals were realistically set according to potential, there is reasonable inference that organizational performance was good. However, before concluding this, one must examine the conditions surrounding performance.

Goals, often in the form of budgets, must by their very nature deal with the future. Thus, in association with goal setting the planner has to make certain assumptions about conditions under which performance will take place. An unfavorable change in these assumed conditions may cause goals to be virtually unattainable while a very favorable change may cause goals to be set far too low.

¹The ideas in this section are developed in Robert N. Anthony, Management Accounting (Homewood, Illinois: Richard D. Irwin, Inc., 1960), pp. 272-4.

Even though the budget may be a very useful way of comparing performance and have fewer of the inherent problems which will be discussed in the subsequent section on problems of comparing financial data, this method involves certain inherent problems if used in this study. First, few of the companies of our sample have their plans committed to paper. Most of the management teams in our group are small enough to see each other daily and thus, their plans tend to, for the most part, be verbal. Secondly, if their plans were available in specific terms there would be serious difficulties in comparing the entrepreneur with other managers on this variable. Thus, even though evaluating goal achievement is a very valid tool, its application in this study leaves something to be desired.

Historical Standards

In using historical standards one compares current performance with past performance. Even though this method allows us to minimize certain problems (e.g. differences in accounting practices), there remains the problem that this method compares the performance of one company over time. Again, we have no standard against which we can evaluate our entrepreneur's company against other similar companies.

External Standard

This type of standard allows a company to be compared with another company (or other companies). Very

often this comparison will be in terms of a series of financial ratios such as will be used in our study. Inherent in comparing financial ratios are two basic differences-- environmental and accounting.

Since accounting differences will be examined in the next section they will not be considered here. What then is the impact of environmental differences? Certain limitations on our sample design may be of some help in lessening this environmental impact. All companies in this study are located in Oklahoma, thus each operates in a similar geographic business environment. Each company has "grown" since World War II, thus the possible impact of the pre-war years and the differing impact of a business starting during the war is minimized.

Companies in a given industry should be subjected to similar problems in many areas of their operations. Here, the sample company's financial ratios are matched to their respective industry's ratios in order to minimize this environmental variable.

In this study, selected ratios of the entrepreneurial companies will be compared against industry to determine if the entrepreneurs' companies as a group vary from their respective industry's ratios. The question of the source of this industry comparison information will be dealt with in a later section.

Difficulties of Making Financial Comparisons¹

When comparing ratios of companies one must be aware of a number of problems. To realistically assess these problems' impact on our research findings we should examine each in light of its possible effect on our analysis.

Deciding on the Proper Basis for Comparison

Often there is a situation in which one cannot tell whether a higher number represents better performance than a lower one. Anthony advances the concept of using a quality range for a standard rather than a single number. As long as the ratio stays within this range, the ratio level may be regarded as satisfactory. This concept fits into the use that this study wants to make of our ratio analysis. We are interested in determining if the entrepreneurial companies as a group have ratios which vary from their industry averages (or ranges) when compared individually to companies of similar size.

Differences in the Situations Being Compared

No two companies have exactly the same set of factors which affects its performance. Thus, there are some difficulties which must be allowed for even when comparing two firms of similar size within a given industry. The group selection procedure has helped somewhat in this respect

¹Anthony, op. cit., pp. 269-72.

(e.g. all firms are located in Oklahoma and all are manufacturing firms), however, there will obviously still be varying situations for which the reader must compensate as he examines the ratio analysis.

Changes in the Dollar Measuring Stick

Accounting figures are expressed in historical dollars. Two companies having identical physical facilities except for age could have differing degrees of profitability because of differences of their depreciable base resulting from one firm purchasing its physical assets when costs were lower. Because of this problem, one must assume that the companies used to develop the external ratio standards will have a fairly even distribution in the age of the dollars they have invested in their depreciable resources.

Differences in Accounting Practices

When comparing accounting practices between two or more companies one will find considerable diversity. Many terms, such as current assets, are not precisely defined. This lack of agreement on definitions leads to the handling of some items in a very different manner by two individual companies. For example, one company may expense an item while another will amortize the same type of item. The profitability of a company can be influenced by a number of these types of decisions.

Hidden Short-Run Changes

A balance sheet may not reflect a "typical" situation.¹ Since the balance sheet is prepared as of a given point in time this selected moment may or may not be typical. For example, a company may have stockpiled a large amount of cash to retire debt the next day after the balance sheet is drawn up. This action would obviously distort a number of ratios one might run using the above-mentioned balance sheet.

In addition, some companies will "clean up" their balance sheets just before the time a balance sheet is to be drawn up. These types of "clean up" transactions are difficult to detect. One example might be a debt "wash out" where debt is repaid just prior to the balance sheet date when the company knows it must borrow again immediately after a balance sheet date in order to remain liquid.

Even though the above problems exist and are very real, this writer thinks that the financial picture is an integral part of the entrepreneur's actions. To better understand the entrepreneur, one must examine his image as

¹A good example of action which makes both balance sheets and income statements "non-typical" for the year of 1970 is the unusual number of asset write-offs. An unusually large number of write-offs will have a very significant impact on ratios developed from these post write-off figures. It does appear that most of these write-offs, because of economic conditions, were made in 1970 instead of 1969. See the Wall Street Journal, "Clearing the Books; Write-offs Abound, Reflecting Slump of '70 and Bid to Glory '71," XLVII #58 (March 25, 1971), p. 1.

found in his financial statements. The form this financial analysis will take is evaluating a series of financial ratios for the group of entrepreneurs interviewed in this study.

Financial Ratios Used

Various ratios could be used in this study to evaluate the financial picture of our entrepreneurs. However, the requirement of having industry ranges available, on the ratios used, does restrict the flexibility of which ratios might be used. After examining various services such as Moody's, Dun and Bradstreet and others, the group of ratios developed by Robert Morris and Associates were selected as norms. One significant advantage of this service was that after being broken down by industry, as the other services do, Robert Morris and Associates broke the industry down by the size of the company (in terms of asset size) within the industry. This additional factor was felt to be of considerable importance to increase accuracy in analyzing the moderate size companies examined in this study.

The ratio used from those compiled by Robert Morris and Associates are:¹

¹ Annual Statement Studies, 1970 ed. (Philadelphia, Pennsylvania: Robert Morris and Associates, 1970), pp. vi-ix.

QUICK RATIO

Method of Computation:
$$\frac{\text{Cash, Short-term Marketable Securities, and Net Receivables}}{\text{Total Current Liabilities}}$$

Result: Expresses a measured short-term liquidity available to meet current debt.

CURRENT RATIO

Method of Computation:
$$\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

Result: Expresses a measure of the firm's ability to meet its current debt.

FIXED ASSETS/TANGIBLE NET WORTH

Method of Computation:
$$\frac{\text{Net Fixed Assets}}{\text{Tangible Net Worth}}$$

Result: Expresses the proportion between investment in capital assets (plant and equipment) and the owner's capital.

TOTAL DEBT/TANGIBLE NET WORTH

Method of Computation:
$$\frac{\text{Total Debt}}{\text{Tangible Net Worth}}$$

Result: Expresses the relationship between capital contributed by creditors to owner's capital.

SALES/RECEIVABLES

Method of Computation:
$$\frac{\text{Net Annual Sales}}{\text{Total Trade Receivable}}$$

Result: Expresses the relationship of the volume of business to the outstanding receivables.

Days Sales

Method of Computation:
$$\frac{\text{Sales/Receivables}}{360 \text{ (days)}}$$

Result: Expresses the average time (in days) that sales are uncollected.

COST OF SALES/INVENTORY

Method of Computation:
$$\frac{\text{Cost of Sales}}{\text{Total Inventory}}$$

Result: Expresses the proportion between cost of sales and inventory at the end of the fiscal period.

Days Sales

Method of Computation:
$$\frac{\text{Cost of Sales/Inventory}}{360 \text{ (days)}}$$

Result: Expresses the average length of time in days that merchandise inventory remains in the company before it is sold.

SALES/WORKING CAPITAL

Method of Computation:
$$\frac{\text{Net Sales}}{\text{Net Working Capital}}$$

Result: Expresses the turnover of that portion of net capital not devoted to fixed or other non-current assets.

SALES/NET WORTH

Method of Computation:
$$\frac{\text{Net Sales}}{\text{Tangible Net Worth}}$$

Result: Reflects the activity of owner's capital during year.

PROFITS (BEFORE TAXES)/TANGIBLE NET WORTH

Method of Computation:
$$\frac{\text{Net Profit (Before Taxes)}}{\text{Tangible Net Worth}}$$

Result: Expresses the relationship between the owner's share of operations before taxes and the capital already contributed by the owners.

PROFITS (BEFORE TAXES)/TOTAL ASSETS

Method of Computation:
$$\frac{\text{Net Profit (Before Taxes)}}{\text{Total Assets}}$$

Result: Expresses the relationship between profit and the total resources used--provided by both owner and creditors.

Summary

In Chapter III various bases of comparing company performance were examined--company goals, historical standards and external standards. After presenting the reasoning behind selecting external standards as a means of comparison, the difficulties of making financial comparisons were discussed. With this background, the various ratios which will be used to compare the firms in the entrepreneurial group were presented and discussed to complete the chapter.

CHAPTER IV

METHODOLOGY

Introduction

Included in this chapter are: (1) The procedure used in developing the list of entrepreneurs to be interviewed; (2) The method followed in arranging the entrepreneurs' interviews; and (3) A presentation of the interview procedure.

Developing the List of Entrepreneurs To Be Interviewed

Two basic problems had to be dealt with in order to initiate this study. First, the names of entrepreneurs who met the requirements of the study had to be obtained.¹ In an attempt to develop this list, a number of people within the state were contacted. Initially, the Young President's

¹The set requirements as pointed out earlier in Chapter I are:

1. The firm must be a manufacturing firm.
2. The firm must have \$1,000,000 in sales or more.
3. The firm must have 75 or more employees.
4. The firm must have started subsequent to 1945.
5. The firm should not have had a significant amount of family money behind the business when starting.
6. The firm must have its headquarters or a major facility still located in the state of Oklahoma.

Organization was to be used as the entrepreneurial group interviewed. However, as more information about the membership was obtained, most of its members were found to either have inherited their firms at a rather significant size or the business was a non-manufacturing type firm. Because of this problem, names of other entrepreneurs meeting the requirements of the study were necessary.

After talking with various people outside of financial circles such as members of the Research Division of the Industrial Development and Parks Department, Chamber of Commerce officers, et al., these people were found to be of only limited help. While these men were usually familiar with a number of companies, they knew very little about the financial history and affairs of the Oklahoma entrepreneurs with which this study was concerned. Because of this lack of information they could not answer the qualifying questions as to the volume of sales each firm had and whether or not there was any significant amount of family money behind the company when it was started. However, from these contacts a list of "entrepreneurs" was developed.

Since most firms of the size included in this study would probably use one of the principal banks in either Tulsa or Oklahoma City for at least a part of their banking business, a commercial loan officer, whose bank might serve a company of that size, was then interviewed. The three principal banks of both Oklahoma City and Tulsa were included

in these interviews. The function of these interviews was to (1) cross check the previously developed list to determine if any entrepreneurs on it would meet the study's requirements and (2) to discover additional entrepreneurs which could meet the above requirements. From these interviews and by means of cross checking with the bankers, a list of approximately thirty entrepreneurs was developed. Next, there was the problem of obtaining an interview with each man.¹

Setting Up the Interviews

Because of the many demands on these men, a "contact" individual was needed in order to increase the probability of each man granting an interview. Two men agreed to act as "contact" individuals for this study. Mr. Jim Nucholls, state president of the Oklahoma Young President's Organization, agreed to write a letter of introduction to those YPO members to be interviewed.

¹It was decided a personal interview was the most appropriate way to obtain information on each entrepreneur. Other researchers have found the mail questionnaire method to be somewhat lacking when dealing with this type of individual. See, for example, Neil Gerald Soslow, A Comparison of the Origins and Orientation of True Entrepreneurs, Other Owners, and Business Hierarchies (An unpublished doctoral dissertation), Michigan State University, 1966, p. 159.

Dr. Horace Brown, Dean of the College of Business Administration at the University of Oklahoma, agreed to write a letter of introduction (see Appendix I) to each man, who was not a YPO member, explaining the project and asking him to grant an interview of approximately two hours in length. After each man received Dean Brown's letter he was contacted for an interview by telephone.

After reaching each man by phone the interviewer introduced himself, then asked if he had received Dean Brown's letter (or Mr. Nucholl's letter which ever was the case). If he had received the letter of introduction, he was asked that if he were willing to cooperate in the study would he set a convenient time for the interview.

Thirty-three entrepreneurs were contacted using the procedure just discussed. Even though the estimated population of Oklahoma entrepreneurs was forty-seven, this researcher was only aware of the above thirty-three men.¹ Twenty-five of these men (53%) of the estimated population agreed to an interview. Eight of those contacted either declined or were unable to be interviewed for various reasons. One man was killed in a car accident before an interview could be set. Another man conveyed to the interviewer through his secretary (he would not talk personally) that he would not even talk about being interviewed. Three

¹See Table 1 for the deviation of the estimated population.

men were out of their offices for business trips of extended duration. The remaining men indicated they were too busy to grant an interview. After the interviews were completed, four additional entrepreneurs did not meet the requirements of the study and were eliminated, leaving twenty-one entrepreneurs in the study group.

All interviews except two were conducted in the offices of the interviewees. One individual not interviewed in his office requested to be interviewed in his home during the evening hours. The other interviewee, interviewed in his home, had just sold his firm and, thus, did not have an "office" at the time of the interview. All interviews were conducted during the period from mid-December 1970 to mid-March 1971.

Representativeness

As indicated earlier, the group of entrepreneurs interviewed in this study is a convenience sample. The interview group is not considered to be representative of YPO member-entrepreneurs, entrepreneurs in general, or even Oklahoma entrepreneurs.

The Interview Procedure

After introducing himself, the interviewer gave each man a brief background of the study. Particular concern was given to avoiding the problem of biasing the interview by

being too specific in this pre-interview briefing.¹ Then, the interviewee was reassured of the strict confidentiality of the information given during the interview. All men interviewed were asked and all agreed to the use of a tape recorder during the interview. This permission was of significant value because this allowed the interviewer to concentrate on the interview rather than attempting to evaluate each man during the interview.

A combination of verbal and written methods of gathering information was considered optimum. As a result of this decision the method was varied throughout the interview.

First, the interviewee was asked to give a brief background as to how he got started in the business. This introductory statement normally took between ten and twenty minutes of the interview time.

After the above "warm up" time, each man was asked to complete the written questionnaire found in Appendix II. In addition to personal background information, certain questions were designed to aid in typing the entrepreneur as to whether he was an Opportunistic-Entrepreneur or Craftsman-Entrepreneur and in typing his firm as rigid or

¹There is always the possibility that the interviewee may be familiar with the research in this area, instruments used or other aspects of this type of research which might cause bias in the interview, but none of those interviewed indicated much knowledge of research in this area. However, this is one of the problems faced in social research.

adaptable. Also included in the questionnaire was the gambling exercise, which had as its purpose a determination of how these men react to gambling situations. Two variations of this exercise were used--one having an expected monetary value of 30¢ and the other an expected monetary value of \$300. The last section of this questionnaire was the modified Achievement Anxiety Questionnaire used by Harry Schrage which was discussed earlier.¹

Next, each man participated in the ring toss exercise.² He was first given a practice toss to allow him to get the feel of the size and weight of the ring. Then he was asked to toss ten rings while standing any distance he desired from the peg. Before beginning his throws and at least twice during his ten throws he was informed that he could move after any toss. The distance from which each shot was taken was then recorded by the interviewer. A

¹See Chapter II section discussing "Measuring the Motive to Achieve Success and the Motive to Avoid Failure," P. 34.

²The equipment used in this research project had the same dimensions as the equipment used by Atkinson, et al. in their ring toss experiments. The equipment used was a peg twelve inches high and 1¼ inches in diameter mounted on a base twelve inches square. Extending out fifteen feet from this base was a three inch wide tape marked off in one foot intervals. The rings used were of garden hose and were ten inches in diameter.

In a phone conversation with Professor John W. Atkinson, 11-5-70, he indicated that the weight of the rings in his experience should not affect the distance a subject stood from the peg. He further indicated that he had received results similar to his published results when using such crude equipment as a waste basket and large wads of paper.

record was also made of whether the throw was a success (a ringer) or a failure.¹

After the ring toss exercise, McClelland's Exercise of Imagination was given.² In this exercise the interviewee was asked to write a short story about each of six pictures shown him. Some interviewees preferred to dictate their protocols and were assured this was completely acceptable. The series of pictures used was a standard set designed to measure need for achievement (n Ach), need for power (n Pow) and need for affiliation (n Aff). These protocols were then scored professionally.³

The fifth major segment of the interview was a structured verbal discussion.⁴ During his discussion additional information was obtained to aid in typing the man as an Opportunistic-Entrepreneur or Craftsman-Entrepreneur and his firm as adaptable or rigid. The degree of veridical perception each entrepreneur possessed in the areas of his customers and his employees was also evaluated during this discussion. The methodology used to evaluate veridical

¹See Appendix III for form used to record ring toss results.

²See Appendix IV for McClelland's Exercise of Imagination.

³The protocol scoring was done by the Sterling Institute, Behavior Science Center, Cambridge, Massachusetts.

⁴See Appendix V for the interview guide used during this part of the interview.

perception was the one developed by Schrage in his research.

The last phase of the interview involved the man completing the Allport-Vernon Study of Values. Before ending each interview, each interviewee was asked for a balance sheet and income statement of his firm's operations for the year of 1969 or if this wasn't possible to provide sufficient financial data to perform the financial analysis planned for this study.

Statistical Tests Used

This dissertation has as its purpose the determination of whether certain previously developed instruments and certain selected new instruments could be of significant value in selecting successful entrepreneurs. A chi square test of significance will be used to determine if this group of entrepreneurs does differ significantly from other groups to which they might be compared.¹ Other non-parametric tests may be used if they are found to be more appropriate. In order to be considered significant for this study, results must exceed the .05 level of significance. However, the group of entrepreneurs used in this study constitute a convenience sample and therefore may not be representative of their respective population, consequently, the randomness requirement for these statistical tests is not met.

¹W. J. Conover, Practical Nonparametric Statistics (New York: John Wiley and Sons, Incorporated, 1971), pp. 186-195.

In order to examine the relationship(s) between various selected variables regression-correlation analysis will also be used.

Summary

Chapter IV consisted of a discussion of the methodology used in developing this dissertation. The procedure used to develop the list of entrepreneurs was first presented. Next, the method of setting the interviews was discussed. The interview structure was the next step discussed. Included in this discussion were the instruments and the order in which they were normally given during the interview. A brief comment concerning the statistical tests to be used in the study concluded the chapter.

CHAPTER V

PERSONAL AND FINANCIAL CHARACTERISTICS OF
THE ENTREPRENEURIAL GROUP

Introduction

Chapter V will examine: (1) The sales growth rate for firms in the study; (2) Selected personal characteristics of the entrepreneurial group; and (3) The financial characteristics for the firms of the entrepreneurs.

The sales growth rate for the firms in this study will be compared to industry growth characteristics as compiled by the Department of Commerce. Each firm's sales growth rate will be presented both in terms of percentages and graphically on semi-logarithmic paper.

Next, will be a presentation of the individual entrepreneur's personal characteristics. Examined will be the individual's marital status, age (both when starting in business and at the time of the study) and sex, country of nativity (and that of his parents), religion, father's occupation, employment status, etc. One additional characteristic, the number of firms each entrepreneur presently owns and the number he has owned which he no longer owns, is also examined.

In the last section the entrepreneurial firms are examined financially by using ratio analysis. First, the firm's ratios are examined individually. Then, the ratios are grouped into three groups--tests of liquidity, tests of solvency and tests of overall efficiency--and analyzed for significant variances.

Success of the Entrepreneurial Group

This section examines the success of the firms in the study. The profitability aspects of success will be dealt with in a subsequent section of this chapter. Here the firm's growth rate is presented and discussed. In Table 13 the firm's yearly growth rate in sales for each firm is compared with the growth rate of their respective industry's growth rate as published by the Department of Commerce. These rates of growth vary from a low of 16%/year to an almost unbelievable 2010%! Some of these percentage growth rates are unusually high because of the small sales base from which they started. Even so, the firms in this study group have enjoyed, as a group, very high growth rates.

To present the sales growth rate from a little different perspective, Appendix VIII presents a graphic comparison of the firm and industry growth rates of sales. As mentioned above, some firms' growth rates in terms of percentage are unusually high because of the small sales base from which they started. By plotting them on logarithmic paper we can see the slope of a company's growth

TABLE 13

Entrepreneurial Firm and Industry Sales
Growth Rates Compared

Entrepreneur # ^a	Sales Firm %	Growth Rate Per Year Industry ^b %
1	377	23
2	25	1
3	24	23
4	204	NA
5	35	15
6	54	5
7	71	12
8	101	13
9	11	7
10	54	10
11	68	20
12	2010	NA
13	91	NA
15	32	9
16	621	9
17	27	7
18	697	35
19	711	31
20	16	NA ^c
21	92	6

NA--No historical figures are available on industry.

^aNo financial information available on #14.

^bThe Industry growth rates were calculated based on statistics taken from the U.S. Industrial Outlook 1970 U.S. Department of Commerce (Washington: U.S. Printing Office, 1970), pp. 163, 194, 205, 250, 252, 278, 286, 313, 324, 330, 352. The page numbers are given as a group to protect the identity of the entrepreneurial firms in the study.

^cNo historical industry figures are available for the industry in which this firm competes; however, the growth rate in a complimentary industry, home construction, has over the time period of this firm's existence, been somewhat less than 12%/year.

rate as compared to its industry's slope of growth. As will be noted, firm numbers 1 and 19 during the past few years have not exceeded their industry's growth rate in sales; however, each man during this period of time increased his net profit five times faster than he did sales. As both were beginning to get ready to retire or sell their firms, possibly these men were concentrating on increased profitability rather than increasing sales.

Personal Characteristics of the Entrepreneurial Group

Age and Sex

All individuals interviewed during this study were male. However, this completely male group of interviewees was not by design. When contacting the various banks during the search phase for names of successful entrepreneurs meeting the study requirements, no mention was made of the sex of the entrepreneurs. Even so, no female entrepreneurs were brought to the attention of this researcher. During the subsequent research phases of this study this writer did not become aware of any female manufacturing entrepreneurs in Oklahoma. This is not to imply there are no successful female entrepreneurs in Oklahoma, but rather, that the female entrepreneur is the exception rather than the rule. Other entrepreneurial studies have had similar findings.

Collins, Unwalla and Moore in their study of some one hundred and fifty entrepreneurs had only two women in their sample. One of these women, in the authors' opinion, should be more likely classified as a quasi-entrepreneur.¹ Mabel Newcomer, in a rather comprehensive study of the little businessman² in Poughkeepsie, New York, found a larger number (approximately 20 of 200 firms) of female owners of manufacturing enterprises. However, she indicates these businesses were mainly inherited by a wife upon her husband's death.³ Neil Soslow in his comparison study of true entrepreneurs, other owners and business hierarchs had a few women's names among the more than six hundred questionnaires he mailed. However, no females responded in his return of 303 questionnaires (107 of which he classified as "true entrepreneurs"⁴).⁵ Thus, female entrepreneurs engaged in manufacturing generally appears to be the exception rather than the usual case.

¹Collins, Unwalla and Moore, op. cit., p. 232.

²Those firms with less than 100 employees were used in her study.

³Mabel Newcomer, "The Little Businessman: A Study of Business Proprietors in Poughkeepsie, New York," Business History Review, Harvard Graduate School of Business Administration, Vol. 35 (#4, Winter, 1961), p. 495.

⁴Soslow defined true entrepreneurs as those individuals who created a business where one did not exist before. Neil Soslow, op. cit., p. 2.

⁵Ibid., pp. 44-5.

The range of the entrepreneurial group's present age is shown in Table 14. The average age of the entrepreneurs in this study was 49 years old. As shown in Table 14, the age range was from 32 to 62 years of age. The bunching of men in the 50-59 year age bracket probably results from many of these men starting their firms shortly after World War II and the firm growing to the required size for inclusion in this study during the subsequent twenty-five years.

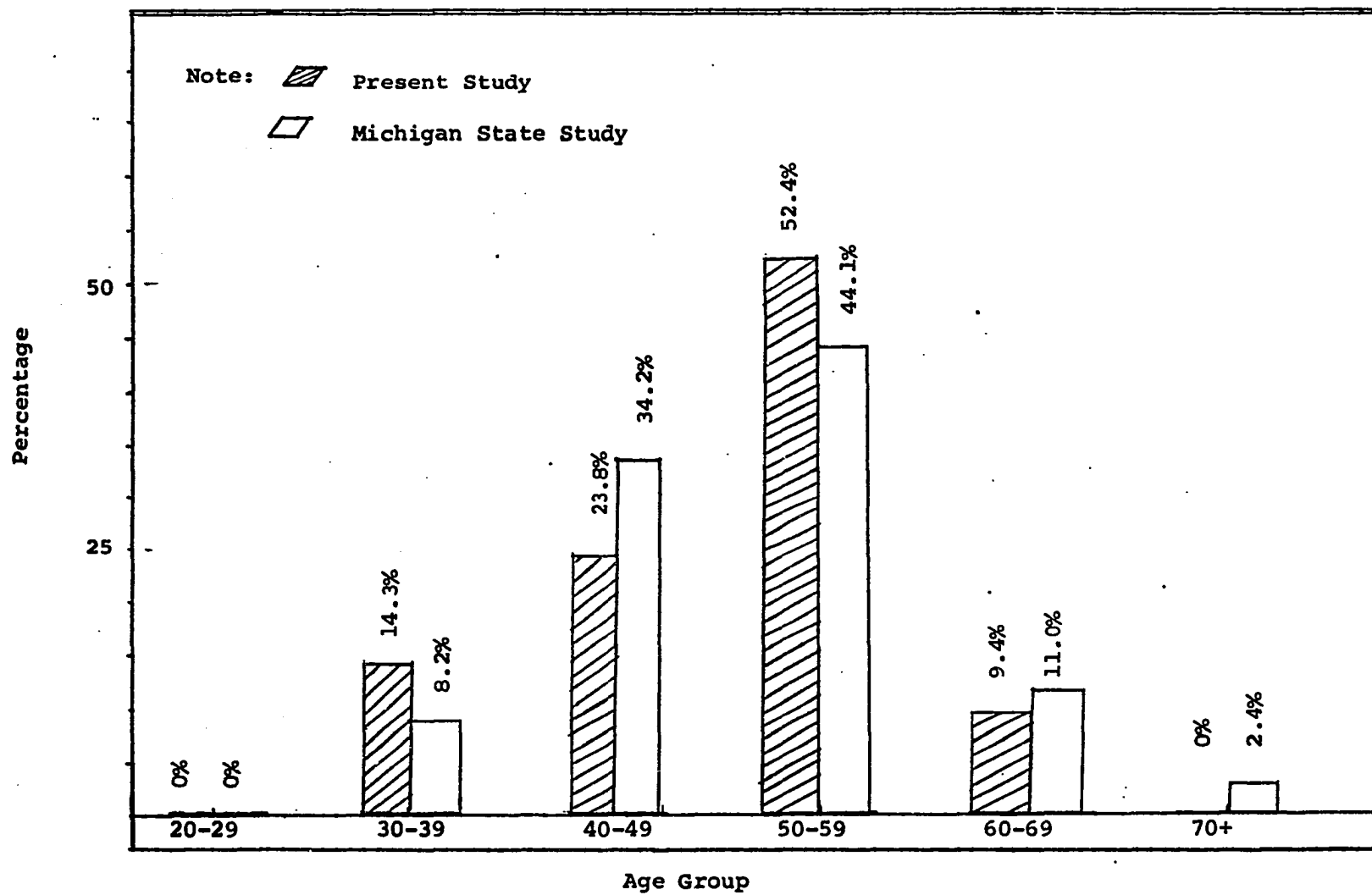
TABLE 14
Age of the Entrepreneurs at
the Time of the Study

Age	#	%
20-29	0	0
30-39	3	14.3
40-49	5	23.8
50-59	11	52.4
60-69	2	9.4
TOTAL	21	99.9 ^a

^aDoes not equal 100% due to rounding error.

The average age of the manufacturing entrepreneurs in the Michigan State Study was fifty-two years. Figure 2 presents a comparison of the age profile between that study and the group interviewed in this study. The age profiles of the two groups are very similar in many respects. There

Figure 2.--Age of Entrepreneurs of This Study Group Compared with the Michigan State Study



were fewer men sixty years of age and older in this study group when compared to the Michigan manufacturing entrepreneurs. In addition, this group had a higher number of younger entrepreneurs than did the Michigan Study.

As shown in Table 15, most of the men in this study started in their businesses while in their thirties. Even though four individuals started in their firms after forty years of age, all the entrepreneurs had started in their

TABLE 15
Age When Starting in Business

Age	#	%
20-29	6	28.6
30-39	11	52.4
40-49	4	19.0
50-59		
60-69		
TOTAL	21	100.0

business by age forty-three. This is particularly interesting in light of the fact that most of these entrepreneurs had started in business before the age at which many people have accumulated a large enough estate that could be used for ownership capital. The average age of these entrepreneurs when starting in business was thirty years of age. Of those

men falling into the 40-50 year old age grouping, the oldest man was forty-three years of age. Apparently, youthfulness when starting their businesses was pretty much a norm for these men.

Perhaps the simple rigor of getting a business going dictates that a younger person undertake the task. During the verbal interview each man was asked how many hours per week he worked in his business. The number of hours varied from 40 to 110 per week.

Hours Worked per Week

The men of this study, on the whole, tend to spend an exhaustive number of hours each week doing work related to their company. As a group they average approximately seventy-three hours of work per week. As shown in Table 16, twenty-eight percent of these men spend more than eighty hours per week in company related work. To put this in a little different light these men averaged working more than two 40-hour shifts per week. Five of the twenty-one men responding to this question indicated they worked in excess of ninety hours per week. Even though some of the interviewees indicated that they now work fewer hours per week (because they have hired additional management), the hours they worked when getting started in business would necessitate a healthy, vigorous individual.

Some of this activity was performed outside the office; however, each man felt that first, this activity

TABLE 16

Number of Hours Worked per Week by
Entrepreneurial Group

Number of Hours	#	%
40-59	4	19
60-79	11	52.4
80-99	4	19
100 or more	2	9.5
TOTAL	21	99.9 ^a

^aDoes not equal 100% due to rounding error.

was work, and secondly, this work was required for their company to continue to grow and prosper. A number of men indicated during their interview that a person intending to build a business simply can't do it in a forty-hour work week. Thus, one would lead one to wonder about their home life and their wife's reaction to this large number of hours per week.

Marital Status

All men in the study were married. However, one individual was in the process of getting a divorce. Since he expected the divorce to be finalized shortly after his interview, he is listed as being divorced in Table 17.

When the group is compared to the U.S. white, male population, age thirty through sixty-four (the age range

TABLE 17

Marital Status of Entrepreneurial Group Compared
with White, Male, U.S. Population Ages 30-64

	Entrepreneurial Group		U.S. White, Male Population Age 30-64 ^a
	#	%	%
Married	20	95.2	88.4
Single	0	0	7.4
Divorced and Widowed	1	4.8	4.2
TOTAL	21	100	100

^aCompiled from: U.S. Bureau of the Census, Current Population Reports, Series P-20 #212, "Marital Status and Family Status: March 1970" (Washington: U.S. Government Printing Office, 1970), p. 9.

of this group), this entrepreneurial group does have a higher percentage of married people than the general population age thirty-four through sixty-four. A chi square analysis is not significant; however, this suggests the entrepreneur does not tend to be a "loner" in terms of his personal life.¹

Entrepreneurs in this study were married to wives who accepted their husband's long work hours as a fact of

¹An additional question in this area which would be of particular interest would be whether his present wife was the one he was married to when beginning his businesses. This would answer the question as to the stability of the entrepreneur's married life. Unfortunately, this study only asked his present marital status.

life. One interesting example of this acceptance came out in an interview. The wife of one interviewee after tiring of her husband spending such long hours at the office had a commercial furniture rental firm deliver a roll-a-way bed to his office. Needless to say, the bed went back and an entrepreneur went home each night...to work on company business.

Place of Birth

Entrepreneurial group's nativity. Neil Soslow,¹ Collins, Unwalla and Moore,² and Mabel Newcomer³ all found the number of foreign born entrepreneurs to be out of proportion to the general population. Such is not the case with the entrepreneurs of this study. The men in this group of entrepreneurs were all born in the United States. This is not an unusual finding because Oklahoma, in 1960, had only .9% of its total population who are foreign born.⁴ The state of Michigan, by contrast, has some 6.8% of its residents who are foreign born.⁵

¹Soslow, op. cit., p. 68.

²Collins, Unwalla and Moore, op. cit., p. 234.

³Newcomer, op. cit., p. 480.

⁴U.S. Census of Population: 1960. General Population Characteristics, Oklahoma, op. cit., p. 145.

⁵U.S. Bureau of the Census, U.S. Census of Population, 1960 General Social and Economic Characteristics, Michigan. Final Report PC (1)-24c (Washington, D.C.: U.S. Government Printing Office, 1962), p. 187.

Nativity of entrepreneurial group's parents. The entrepreneurs in this study had five times the incidence of one or more parents being foreign born than for the general population of Oklahoma as shown in Table 18. Perhaps the son is encouraged by the parents who have seen two societies, to take advantage of the opportunities in America.

TABLE 18

Entrepreneurial Group's Parent's Nativity Compared
with White, Oklahoma General Population

Place of Birth	Entrepreneurial Group		Nativity of General Oklahoma Population ^a	Expected Number Based on Census
	#	%		
U.S.	18	85.7	97.5	20.5
Foreign or Mixed Parentage	3	14.3	2.5	.5
TOTAL	21	100.0%	100.0%	

^aComputed from data in U.S. Census of Population: 1960. General Population Characteristics, Oklahoma, op. cit., p. 145.

Educational Level

The entrepreneurs of this study have as a group a higher educational level than those interviewed in the Michigan State Study. Some sixty-six percent more entrepreneurs in this study had earned college degrees than the entrepreneurs in the Michigan State group as shown in Table 19. When comparing the educational level of this group of Oklahoma entrepreneurs to the educational level of the general male, white population, the difference becomes even more pronounced. Seventy percent of the entrepreneurs in this study had either attended college or were college graduates while only 20.2 percent of the Oklahoma general, white, male population had achieved a similar level of education. As one may note the census figure includes all white males twenty-five years and older.

A chi square analysis of this difference in the educational level of the Oklahoma, white, male population and this entrepreneurial group is significant ($p < .005$). Since 1950, those who have attended or graduated from college have increased in Oklahoma.¹ Since most of the men in this study probably had completed their education prior to 1950, this difference in the number who have attended college and the general population is even more distinct.

¹U.S. Census of Population Characteristics, Oklahoma, op. cit., p. 150.

TABLE 19

Educational Level of Entrepreneurial Group
Compared with Michigan State Study Group
and Male, White Population in
Oklahoma

Educational Level	Percentage of Entrepreneurs ^b	Percentage of Michigan State Entrepreneurs ^c	Percentage of Oklahoma Male, White Population 25 Years Old and Older in 1960 ^d
Less than high school	4.7	17	42.8
Some high school	4.7	19	16.6
High school graduate	28.6	25	20.4
Some college	28.6	19	10.2
College graduate	33.3	20	10.0
TOTAL	99.9 ^a	100	100.0

^aDoes not equal 100% due to rounding error.

^bNumber of entrepreneurs reporting level of education, 21.

^cFrom Table 6, Collins, Unwalla and Moore, op. cit., p. 237. Number reporting educational level in that study, 84.

^dCompiled from--U.S. Bureau of the Census, U.S. Census of Population Characteristics, Oklahoma, Final Report PC(1)-38B, p. 150.

TABLE 20

Educational Level of Entrepreneurial Group Compared
with Oklahoma, White, Male Population

Educational Level	Observed	Expected
Less than high school	1	9.0
High school	7	7.8
College	13	4.2
TOTAL	21	21.0

$$\chi^2 = 16.88; \quad df = 2; \quad p < .005$$

As noted earlier, the Michigan State Study found their entrepreneurs to have as a group a lower educational level than this group. However, one must remember the Michigan Study had both successful and unsuccessful entrepreneurs in their study group. When Norman Smith was using the raw data of the Michigan State Study to develop his entrepreneurial typologies, he observed the Opportunistic-Entrepreneur not only had a different type of education (broader in scope) but also had a higher educational level than the Craftsman-Entrepreneur.¹ Later, he indicated the O-E associated with an Adaptable type firm had sales twelve times that of the C-E associated with a Rigid firm even

¹Norman Smith, op. cit., p. 32.

though the former types had been in business on the average of only 2.4 years longer.¹

Additional research is needed before one could conclude that a given educational level is necessary to be a successful entrepreneur. Even so, education does appear to be a very useful tool to have as the entrepreneur continues to build his firm and may be a helpful aid in finding potentially successful entrepreneurs.

The information gathered in this study indicates the entrepreneur who is less than a high school graduate who builds a firm the size of those examined in this study is the exception rather than the rule.

Religion

Roberts and Wainer in their study of technical entrepreneurs found that a disproportionate number of Jewish fathers were in their own businesses (See Table 21). Unfortunately, the findings of this study are not completely comparable because this study gathered information on the entrepreneur's religion but not that of his father. If one were to assume that even though an entrepreneurial son might change churches, but still remain in the Protestant, Catholic or Jewish faith then one could draw some parallel. As shown in Table 21, some eighty-one percent of the entrepreneurs in this study indicated they were Protestant. Of

¹Ibid., p. 92.

particular interest is the absolute lack of any Jewish entrepreneurs in the group. Even though no Jewish entrepreneurs were found, the number of firms in which this entrepreneurial group have been or are presently associated with reflect activity similar to the Jewish entrepreneurs of Roberts and Wainer's study.

TABLE 21

Percentage in Each Religious Group and
Percentage of Fathers in Own Business

Religion	# in Each Group	% of Total Entrepreneurs in Each Group	# of Fathers in Own Business	% of Total Entrepreneurs Whose Fathers Were in Their Own Businesses Supplied by Each Religious Group
Catholic	3	14.3	2	18.2
Jewish	0	-	-	
Protestant	17	81.0	8	72.7
Other	1	4.7	1	9.1
TOTAL	21	100.0	11	100.0

Number of Businesses Owned

As shown in Table 22 the average number of businesses owned by each man in this entrepreneurial group at the present time is two. However, when one also considers the number of firms previously owned which are no longer owned, this average increases to 3.2 firms. Two individuals in Table 22

had recently sold the firms they had built and so indicated they did not presently own a firm.

TABLE 22

Number of Businesses Owned by Entrepreneurial Group

	Number of Separate Businesses Have Owned Which Presently		TOTAL	
	He No Longer Owns	Owned	#	%
0	9	2	11	26.4
1	6	7	13	31.2
2	3	6	9	20.9
3-4	1	4	5	11.9
5 or more	2	2	4	9.5
TOTAL	21	21	42	99.5 ^a
Mean =	1.1	2.1	3.2	

^aDue to rounding error.

The total number of companies owned by this group of entrepreneurs at one time or another is at least sixty-seven.¹ Table 22 indicates that some forty-two percent of these firms were owned by men in the group who at the present or have in the past owned two or more businesses.

¹Because of the layout of the written questionnaire the largest number they could check was "5 or more". The number of companies owned by the two men discussed below were written in on the questionnaire. Possibly more than 67 firms have been or are owned by this group.

This particular aspect of entrepreneurial behavior was examined after this researcher was impressed with the multiple ownerships observed during the pretest phase of this research. In many cases there may be very good tax or other reasons for this multiple ownership; however, some entrepreneurs apparently continue to start and build businesses all during their life. Of particular interest was the fact that one entrepreneur in this study had owned in times past twenty companies. Another man at the present time owns ten firms. Most men asked about this question during the interview and it was explained that this study was only concerned with those firms in which they were personally managerially involved.

An additional fact which was impressed on this researcher was the number of individuals who at some point during the interview indicated they started in a "business" during their younger years, often while still in school. Perhaps this was their "learning phase" of their entrepreneurial career. One individual owned and was operating a trucking company in his late teen years. Others started consistently earning money even while in junior high or early high school and have continued in "business" until this present time. Unfortunately, no consistent information was gathered on this aspect of the entrepreneur's behavior as this was an unexpected observation as the study progressed.

One additional interview observation was that those men owning multiple firms seemed to need more than one firm to keep them busy. Apparently one company to manage simply did not provide them a sufficient outlet for all their energy.

The Entrepreneur's Father

Another of the early personal influences on the entrepreneur was the influence of his father. During the verbal interviews, when asked to name an individual who had had a significant influence on them, approximately two-thirds of the entrepreneurs in this study indicated their father had been a prime influence in their life. Chapter II presented the results of an examination by Roberts and Wainer on the technical entrepreneur's father. They found in their study, of some sixty-seven technical entrepreneurs, that the Skilled Labor and Unskilled Labor occupational grouping of entrepreneurial fathers produced three times as many self-employed fathers as expected from the U.S. Census. In addition, Roberts and Wainer found that approximately fifty percent of the entrepreneurs in their study came from homes in which the father was self-employed.¹ Each of these studies were concerned with technical entrepreneurs. Would

¹Subsequent research on a much larger sample (N=250) of technical entrepreneurs yields similar percentages. See Edward B. Roberts, "How to Succeed in a New Technology Enterprise," Technology Review, Vol. 72 (Number 2, December, 1970), Reprint, p. 3.

these findings be the same for a group of manufacturing entrepreneurs?

Table 23 presents the occupation of the fathers in this entrepreneurial group. Approximately one-fourth of the fathers were "white collar" workers with the remaining three-fourths being "blue collar" workers. The "white collar" group did have a higher absolute percentage of self-employed fathers than did the "blue collar" group. However, when compared to the expected number of self-employed from the census, the laborer's group (the farmer group was omitted because no self-employment figures were given in the census for them) has almost three times as many self-employed fathers as the census figures would cause one to expect. The "white collar" group had twice as many self-employed fathers as would be expected. In order to determine by means of a chi square analysis if the percentage of self-employed fathers is a significant number the expected self-employed percentage must be calculated for this study group of fathers.

In Table 24 the percentage of the fathers in this study fall into each occupational grouping is multiplied by the expected percentage of self-employed fathers for each occupational grouping. This yields the percentage of self-employed fathers expected in each occupational group. The total of these occupational group percentages (36.1%) is the expected percentage of self-employed fathers in this study group.

TABLE 23

Father's Occupational Group and Self-employment:
Comparison with Census Data

Occupational Group	Total Included in Each Group		Total Whose Fathers Were in Their Own Business	A % in Each Group Whose Fathers Were in Their Own Business		B U.S. Census 1960 Age: 45 & Over % Self-employed within each group ^a		Ratio A/B
	#	%	#					
Professional	0		0					
Managerial	4	23.8%	2	60%	60%	28.8%	2.1	
Clerical and Sales	1		1					
Skilled Labor	10	76.2%	3	50%	36.4%	12.6%	2.9	
Unskilled Labor	1		1					
Farmer	5		5					
TOTAL	21		12	57%				

^aThis census figure has been calculated from the totals of self-employed individuals in the 45 years and over age group. As noted earlier, it was felt that most of the entrepreneurs' fathers in this study group would fall into this age grouping.

¹U.S. Bureau of the Census, U.S. Population: 1960, Subject Reports, Occupation by Industry, Final Report PC(2)-7c (Washington: U.S. Government Printing Office, 1963), p. 3.

TABLE 24

Study Group's Self-employed Fathers Compared with the
Expected Frequency of Self-employment as Indicated
by Census Statistics

Occupational Status Group	% in Study Group ^b	Expected % Self-Employed (U.S. Census)	Expected Self- Employed % from Study Group
Professional	23.8	28.8	6.9
Managerial			
Clerical and Sales			
Laborers	52.3	12.6	6.6
Farmers	23.8	95.0 ^c	22.6
TOTAL	99.9 ^a		36.1%

^aDue to rounding error

^bN = 21

^cThe assumption is made that 95% of the farmers are self-employed.

This percentage may then be compared by means of a chi square analysis. Table 25 shows this relationship is not significant ($P < .10$). Even though not significant, the relationship is in the direction to suggest that self-employed fathers do tend to have entrepreneurial sons. Perhaps, as Wainer and Roberts have already observed, a simple familiarity with a business environment earlier in life may increase his chances of becoming an entrepreneur. Another viewpoint might very closely follow McClelland's reasoning.

TABLE 25

A Comparison of the Number of Self-Employed Fathers
in the Study with the Expected Number of
Self-Employed from U.S. Census

Frequencies	Self-Employed Fathers	Non Self-Employed Fathers
Expected--from census	7.6	13.4
Observed--from study group	12.0	9.0

$$\chi^2 = 3.14; \text{ df, 1; } p < .10$$

High n Ach leads the father to have his own business. Possibly he was able to pass on to his son, through the environment to which the son was exposed, a high n Ach. This level of n Ach in this study group will be examined in the next chapter.

Conclusions of Personal Characteristics of the Entrepreneurial Group

Based on the above discussion, the null hypothesis that certain early influences on an individual do not tend to increase his propensity to become an entrepreneur later in life is rejected. One influence which appears to increase an individual's propensity toward entrepreneurship is being exposed to a business environment as a child. This exposure was most often in the form of a self-employed father.

There were no foreign born entrepreneurs in this study group; however, a disproportionate number of

entrepreneurs in the group had foreign born parents.

In order to build a firm the size of those in this study there appears to be some minimum educational level which is necessary. Based on the data gathered in this study this threshold level apparently is somewhere around the high school graduate level.

Financial Analysis

One aspect of the entrepreneurial behavior to be examined in this study was his actions as reflected in the financial picture presented by his firm. In this section each company's financial data will be compared to other similar sized companies in his industry. The industry figures used in this study for comparison purposes were those developed by Robert Morris and Associates.¹

Robert Morris's financial statistics are grouped first by industry. The firms in each industry are then categorized by total asset size of the firm. There are four categories in this asset-size breakdown: Under \$250,000, \$250,000 and less than \$1 million, \$1 million and less than \$10 million, \$10 million and less than \$25 million. All firms, except one, in this study were classified in one of the categories smaller than \$10 million in total assets.

¹Robert Morris and Associates, Annual Statement Studies 1970, 1969, 1966 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

The format used by Robert Morris and Associates is to present a median, upper and lower quartile figure for each ratio. By presenting the upper and lower quartile for a given ratio they are illustrating what might be considered a "typical" range for a company of that asset size for that particular industry.¹ Thus, "ratio values greater than the 3rd quartile and less than the 1st quartile rapidly begin to approach 'unusual' values with respect to these Statement Study parameters."²

These ratios will be compared to their respective entrepreneurial firm's ratios and those firms whose ratio falls outside the 2nd and 3rd quartile range are so noted. Two direct problems were encountered in this matching process. First, some firms in this study operate in an industry in which Robert Morris did not compile statistics. In those cases an NA is placed in the industry spaces in each of the following tables to indicate the data was not available. Secondly, on two firms, their statements were not broken down in enough detail to develop some ratios. This situation

¹Robert Morris and Associates, both because of those problems mentioned in Chapter III and additional problems such as diversification of product line, etc., caution about considering the Statement Studies' figures as absolute norms. Even though Robert Morris makes no claim about the representativeness of their figures because of the way the information is gathered (banks were asked to submit financial statements on those firms on which they had current information). On the other hand, there is no reason to believe the figures aren't as representative as any available for smaller sized firms.

²Robert Morris, op. cit., p. iii.

is indicated by an NB in each of the following tables.

Each entrepreneur was asked for a copy of his income statement and balance sheet for his year ending in 1969 or that set of statements which reflect the majority of his 1969 operations. In those cases where the entrepreneur had sold his firm he was asked for financial statements for the last year in which he owned his firm.¹ Financial data was obtained on twenty firms in the study.

Each ratio table will present all the firms in the study compared with their industry for that ratio. The ratios are presented individually within three broad categories: Test of Liquidity, Tests of Solvency and Tests of Overall Efficiency.²

Tests of Liquidity

Liquidity is concerned with a company's ability to meet current obligations. There is a continuing flow of funds through a firm which are used to meet the current obligations, incurred as a part of business operations, as they become due. Sufficient liquidity must be maintained in order to avoid the problem of an uneven flow of funds causing the firm to be unable to meet an obligation which is due for payment.

¹In these cases the edition of Annual Statement Studies was used which corresponded to the year of the furnished statements.

²This classification is similar to the one used by Robert Anthony, op. cit., pp. 263-8.

The current ratio is one of the best known measures of this margin between the firm's liquidity and its current obligations. As shown in Table 26 the current ratios of the firms in this study do not vary as a group significantly from what would be expected by chance. If one makes this liquidity analysis even more rigorous by using the Acid-test ratio (Table 27), the entrepreneurial group again does not as a group vary from their industry norms at a significant level.

A considerable amount of liquidity in a business can be tied up in its receivables; thus, a business manager must be very aware of his receivable turnover. As shown in Table 28 this group of successful entrepreneurs turn over their receivables more often than their Robert Morris norms. Twelve of the sixteen firms' receivables turnover are above the median with one half of these twelve in the upper quartile as compared to the Robert Morris Standards. Even so, a chi square analysis does not indicate this variance is significant at the .05 level for the number of firms in the upper quartile.

Those assets which go through conversion cycles (e.g. inventory--receivables--cash) during the selling period need the support of working capital. Table 29 shows how this group of entrepreneurs compares with their respective industries in terms of working capital turnover. Two firms (#49 and #53) in the study had negative working

TABLE 26

Current Assets/Current Liabilities Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	2.8	1.5	2.9-1.2		
2	1.8	1.6	2.4-1.4		
3	1.7	2.0	2.7-1.5		
4	1.5	1.7	2.2-1.2		
5	3.1	2.1	3.0-1.8	X	
6	1.0	1.4	2.0-1.2		X
7	1.8	2.2	2.9-1.6		
8 ^c	.9	1.8	3.1-1.2		X
9	1.2	1.8	2.8-1.3		X
10	2.9	1.8	2.9-1.4		
11	1.5	1.6	2.0-1.3		
12	2.6	NA	NA		
13 ^d	1.9	1.9	NA		
15	2.0	2.1	2.9-1.6		
16	4.1	2.2	3.1-1.6	X	
17	1.2	1.7	2.4-1.3		X
18	3.0	NA	NA		
19	1.7	2.2	3.3-1.6		
20	2.9	NA	NA		
21	2.1	1.7	3.0-1.2		
TOTAL				2	4

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

TABLE 27

Cash, Short-term Marketable Securities and Net Receivables
Current Liabilities Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	1.6	1.0	1.7-.6		
2	1.4	.9	1.4-.5		
3	.8	.9	1.3-.5		
4	.2	1.0	1.4-.7		X
5	1.7	1.0	1.4-.9	X	
6	.7	.8	1.2-.6		
7	1.0	.9	1.4-.7		
8 ^c	.3	.7	1.3-.6		X
9	.7	.9	1.5-.5		
10	1.8	.9	1.4-.7	X	
11	1.2	.9	1.2-.7		
12	.5	NA	NA		
13 ^d	1.0	NA	NA		
15	3.0	1.0	1.4-.6	X	
16	1.8	1.0	1.5-.8	X	
17	.6	.9	1.5-.6		
18	2.6	NA	NA		
19	.7	1.1	1.3-.9		X
20	NB	NA	NA		
21	1.7	1.0	1.4-.5	X	
TOTAL				5	3

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

NB--No Statement Breakdown.

TABLE 28

Net Annual Sales/Trade Accounts and Bills Receivable Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	8.1	9.6	13.7-8.1		
2	6.3	8.1	11.1-5.7		
3	10.1	6.8	8.4-5.3	X	
4	60.3	9.1	11.7-9.1	X	
5	12.9	4.6	4.9-3.9	X	
6	8.2	7.6	10.8-6.2		
7	17.4	4.8	7.2-3.9	X	
8 ^c	22.7	8.5	10.4-6.4	X	
9	9.8	8.6	9.9-6.7		
10	18.1	8.2	9.9-6.3	X	
11	7.3	7.2	9.1-6.0		
12	9.1	NA	NA		
13 ^d	10.6	6.7	NA		
15	4.2	6.4	7.9-4.8		X
16	7.3	6.8	9.2-5.3		
17	10.1	9.3	11.3-7.3		
18	.1	NA	NA		
19	3.3	6.2	7.7-4.6		X
20	NB	NA	NA		
21	1.3	7.9	9.4-6.3		X
TOTAL				6	3

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

NB--No Statement Breakdown.

TABLE 29

Net Annual Sales/Working Capital Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	4.9	7.4	18.5-4.6		
2	9.3	7.3	9.4-4.6		
3	5.5	4.5	6.8-2.4		
4	16.9	8.0	15.3-4.0	X	
5	4.7	2.8	3.6-2.1	X	
6	e	7.6	16.4-4.8	(X)	
7	6.9	3.6	4.7-2.5	X	
8 ^c	e	5.9	11.6-3.6	(X)	
9	20.8	6.1	8.8-4.2	X	
10	3.0	6.5	10.6-3.8		X
11	8.9	6.9	11.1-4.2		
12	12.9	NA	NA		
13 ^d	6.7	NA	NA		
15	4.9	4.4	6.8-2.8		
16	1.5	4.5	7.0-3.2		X
17	19.4	8.5	10.6-5.2	X	
18	10.0	NA	NA		
19	3.1	4.5	7.0-3.0		
20	11.2	NA	NA		
21	1.8	4.1	8.1-2.7		X
TOTAL				7	3

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

^eCurrent Liabilities Current Assets.

NA--Not Available. NB--No Statement Breakdown.

capital. In #6 this negative working capital shortage was about 3% based on the firm's current assets. Firm #8's lack of current assets was approximately 18% based on the firm's current assets. Even with these negative working capital positions neither firm appeared in danger of being forced out of business. Two other firms appear to be significantly overtrading their working capital. In firm #9 working capital turnover was some three times the industry's median as published by Robert Morris and Associates. Firm #17 had a turnover rate over twice the median for their industry. As shown in Table 29, seven of the sixteen firms would fall above the middle two quartiles of their respective industries; however, a chi square analysis does not show significance.

Two additional observations might be made about certain individual entrepreneurial ratios in the tests of liquidity grouping. The receivables turnover is in the highest quartile for six of the firms in the study. Thus, the men in this study as a group are apparently very aware of the problem an overly large amount of receivables can cause a firm. Interestingly enough, the sales/working capital ratio analysis (Table 29) may provide a clue to the reason for this concern. Seven of the firms were in the upper quartile of their respective industries in this ratio. Even though a χ^2 analysis does not show this to be significant ($p < .10$), almost one half of the firms fell within this

upper quartile. Thus, this entrepreneurial group does appear to be overtrading on their working capital.

Tests of Solvency

Owner's capital and creditor's capital are combined together in order to provide the resources which are used by the company. The ratio of total debt to tangible net worth illustrates the proportion between creditor capital and owner capital (i.e. the amount of leverage). Creditor capital, which is usually temporary capital, exerts payback pressure on the business. As this leverage increases the creditor's protection diminishes. Table 30 illustrates that this group of successful entrepreneurs are "typical" of their respective industries, as three firms fall below and three above the middle two quartiles.

The ratio of net fixed assets to tangible net worth is a measure of the amount of owner's capital which is available for working capital. As this ratio becomes lower net worth becomes more liquid and, thus, owner's capital becomes more effective as a liquidating protection to creditors. As shown in Table 31 the number of firms whose net fixed assets to tangible net worth ratio falls outside the range of the second and third quartile is as one would expect of any typical group of businesses. No examination was undertaken to determine if any firm within the entrepreneurial group leased a significant portion of its fixed assets. If a firm leased a significant amount of fixed

TABLE 30

Total Debt/Tangible Net Worth Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	.3	1.1	.3-2.1		
2	1.8	1.4	2.2-0.7		
3	.8	.8	.5-2.2		
4	.7	.9	.6-1.7		
5	.4	1.0	.8-1.8		X
6	5.3	1.5	.5-2.2	X	
7	1.2	.9	.7-1.3		
8 ^c	2.2	.8	.4-1.5	X	
9	2.5	.9	.4-1.6	X	
10	.3	.9	.4-1.4		X
11	1.0	1.1	.5-1.8		
12	2.1				
13 ^d	.9	1.0	NA		
15	.8	.7	.4-1.3		
16	.3	.8	.4-1.2		X
17	1.3	1.3	.3-2.4		
18	.2	NA	NA		
19	1.0	.8	.5-1.2		
20	1.7	NA	NA		
21	.9	1.2	.5-2.7		
TOTAL				3	3

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

TABLE 31

Net Fixed Assets/Tangible Net Worth Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	.7	.7	.4-1.1		
2	.2	.2	.1-0.3		
3	.2	.3	.2-0.5		
4	.7	.6	.3-0.9		
5	.5	.5	.3-0.8		
6	1.6				
7	.5	.3	.2-0.4	X	
8 ^c	1.9	1.0	1.5-0.4	X	
9	1.5	.6	.4-0.8	X	
10	.3	.6	.4-0.8		X
11	.9	.7	.5-1.1		
12	.3				
13 ^d	.6	.5	NA		
15	.5	.4	.2-0.6		
16	.2	.4	.2-0.6		
17	1.3	.5	.4-1.0	X	
18	.7	NA	NA		
19	.4	.3	.2-0.5		
20	.7	NA	NA		
21	.1	.5	.4-1.3		X
TOTAL				4	2

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

assets this would distort its ratio, causing it to look deceptively low.

Tests of Overall Efficiency

This group of entrepreneurs by design are considered to be successful entrepreneurs. Success may be defined a number of different ways. One way performance is measured is by how profitable a firm is as compared to the industry in which it competes in terms of the resources used. The ratio of profits to tangible net worth is a measure of how profitable the firm is in terms of the owner's tangible net worth. In Table 32 ten of the firms fall above the middle two quartile range. Could this number of firms fall in the upper quartile by chance?

By means of a chi square analysis shown in Table 33 one could conclude that there are a significant number of entrepreneurs whose firm's return on tangible net worth falls in the upper quartile as compared to the Robert Morris Industry figures at the $P < .005$ level. One way of viewing the profit to tangible net worth ratio might be as a measure of an individual's entrepreneurial ability. All firms, except one, were above their industry median in their profit to net worth ratio. In contrast, one might consider the return on total assets or total resources used as a measure of managerial ability.

TABLE 32

Profit (Before Taxes)/Tangible Net Worth Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	27.5	22.4	34.7-12.7		
2	42.5	18.5	26.7-06.6	X	
3	55.8	17.4	26.1-06.2	X	
4	41.2	18.8	32.3-06.3	X	
5	30.0	10.7	20.7-04.9	X	
6	53.2	10.7	30.6-01.6	X	
7	59.5	21.8	35.7-11.2	X	
8 ^c	44.7	15.5	31.2-08.7	X	
9	31.9	13.5	25.1-05.9	X	
10	35.2	21.5	27.3-06.7	X	
11	18.1	20.7	32.7-08.6		
12	14.1	NA	NA		
13 ^d	61.4	12.7	NA		
15	26.1	16.7	24.9-06.6	X	
16	31.4	20.8	36.6-12.6		
17	24.9	15.2	35.5-05.9		
18	66.7	NA	NA		
19	26.4	21.4	32.6-10.9		
20	15.4	NA	NA		
21	17.4	17.3	35.9-05.7		
TOTAL				10	0

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

TABLE 33.

A Comparison of Observed and Expected Number of Firms in the Upper Quartile by Return on Tangible Net Worth

Firms	Observed	Expected
Above 2nd-3rd Quartile Range	10	4
Not Above 2nd-3rd Quartile Range	6	12

$$\chi^2 = 10.08; \quad df = 1; \quad p < .005$$

Table 34 shows nine of the firms having a return on total assets in the upper quartile of their industry. Table 35 shows that these entrepreneurs as a group do vary significantly from their respective industries at the $p < .01$ level. Thus, in addition to the group being good entrepreneurs, most of them appear to be good managers. Another indication of this fact is that fifteen of the seventeen firms have a return on total assets above the Robert Morris median.

An owner invests capital in a business in anticipation of a substantial return. This return is dependent to a considerable degree on a reasonable activity of the investment. An unusually high ratio of net annual sales to tangible net worth may be an indication of overtrading (the ownership capital is too small). As shown in

TABLE 34

Profit (Before Taxes)/Total Assets Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	19.1	9.3	18.7-5.4	X	
2	15.0	6.8	12.5-4.6	X	
3	31.6	17.4	26.1-6.2	X	
4	24.4	11.1	19.1-4.9	X	
5	21.9	5.3	11.6-2.7	X	
6	8.2	4.5	10.1-0.1		
7	25.3	11.9	17.2-5.4	X	
8 ^c	14.0	9.3	18.7-5.4		
9	9.1	6.2	14.5-1.6		
10	26.3	21.5	27.3-6.7		
11	9.2	10.3	17.0-4.2		
12	4.5	NA	NA		
13 ^d	32.3	12.7	NA		
15	14.8	8.1	12.5-4.4	X	
16	25.0	11.3	18.9-6.6	X	
17	11.1	8.9	15.4-3.0		
18	56.8	NA	NA		
19	13.2	16.4	20.5-5.6		
20	14.3	NA	NA		
21	18.9	9.1	14.4-3.0	X	
TOTAL				9	0

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

TABLE 35

A Comparison of Observed and Expected Number of Firms
in the Upper Quartile by Return on Total Assets

Firms	Observed	Expected
Above 2nd-3rd Quartile Range	9	4
Not Above 2nd-3rd Quartile Range	7	12

$$\chi^2 = 6.75; \quad df = 1; \quad p < .01$$

Table 36 only firm #6 in this study group appears to have an unusually high sales/worth ratio. This same firm was also one of the two firms previously discussed as having a negative working capital.

A total of eleven firms' ratios of sales to worth in the study group fell outside the two middle quartiles as given by Robert Morris. However, this was not significant at the .05 level when a chi square analysis was performed.

Inventory turnover, an indication of the speed at which inventory moves through a business, could very well be considered a liquidity ratio. In this analysis inventory turnover was placed in the overall efficiency grouping because it may also be used to evaluate management's ability to determine the appropriate size of inventory for their firm's sales. Inventory turnover is affected by both the sales rate and the level of a firm's inventory. Management

TABLE 36

Net Annual Sales/Tangible Net Worth Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	2.3	5.3	8.9-3.2		X
2	10.4	6.9	9.4-4.4	X	
3	2.2	2.9	5.3-1.6		
4	5.5	5.5	7.8-3.8		
5	3.4	2.7	3.1-2.1	X	
6	28.3	5.4	8.5-2.9	X	
7	4.7	2.7	3.5-2.0	X	
8 ^c	7.6	3.6	4.8-2.5	X	
9	5.8	3.2	5.2-2.6	X	
10	1.9	3.4	5.1-2.4		X
11	4.3	3.9	5.7-3.0		
12	8.9	NA	NA		
13 ^d	3.8	3.9	NA		
15	3.0	2.7	4.1-1.9		
16	1.2	3.1	4.3-2.1		X
17	3.3	4.7	7.5-3.0		
18	3.3	NA	NA		
19	1.4	3.0	4.6-2.1		X
20	2.6	NA	NA		
21	1.7	3.1	6.7-2.2		X
TOTAL				6	5

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

must continually be concerned with having an inventory large enough to satisfy customer needs, yet small enough to avoid tying up a disproportionate share of current assets in a slow moving inventory. This maximizing position is the continuing concern of management because it has both short and long run implications in a firm's profitability.

As shown in Table 37 the firms as a group do not vary significantly, from their industries' norms. As one may note, firm #6 does have an unusually high (three times the industry median) turnover rate, however, this firm is operating with a negative working capital. Firm #8, also working with a deficiency in working capital, has an inventory turnover twice the industry median.

The Entrepreneurial Ratios by Tests of Liquidity, Solvency and Overall Efficiency

Previously each ratio has been examined with a few brief comments made about the entrepreneurial firms' variance from the Robert Morris norms. As such, each ratio has been treated as if independent of the other ratios. Such is not the case.

In this section the ratios are examined after being grouped into three categories: Tests of Liquidity, Tests of Solvency, and Tests of Overall Efficiency. As can be seen in Table 38 the number of firm observations falling either above or below the range of the two middle quartiles is not significant for the tests of solvency, or the tests of liquidity.

TABLE 37

Cost of Sales/Inventory Ratios

Interviewee Firm Number ^b	Calculated Company Ratio	Robert Morris Associates Industry Ratios ^a		Ratios Outside 2nd-3rd Quartile Range	
		Median	2nd-3rd Quartile Range (50%)	Above Range	Below Range
1 ^c	6.3	10.1	13.7-5.9		
2	10.6	4.9	8.5-3.5	X	
3	2.4	3.1	4.3-2.0		
4	5.2	9.4	15.1-6.3		X
5	4.3	1.8	3.0-1.6	X	
6	20.4	6.8	9.5-4.4	X	
7	2.4	2.8	3.3-2.2		
8 ^c	8.0	4.0	6.5-3.0	X	
9	5.4	5.5	8.5-3.5		
10	2.0	5.2	8.1-3.7		X
11	11.3	5.5	8.2-4.2	X	
12	3.8	NA	NA		
13 ^d	4.5	4.8	NA		
15	3.0	3.3	5.1-2.2		
16	1.1	3.8	5.2-2.7		X
17	5.7	6.6	10.7-4.9		
18	NB	NA	NA		
19	1.2	2.7	5.0-2.2		X
20	NB	NA	NA		
21	3.7	4.0	9.6-3.0		
TOTAL				5	4

^aRobert Morris Associates, Annual Statement Studies, 1966, 1969, and 1970 editions, Philadelphia National Bank Building: Philadelphia, Pennsylvania.

^bNo financial information available on #14.

^c1968 ratio figures are used.

^d1966 ratio figures are used. No quartile figures given in 1966.

NA--Not Available.

NB--No breakdown on statement to allow this ratio to be calculated.

TABLE 38

Comparison of Study Firms' Financial Ratios Falling
Above and Below 2nd and 3rd Quartile Range
by Ratio Grouping

Ratio Grouping	Firm Ratios				2	
	Above		Below		Above	Below
	2nd-3rd Quartile N	%	2nd-3rd Quartile N	%		
Tests of Solvency ^a N=32 observations	7	22%	5	16%	N.S.	N.S.
Tests of Liquidity ^b N=64 observations	10	16%	16	25%	N.S.	N.S.
Tests of Overall Efficiency ^c N=64 observations	29	45%	9	14%	$\chi^2=13.01$ df,1 p<.005	$\chi^2=3.50$ df,1 p<.10

^a Σ of the number of times their firm fell outside the 2nd-3rd quartile industry range for both the Total Debt/Tangible Net Worth and Net Fixed Assets/Tangible Net Worth.

^b Σ of the number of times their firm fell outside the 2nd-3rd quartile industry range for the following ratios: Current Assets/Current Liabilities; Cash, Short-term Marketable Securities and Net Receivables/Current Liabilities; Net Sales/Trade Accounts and Bills Receivable; Net Annual Sales/Working Capital.

^c Σ of the number of times their firm fell outside the 2nd-3rd quartile industry range for the following ratios: Profits(Before Taxes)/Tangible Net Worth; Profits(Before Taxes)/Total Assets Net Annual Sales/Tangible Net Worth; Cost of Sales/Inventory.

There are a significant number ($p < .005$) of firm observations falling in the upper quartile in the overall efficiency group when this study group is compared to the Robert Morris industry figures. This is what one would expect considering the entrepreneurial group with which this study is concerned. Even though not significantly so ($p < .10$), there are a disproportionately small number of firms falling into the lower quartiles of this grouping.

The hypothesis was that the entrepreneurial firms would not, as a group, vary significantly from their industry norms. From the data just examined this hypothesis would be rejected. However, one exception noted at that time was in the performance ratios which were expected to be higher for the entrepreneurs in this study.

Summary

Success of the entrepreneurial firms in this study was first examined. All firms in the study had a growth rate of sales equal to or in excess of their industry average.

All entrepreneurs included in the study were male between 32 to 62 years of age and all except one were married. As a group they had an average workweek of approximately seventy-three hours. Even though all the entrepreneurs in this group were native born, there was a disproportionate number of entrepreneurs in the group with one or more foreign born parents. Even so, the entrepreneurs

as a group have a significantly ($p < .005$) higher educational level than the white, male, Oklahoma population. Another early personal influence examined was the religions of the group. Eighty-one percent were Protestant, fourteen percent, Catholic, with none of the group being of the Jewish faith. Over one-half the entrepreneurs in the group have had a business previous to their present firm. Perhaps, the interest in owning their own firm came from an early association with their father's business. Even though not significant ($p < .10$) the direction of the relationship would suggest this association had an influence on an individual's propensity to become an entrepreneur. Because of the above findings null hypothesis one (H_1), that certain early influences will not tend to increase propensity to become an entrepreneur later in life, was rejected.

The financial ratios were examined individually and then grouped in Tests of Solvency, Tests of Liquidity and Tests of Overall Efficiency. Only in the Tests of Overall Efficiency (Performance Ratios) was there found to be a significant ($p < .005$) number of firms observations above the second--third quartile range. Based on the above findings null hypothesis four (H_4), that company financial ratios will not as a group differ significantly from their industry norms, was rejected, but only in terms of the performance part of the ratios; the other groups of ratios did not vary significantly.

Table 39 summarizes the findings in this chapter concerning personal attributes and financial ratios.

TABLE 39

A Summary of Usefulness of the Personal Variables and Ratios Examined in This Chapter with Their Potential for Additional Research

Item	Statisti- cally Significant	Indicative of Successful Entrepreneurs	Warrants Additional Research	Not Use- ful
Personal Characteristics:				
Age				X
Sex		*	*	
Hours worked/week			*	
Marital Status		*		
Nativity:				
Parents		**	**	
Entrepreneurs			**	
Educational level	.005	**	*	
Religion			**	
Number of Businesses Owned		***	***	
Self-employed Father	.10	***	***	
Financial Ratios:				
Tests of Solvency				X
Tests of Liquidity				X
Tests of Overall Efficiency	.005		**	

Degree of usefulness suggested by this study:

*-Little; **-Average; ***-Considerable.

CHAPTER VI

THE ENTREPRENEURS AND THEIR FIRMS--A COMPARISON TO SELECTED MODELS

Introduction

In Chapter VI the individual members of the entrepreneurial group and their firms will be typed by the Opportunistic-Entrepreneur--Craftsman-Entrepreneur continuum and the Rigid--Flexible firm continuum, respectively. Then the findings concerning the relationship between type of firm and entrepreneur type will be presented. The results from the Study of Values will be the next topic discussed followed by a comparison between the profile of the First-Generation Conglomerator and the entrepreneurs of this study.

n Achievement scores for the group will then be presented and compared to the norms for businessmen. Those men high in n Ach will be compared in terms of selected performance measures both within this group and in relation to their respective industries. A discussion of how Atkinson's model fits this entrepreneurial group in terms of Tendency to Avoid Failure (T_F) and Tendency to Achieve Success (T_S) will be the next topical area, with the performance of

those motivated by both types of tendencies being evaluated. Veridical Perception of the group will be examined and discussed followed by some brief comments concerning the instruments used in the study in the concluding section of the chapter.

The Michigan State Model

Entrepreneurial Classification of the Study Group

The hypothesis was that this group of entrepreneurs would be classified as Opportunistic-Entrepreneurs. This classification is based on the variables developed by Norman Smith as discussed in Chapter III.

Smith's working definitions (See Appendix VI) were used to evaluate information obtained both in the oral interview and on the written questionnaire. The scoring system was the same as the one used by Smith--an entrepreneur was given a (+1) for each characteristic exhibited which was similar to the "ideal" Opportunistic-Entrepreneur and a (-1) for each characteristic exhibited similar to the "ideal" Craftsman-Entrepreneur. When there was conflicting or incomplete information on the interview tapes or the questionnaire, that space was left blank.

The maximum score for the Craftsman-Entrepreneur (C-E) was (-14) and a (+14) for the Opportunistic-Entrepreneur (O-E). An individual's total score was obtained subtracting the total (-)'s from the total (+)'s. For example, a person

receiving three (+)'s and eight (-)'s would have a (-5) for his score.

Table 40 presents the scoring for this study group. As will be noted eighteen of the twenty-one entrepreneurs (86%) would be classified as an Opportunistic-Entrepreneur to some degree. Some thirteen of the twenty-one or over 62% had scores of +11 or more. Figure 3 presents these findings graphically grouped and compared to the Michigan State group of entrepreneurs.

Is this incidence of O-E significant? If one were to assume that entrepreneurs would be approximately equally divided between O-E's and C-E's a chi square analysis could be used. The chi square indicates (Table 41) the number of O-E's in this group is significant ($p < .005$).¹ Smith, in his study, found the O-E associated with an adaptable firm had an average gross sales of twelve times that of the C-E associated with the Rigid Firm. Even though there was a difference in average length of time the two groups had been in business (2.4 years), Smith concludes that such a differential in sales probably was not a sole function of the number of years in business.²

¹Two other studies have found more than 60% of their entrepreneurial group was classified as Craftsman-Entrepreneurs. See for example, Norman Smith, op. cit., pp. 64-67, or Antone Cornelis Van Vliet, "The Sawmill Manager: His Nature and His Time," (An unpublished doctoral dissertation) East Lansing, Michigan: Michigan State University, 1970, p. 66.

²Smith, op. cit., p. 92.

TABLE 40

Analyzing the Study Entrepreneurs According to the Craftman and Opportunistic Entrepreneurial Typologies

Breadth in Education and Training				High Social Awareness and Involvement				Exhibits Flexibility and Confidence in Ability to Deal with Wide Range of Economic and Social Environment				Time Orientation			
Formal Education	Work Experience	Reference Groups	Management Sponsor or Role Model	Social Involvement	Communication Ability	Delegates Authority	Hiring	Capital Sources	Sales Promotion	Competitive Strategies	Initiation 1 yr.	Future	Employee Relations		
				Prof. Groups	High County. Involvement	Money Form	Partic- ularistic	2 or Less	Over Ten	Personal Contact	No Long Range Plans	Long Range Plans	No Planned Growth	Planned Growth	Pat- ernalistic
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TABLE 41

Incidence of Observed O-E Compared with
Expected O-E Incidence

	Observed	Expected
Opportunistic Entrepreneurs	18	10.5
Craftsman Entrepreneurs	3	10.5

$$\chi^2 = 9.32; \quad df = 1; \quad p < .005$$

When firms approach the size of those included in this study group, the firm becomes increasingly difficult for a person typed as a "pure" Craftsman-Entrepreneur to manage his firm. As the firm continues to grow, for example, the entrepreneur finds it increasingly difficult to use a particularistic method of hiring as discussed in Chapter II. He simply runs out of friends or friends of friends to hire. He must begin to delegate some authority because at some size a point is reached by the firm where he simply can't make all the decisions. As the firm size grows the number of employees becomes so large he simply can't "father" them in the paternalistic manner he did with ten or twenty employees.¹ As one examines the other variables in Smith's Typology they would suggest the C-E would encounter increasing difficulty in operating the type of firm (high growth rate,

¹A number of men mentioned during the interview that the close personal relationship with their employee had lessened as the firm grew. One man observed he wanted to slow down his firm's growth for this very reason.

\$1,000,000 or more in sales, seventy-five employees or more, etc.) examined in this study as the firm size increased.

In Chapter I hypothesis two (H₂) was that the group of entrepreneurs would not significantly differ from the model of an Opportunistic-Entrepreneur. Based on the above examination and discussion of the entrepreneur-types found in this study this hypothesis is accepted.

Firm Classification of the Study Group's Firms

Each firm in the study group was evaluated in terms of the variables used to type the firms as Rigid or Adaptable. The scoring system used is the same as the one used to determine the score for each entrepreneur. Each firm was given a (+) if the firm exhibited Flexible or a (-) if the firm exhibited Rigid tendency in the variable under consideration. The working definitions used were those developed by Norman Smith (See Appendix VII). A maximum score was either a (+6) or (-6).

The results of this firm analysis is shown in Table 42. Six of the twenty-one firms in this study tend (i.e. have a negative score) toward the Rigid end of the firm continuum. Four additional firms have an equal number of (+)s and (-)s and thus have a 0 for a score. From this analysis approximately one-third of the firms in this group would be classified as Rigid while four others exhibited as many Flexible firm attributes as they did Rigid firm attributes. Because of this number of firms which fall

TABLE 42

Analyzing the Study Firms According to the Rigid and Flexible Typologies

	Score	Customer Mix		Product Mix		Production Methods		Dispersed Production Facilities		Dispersed Markets		Concrete Plans for Change	
		Same	Changed	Same	Changed	Same	Changed	No	Yes	Yes	No	No	Yes
1	-4	-		-		-		-		+		-	
2	-2	-		-		-		-		+			+
3	+6		+		+		+		+	+			+
4	-2	-		-		-		-		+			+
5	+2		+	-			+		+	+		-	
6	-4	-		-		-		-		+		-	
7	0	-			+	-			+	+		-	
8	+2		+	-		-			+	+			+
9	+4		+		+		+	-		+			+
10	+2	-			+		+	-		+			+
11	+2		+		+	-		-		+			+
12	-2	-		-		-		-		+			+
13	+2	-		-			+		+	+			+
14	+6		+		+		+		+	+			+
15	0	-		-		-			+	+			+
16	0	-			+	-		-		+			+
17	+4		+		+		+	-		+			+
18	0	-			+	-			+	+		-	
19	+1	-			+	-			+	+			
20	-2	-		-		-		-		+			+
21	+6		+		+		+		+	+			+

outside the Flexible firm grouping, hypothesis number three
(H₃) is rejected.

In using the firm typology certain weaknesses in the typology were noted. For example, as may be found in the working definitions (Appendix VII) a firm selling outside the state in which it operates is classified as a Flexible firm. All firms in this study sold outside the state of Oklahoma and so received a plus on this variable. Oklahoma is a significantly different state industrially than the state of Michigan. Only a limited amount of manufacturing exists in Oklahoma. The firms of the size used in this study were almost forced, either by their dispersed product-use areas or the size of their output, to seek markets outside the state. The instrument could be more useful if regardless of the group of entrepreneurial firms to which the firm typology was applied it would yield comparable results. In addition, six variables seem to be too few variables on which to type the firms.¹ For example, an additional variable might evaluate the number of different forms (e.g. raw, semi-finished, etc.) in which inventory is received. Another variable might be the type of field organization (salesmen, factory representative, etc.) the firm uses to sell its products. Of particular interest would be an instrument which would yield comparable results over different geographical areas.

¹The Smith typology for entrepreneurs includes an examination of fourteen variables.

Comparing the Entrepreneur and His Firm

Norman Smith found in his study the Opportunistic-Entrepreneur was often associated with a Flexible firm and a Craftsman-Entrepreneur was associated with a Rigid firm. In Table 43 the entrepreneur's scores are matched to firm scores. The Craftsman-Entrepreneurs in this study were not

TABLE 43

A Comparison of Entrepreneurial and Firm Scores
for the Entrepreneurial Group

	Entrepreneur Score	Firm Score
1	-14	-4
2	12	-2
3	12	6
4	9	-2
5	6	2
6	-8	-4
7	12	0
8	11	2
9	12	4
10	11	2
11	12	2
12	12	-2
13	11	2
14	6	6
15	11	0
16	12	0
17	11	4
18	-6	0
19	13	1
20	8	-2
21	2	0

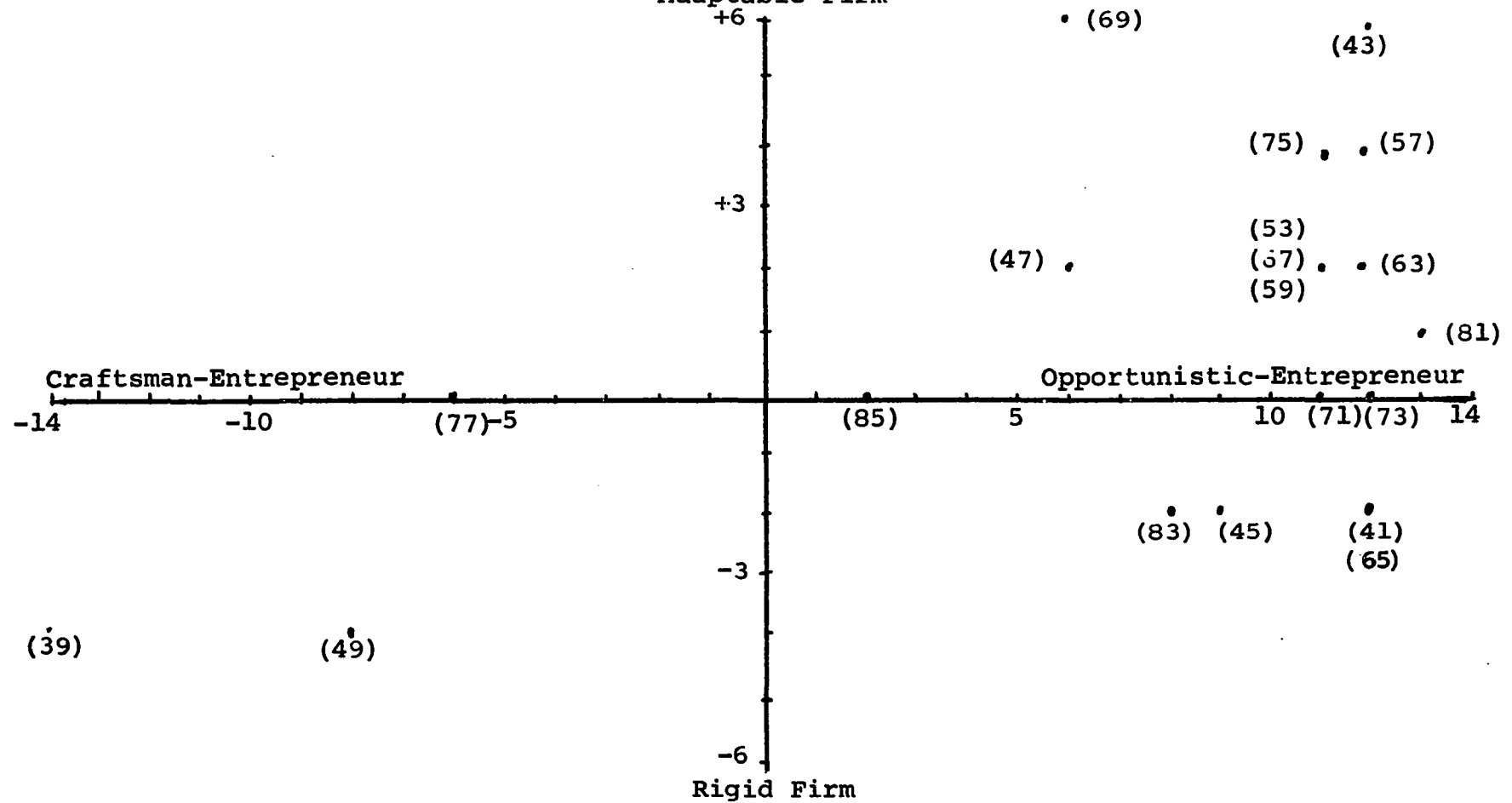
associated with an Adaptable One's firm score was (0)7 firm; however, some Opportunistic-Entrepreneurs managed Rigid firms.¹ Thus this relationship appears to be a one way relationship for the entrepreneurs of this group.

These relationships are plotted on a rectangular coordinate system as shown in Figure 4. Of particular interest are the four firms, all operated by Opportunistic-Entrepreneurs, receiving a (-2) firm score which would seem to indicate a somewhat rigid firm. Yet all four firms sold outside the state of Oklahoma and had concrete plans for change and thus each firm received two (+)s. None of the firms had (according to the working definitions standards) changed their customer mix, product mix, production methods or dispersed their production facilities and, thus, each firm received four (-)s. This lack of change in each variable for these four firms is normal because of the industry in which each firm operates. For example, in three of the firms, their customers are widely dispersed with no one customer buying a significant portion of their product. Another firm sells a significant portion of its output to one firm, and is already located within five miles of that firm's plant.

In light of the above discussion this writer has found the Firm typology to be somewhat ineffective in

¹In a previous section comments have already been made concerning the problems associated with using the firm typology in this study.

Figure 4
A Matching of Entrepreneur and Firm on a Rectangular Coordinate System



discriminating between truly Rigid and Adaptable firms. The previous section on firm classification has cited ways this writer feels this typology could be improved.

Values of the Entrepreneurial Group

As discussed in Chapter II the Study of Values was used as one rough measure of the relative concern of the entrepreneurial group toward authority. Collins and Moore found the entrepreneurs of their study group were very concerned with having authority over the people with which they were working rather than being in a subordinate position. This concept is very similar to the description of the Political value which is measured in the Study of Values.¹ However, as can be seen in Table 44 three entrepreneurs scored above the range of the middle 50% of all male score. Four individuals scored below the range, neither of which is significant.

When the Economic value scores of this group are compared to the male population norms, there are a significant number ($p < .005$) of entrepreneurs who fall above the middle 50% range. Thus, this entrepreneurial group does vary significantly from the general population on the relative strength of their Economic value. The number of entrepreneurs in the group falling outside the middle 50% range of the Social

¹A Product-Moment correlation between the Political value of the entrepreneurs and their n Pow indicated a strong ($r = .3515$), but not significant correlation. This might suggest another way of measuring n Power.

value of male norms is large but not significant ($p < .10$) (See Table 44). Sixteen of twenty entrepreneurs in this group scored above the male population mean on the Economic scale. Of the remaining four men, three more were within two points of the mean. How, then, will the entrepreneurs of this study group compare with southern businessmen?¹

TABLE 44
Analysis of the Allport-Vernon Study of Values

Value Being Measured	Above Range of 50 Percent of All Male Score	Below Range of 50 Percent of All Male Score	² Value Above 50% Range	(df=1) Value Below 50% Range
Theoretical	6	4	N.S.	N.S.
Economic	13	1	² =15.00 $p < .005$	N.S.
Aesthetic	2	5	N.S.	N.S.
Social	1	9	N.S.	N.S.
Political	3	4	N.S.	N.S.
Religious	5	4	N.S.	N.S.

N = 20

N.S.--Not significant.

Norms of southern businessmen are compared with this study group in Table 45. There are two problems in this

¹Unfortunately the norms on this group are the only available norms on businessmen.

comparison: (1) Little information is given about the southern businessmen who compiled these scores and (2) No measures of dispersion are given which would make the comparison more meaningful. Because of these problems only a limited number of comments will be made about this comparison. The entrepreneurial group's means on the Theoretical

TABLE 45

A Comparison of Southern Businessmen and the
Entrepreneurial Group Scoring on
the Study of Values

Value Being Measured	Southern Businessmen ^a (Mean) N = 49	Entrepreneurial Group (Mean) N = 20
Theoretical	37.04	41.40
Economic	45.69	47.95
Aesthetic	34.35	32.00
Social	36.24	33.00
Political	40.39	41.35
Religious	46.29	38.95

^aAllport, Vernon, and Lindzey, op. cit., p. 14.

and Economic values are at least 2.5 points higher than the southern businessmen. In contrast the southern businessmen scored higher on the Social and Religious values. Perhaps these average scores may reflect the cultural climate in which these southern businessmen operate versus that of an entrepreneur.

Because this comparison group of southern businessmen may not be entrepreneurs and if they are entrepreneurs, not manufacturing entrepreneurs, this makes a comparison most hazardous. No conclusions are drawn on this comparison because of the above problems.

The First Generation Conglomerator Compared
to the Entrepreneurial Group

Stanley Vance in developing his profiles was somewhat less than precise about defining the degree in which a particular variable was found in (1) first and (2) second generation conglomerators, (3) old line firms and (4) major non-conglomerate firms. This lack of preciseness necessitated the evaluation being somewhat subjective in order to develop the entrepreneurial group's profile for this study.

As shown in Table 46 this group of entrepreneurs have a higher educational level than the general population of Oklahoma; however, some 53% fewer have college degrees than today's industrial leaders. The first generation conglomerator's incidence of college degrees was approximately 50% with 10% having received graduate degrees.¹ Approximately one-third of the entrepreneurs of this study had received college degrees with two of the 21 (9.5%) having received an advanced degree. Thus, the education of this

¹Vance, "Higher Education for the Executive Elite," op. cit., p. 22.

TABLE 46

A Comparison Entrepreneurial Group and First
Generation Conglomerators

	Entrepreneurial Group	First Generation Conglomerators
Education	**	**
Ivy League	*	*
Elitist	*	*
Founding Families	*	*
Who's Who	*	**
Civic Participation	***	**
Image	*	*
Corporate Interlock	**	*
Management Experience	***	*
Executive Committee: OP	*	*
Collegiality	*	*
Ownership	***	***

Compiled in part from Stanley Vance, op. cit., p. 70.

Key: *-Little; **-some; ***-average

entrepreneurial group will be classified as "some."

None of the entrepreneurial group have attended an Ivy League school. All the men in this study received their college degrees in Oklahoma (4), Arkansas (1), or Texas (2). Very little or no Elitism was observed or encountered during the interviews. All the men in this group had built

their company "on their own." Only one of the entrepreneurs in this study had a family that was similar to a founding family. Most came from the lower and middle class of society. Only one of the entrepreneurs in this group was listed in Who's Who in the Southwest.¹ Even though these men have had a real impact of the economy of their area very few were recognized in this Who's Who edition.

Approximately one-half the entrepreneurs indicated they participated in civic activities. Most often the participation was either in a country club or quasi-professional organization. Those clubs or organizations they do join are not joined to improve the image the entrepreneur wants to project. This researcher observed that these entrepreneurs, for the most part, are concerned about their and their company's image, but primarily in terms of their employees and customers and not the general public.

Most of the men in the entrepreneurial group do have interlocking corporations. These other corporations usually have been started from scratch rather than having been acquired and usually are a "spin-off" from the entrepreneur's main line of business. Usually the entrepreneur attempts to retain ownership in these corporations even if their original firm is quasi-public or public. Only three firms in the study (14%) were public firms in the traditional

¹Who's Who in the South and Southwest (11th ed.; Chicago, Illinois: Marquis--Who's Who, Inc., 1969-1970).

sense. Most others were closed corporations. This suggests this group of entrepreneurs have at least an average concern for ownership.

About 50% of the entrepreneurs had management experience prior to building their own firm. Three of the men indicated they were virtually operating the company they left when starting to build their own firm. In building their firms about one-half run a one-man show while the other half delegates a significant amount of authority to one or more members of an executive committee. Even though surrounded by people this group as a whole were men of individual action.

As can be observed from Table 46 the profile of this entrepreneurial group does closely match that of the First Generation Conglomerators with three exceptions. The men in this entrepreneurial group seem to be somewhat more involved in civic affairs than the First Generation Conglomerator. Perhaps by virtue of this entrepreneurial group being primarily located in two smaller metropolitan areas (Tulsa and Oklahoma City), in relation to many of the First Generation Conglomerators who operate from major metropolitan areas, they may be more involved in civic affairs.

Management experience is another area in which the entrepreneurial group differs. Many of the men in the entrepreneurial group had some managerial experience.

After examining the men in this entrepreneurial group hypothesis seven (H_7), that the entrepreneurial groups do not differ significantly from the profile of the First Generation Conglomerator, is accepted.

McClelland's n Ach and the Study Group

n Achievement of the Entrepreneurial Group

n Achievement is the variable cited by McClelland as having a significant effect on an individual's entrepreneurial activity. Other researchers, working with technical entrepreneurs, have found the highest performing companies were those companies headed by entrepreneurs high in n Ach.¹ Because this study is examining only successful entrepreneurs it was reasoned (and hypothesized) the group would be high in n Achievement. However, this was not the case for all entrepreneurs examined in this study.

As shown in Table 47 this entrepreneurial group's n Achievement scores varied from a 16 to -2. If one compares the scores of this group with the scores of a population of businessmen as developed by the Motivation Research Group, the percentile range of scores for this group of successful

¹See, for example, Roberts and Wainer, op. cit., p. 1 and Wainer and Rubin, op. cit., p. 178.

Schrage found high n Ach increased the magnitude of profit or loss in his study of technical entrepreneurs. See Schrage "The R & D Entrepreneur: Profile of Success," op. cit., p. 59.

These studies used within group comparisons to determine level of performance.

TABLE 47

Means, Medians, and Ranges of Variables Measured
as Compared to Businessmen^a

Variable	Median	Mean	Range	Fiftieth Percentile of Businessmen ^b
n Achievement (n Ach)	3.5	4.3	-2 to 16	5.5
n Power (n Pow)	4.0	3.7	0 to 11	4.7
n Affiliation (n Aff)	3.0	2.5	0 to 12	6.2

^aThe Behavioral Research Group of the Sterling Institute scored the protocols for n Ach, n Pow and N Aff. The results for all three needs are presented here even though n Pow and n Aff will be referred to later.

^bBased on businessmen and compiled by the Motivation Research Group of the Sterling Institute.

entrepreneurs is from roughly the ninth percentile (-2) to the ninety-second percentile (+16). The hypothesis examined is that the entrepreneurs of this group are not significantly different from people classified as achievement motivated. This hypothesis can be examined by comparing the population of businessmen to this entrepreneurial group by means of a Z test.¹ As shown in Table 48 this difference is not significant. Thus, this hypothesis cannot be rejected. Since

¹McClelland found businessmen to have significantly higher n Ach than another college-educated comparison group from a variety of occupations. See McClelland, The Achieving Society, op. cit., p. 260.

TABLE 48

A Comparison of Entrepreneurial Group to Population
of Businessmen on n Ach

	Mean	Standard Deviation
Businessmen	5.5	6.0
Entrepreneurial Group	4.25	

Z = .932; Not significant

McClelland and other researchers have compared n Ach and performance a brief examination of these two variables is appropriate.

Sales Growth Rate of the Entrepreneurial Group and n Ach

Most previous studies using n Ach have been concerned with the technical entrepreneur. Even though n Achievement is not compared with performance in all these studies Rubin and Wainer in their study found the highest performing companies within their study group were those firms whose chief executive exhibited a high n Achievement.¹ These entrepreneurs who scored high in n Ach (>9) were significantly better performers than those scoring in the moderate range (4<X<8) at the $p < .0001$ and significantly better ($p < .006$) than

¹Their measure of performance was "annual increase in the logarithm of sales volume between the second and most recent year reported," Wainer and Rubin, op. cit., p. 180.

those scoring in the low range (≤ 3).¹

The highest performing companies in Wainer and Rubin's study, compared to the other companies within their study group of technical entrepreneurs, were those firms headed by individuals high in n Ach with a moderate n Power.² However, this present study differs in two ways from the Wainer and Rubin study. First, they were using technical entrepreneurs while this study is using general entrepreneurs. Secondly, one must remember that the technical firms in the Wainer and Rubin study were not being compared to their respective industry but within their study group. Wainer and Rubin made no comment about the different industries in which their technical entrepreneurs were competing. There is also a very basic question of whether the heads of this group of general (vs technical) entrepreneurs would exhibit the same characteristics of the Wainer and Rubin group. A comparison of the entrepreneurs of this group and the above study does yield a number of differences.

The standard of performance used by Wainer and Rubin was the logarithmic growth rate of sales.³ This method

¹The Wainer and Rubin protocols were also scored by the Behavioral Research Group of the Sterling Institute.

²Moderate n Power was a score $8 \leq X \leq 12$. In this study only one person in what would have been the moderate range of their study.

³The logarithmic growth rates were calculated based on the formula $\frac{\log P_n - \log P_o}{n} = \log (1+r)$ where

assumes a constant rate of growth between the two periods being compared which is obviously not the case with all the firms of this study (See Appendix VIII).¹ However, in this section this assumption is made for the purposes of comparing the findings of this study with those of Rubin and Wainer.

In the Wainer and Rubin study they were comparing companies headed by high, moderate and low n Ach individuals within their study group. If this present study's entrepreneurs are divided into three relatively equal sized groups as shown in Table 49 those men in the moderate n Ach grouping have the highest average growth rate. Even though a chi square goodness of fit analysis on the frequencies does not show significance, the direction of the relationship would suggest that moderate n Ach individuals may have higher growth rates.² If the industry in which the entrepreneurial firms are operating is ignored the highest performing

P_o = the amount of sales at the beginning of the period

P_n = the amount of sales at the end of the period

r = rate of growth

n = number of time periods

See Ya-Lun Chou, Applied Business and Economic Statistics (New York: Holt, Rinehart and Winston, 1963), p. 160.

¹This assumption is subject to a considerable amount of doubt. Few companies grow at a constant rate.

²If a chi Square analysis is run using percentages the $\chi^2 = 11.15$. This would indicate that on a group of 100 people, if those percentages remained constant this would be significant at $p < .005$ level, $df = 1$.

TABLE 49

A Comparison of High, Moderate and Low n Ach
and Sales Growth Rate

n Ach	Mean Growth Rate	%	
		Above Total Group Median	Below Total Group Median
High (≥ 6) N=7	27.4	57.1	42.9
Moderate ($2 \leq X \leq 5$) N=6	45.1	66.7	33.3
Low (≤ 0) N=7	25.1	42.9	57.1

companies in this study group were those men whose head had a moderate level of n Ach. Since fifty percent of the men in this moderate grouping exceeded the 45.1% mean growth rate, this indicates that one company is not pulling up the group average. By altering the examination to include the men highest in T_S (n Ach) and T_F (Debilitative Anxiety) as discussed in Chapter II, would the growth rates differ?

Even though the companies in this study were all exceeding their respective industry's growth rates the range of growth rates was from 104.% to 91.9% per year as shown in Table 50. When those men scoring highest on both n Ach and Debilitative Anxiety company's performance are compared both with the group and moderates in each group there is little difference in their sale growth performance.

Even though the moderate group has a mean some 14.6%

TABLE 50

A Comparison of Logarithmic Growth Rates of Total Group with Those Entrepreneurs High in n Ach and Debilitative Anxiety

	Total Group ^a	High		
		Debilita- tive ^b Anxiety	n Ach ^b	Moderate ^c
Range of Growth Rates	10.4%-91.9%	17.0%-34.8%	13.4%-32.9%	10.4%-91.9%
Median	26.5%			
Above Group Median		40%	60%	60%
Below Group Median		60%	40%	40%
Mean	31.8%	25.3%	22.3%	39.9%

^a_n = 20

^b_n = 5

^c_n = 10

above the high Debilitative Anxiety group and 7.6% above the high n Ach group a significant portion of this difference is a result of two entrepreneurs having such high yearly growth (91.9% and 70.0%) rates. As one can note from the number of men in each group falling on either side of the total group median the three sub-groups are very similar; however, the direction of the number above and below the group median suggests this entrepreneurial group's best sales growth performers are those in either the high or moderate n Ach group. This finding is in agreement with the earlier findings

of Wainer and Rubin in which they found entrepreneurs had a linear relationship between moderate and high n Ach and the logarithmic sales growth rate.¹

However, evaluating the performance (sales growth rate) of entrepreneurs from different industries is very difficult. The simple economics of the various industries will make comparison a most hazardous undertaking. In the next section certain performance indexes will be used in which each company in this study is compared to other similar sized companies in their industry.

Comparative Financial Performance and n Ach

The method of comparing the entrepreneurs in this study was by use of an index number which compared them to their respective industry. By means of this index number² we can examine the relative performance of high, moderate, and low need achievers in our group as compared to similar sized firms in their respective industries. As can be noted from Table 51 the firms in the study are on the average exceeding their industry standards (Industry's norm = 1.00). As also shown in Table 51 within this group of entrepreneurs, when compared to their respective industries, the highs are not as a group performing better than those men scoring

¹Wainer and Rubin, op. cit., p. 183.

²The index number is computed, for example, by % return on sales for firm/% return on sales for other similar sized firms in industry.

TABLE 51

A Comparison of Financial Performance in Relation to
Their Industry for Entrepreneurs Scoring Low,
Moderate and High in n Ach

n Ach	Mean Index ^a	
	Profit (B/T)	Profit (B/T)
	Tangible Net Worth	Sales
High (≥6) N=7	2.18 ^b	1.22
Moderate (2≤X≤5) N=6	2.70 ^c	2.82
Low (≤1) N=7	1.92	2.19

^aThis index is the mean of indexes computed by comparing each firm to its industry.

^bAn index figure was not available on one firm for this index.

^cAn index was not available on two firms for this index.

either moderately or low in need for achievement. Even so, the group scoring in the moderate range was performing better in relation to their respective industries. If the method of analyzing these growth rates was changed to use a median, would this unmask information hidden in averages? By dividing the group into those men scoring above and below the median of n Ach (for this group) an interesting change takes place. As shown in Table 52 the group high in n Ach have an index 90% higher in relation to their respective

industries than do the low n Ach group in terms of return on Tangible Net Worth. Earlier, it was suggested that this index might be used as an index of entrepreneurial ability. If this assumption is made those high n Ach individuals would have to be considered the better entrepreneurs in this group.¹

Even though little difference was found in the Return on Sales index the "highs" have some 30% higher index of Return on Total Assets than the "lows." This would suggest those men high in n Ach in this group also appear to be better managers, if this index is used as a measure of managerial ability as suggested in Chapter IV.

Performance in Rubin and Wainer's study was based on growth rate of sales as compared to the group of technical companies in their study; this study is also concerned with profitability as compared to each entrepreneurial company's industry norms. Thus, the difference in method of evaluating success may account for some of the differences discussed above.

In most studies of n Ach and entrepreneurship it has been found that high n Ach tend to mark successful entrepreneurs. This is, as far as this author is aware, the first time successful entrepreneurs have been evaluated to

¹If this measure of performance is used this finding is consistent with the Rubin and Wainer results that those people high in n Ach (within the group) are the best performers.

TABLE 52

Financial Performance as Compared to Their Respective Industries of Persons
Scoring "High" and "Low" in n Ach in Entrepreneurial Group

n Ach	Mean Index	Equal to or Above Median ^b %	Mean Index	Equal to or Above Median ^c %	Mean Index	Equal to or Above Median ^d %
	<u>Profit(B/T)</u> <u>Net Sales</u>		<u>Profit(B/T)</u> <u>Tangible Net Worth</u>		<u>Profit(B/T)</u> <u>Total Assets</u>	
High (24) n = 10	2.1	50%	2.8 ^a	57%	2.0	71%
Low (≤ 3) n = 10	2.0	50%	1.9	50%	1.7	50%

^aIt was impossible to calculate an index for three of these men because financial information was not available.

^bGroup Median Index = 1.75.

^cGroup Median Index = 2.20.

^dGroup Median Index = 1.82.

determine their degree of n Ach. The above data would suggest there are other variables which may motivate an entrepreneur to be successful than n Ach alone. Thus n Ach appears to have questionable use when used as a sole means of distinguishing between the performance of successful entrepreneurs.¹

Atkinson's Model and the Entrepreneurial Group

Tendency to Achieve Success and Avoid Failure in Entrepreneurial Group

Atkinson after developing two parallel but opposite tendencies in his theory--the Tendency to Achieve Success and the Tendency to Avoid Failure--asserts that the dominant tendency will motivate behavior. The entrepreneurial group of this study will be examined in light of certain component parts of each of these tendencies and then in terms of a methodology developed to measure all three components simultaneously. Since n Ach (a component of Tendency to Achieve Success) in the entrepreneurial group has already been examined in an earlier section it will not be discussed again except to indicate that less than half the entrepreneurs in this study were found to be high in n Ach. For those entrepreneurs low in n Ach one must look elsewhere

¹Other researchers also believe that TAT scoring procedures are not yet precise enough to enable researchers to use individual differences as the basis for comparison. See Rubin and Wainer, op. cit., p. 180.

for determinants of successful entrepreneurship. James Morgan's methodology examined the subjective probability of success, a component in the concept of Tendency to Achieve Success, by examining attitude toward hard work.

Attitude Toward Hard Work and n Achievement

Atkinson's model, as noted earlier, has three variables--(1) the motive to achieve success or avoid failure, (2) the incentive value of the expected outcome, and (3) the subjective probability that a particular course of action will lead to that outcome. James Morgan concluded, after examining the subjective probability of hard work and the achievement motive, that they are related to economic behavior of individual members of a given culture.¹ What would this group of successful entrepreneur's attitudes be toward hard work?

As shown in Table 53 nineteen of twenty men in this study group thought hard work was more important than luck. Even though a chi square analysis indicates this is not significant $p < .10$, the relationship is in the direction to suggest that this group of entrepreneurs do have a much greater confidence in hard work than luck. One additional observation might be made concerning the one person who

¹Morgan, op. cit., p. 263. Morgan also notes that the variation in the incentive value of success perhaps isn't so different from one person to another within a given culture.

believed luck to be more important than hard work. Even though he had sold his firm when interviewed, he still works fifty-five hour workweeks in both the firm he has sold (in which he is Chairman of the Board) and his other financial interest. This researcher wonders if he may, because he was so very successful in his business, when looking back attribute more of his success to luck than he would have when he was building the firm.

TABLE 53

A Comparison of Morgan's 1959 Spending Unit
Heads' and the Subjects' Attitude in
This Research Toward Hard Work

	Hard Work Is Equal to or More Important Than Luck	Hard Work Is Less Important Than Luck
Actual	19	1
Expected ^a	16	4

$$\chi^2 = 1.95; \quad df = 1; \quad p < .10. \quad N = 20.$$

^aThe expected proportions were based on proportions Morgan found in his study of 2478 heads of spending units. See Morgan, op. cit., p. 224.

If one divides the entrepreneurial group who believe hard work is more important than luck into two groups with the seven entrepreneurs who scored the highest on n Ach in one group and the seven scoring the lowest on n Ach in another group, it was expected the highs would work more hours per week. However, as shown in Table 54 that is not

the case. The men in this study scoring high in n Ach worked significantly fewer hours per week ($p < .01$) than those low in n Ach. Perhaps the entrepreneur high in n Ach works harder during those hours he works. Even so, it does not seem likely that this would explain an average workweek of the "lows" which is some 22 hours longer than the workweek for the "highs."

TABLE 54
High n Ach and Low n Ach Groups Compared by
Hours Worked Per Week

	Average	
	n Ach	Hours Worked per Week
High ^a	9.5	60.2
Low ^b	-0.29	82.6

$t = 2.6888$; $df = 12$; $p < .01$

^aThese entrepreneurs were classified as high in n Ach because they scored above the 50th percentile of businessmen based on the norms of the Sterling Institute. $N = 7$

^bThe seven men scoring lowest on n Ach were used to compare. $N = 7$

This finding is in conflict with the concept that those persons high in n Ach tend to work harder than others, assuming one uses the number of hours as an index of hard work.

Many of the men in this entrepreneurial group observed that one makes his own luck. Thus, the entrepreneurs

of this study tend to have a high subjective probability of success in entrepreneurial endeavors. However, this subjective probability may have been influenced positively because past entrepreneurial actions have been successful.¹ Could a Tendency to Avoid Failure also serve as a motivator toward successful entrepreneurial activity?

Debilitative Anxiety as a Motive to Avoid Failure

The above discussion has examined two components of the Tendency to Achieve Success. The motive to achieve success (a component of the Tendency to Achieve Success) has as its counterpart the motive to avoid failure which is a component of the Tendency to Avoid Failure. Research has indicated the motive to avoid failure can be measured by use of the Test Anxiety Questionnaire (TAQ).² However, the TAQ measures anxiety in a test situation which is not appropriate in this study. Harry Schrage modified an Achievement Anxiety Questionnaire (AAQ) (developed later and based on the theory of the TAQ), so he would have a specific anxiety questionnaire designed to fit the entrepreneurial

¹Even though outside the scope of this study, those people in $T_S > T_F$ should tend to increase their subjective probability of success after a success according to Atkinson. Atkinson and Feather, op. cit., p. 338.

²Atkinson and Litwin, op. cit., p. 91.

occupation.¹ This instrument yields a debilitating, and a facilitative anxiety score. Since debilitating anxiety should hinder good performance it is being used here as a measure of the motive to avoid failure.

If those people high in n Ach average working fewer hours per week than those low in n Ach, would an entrepreneur high in debilitating anxiety (a failure avoiding person) work more hours per week than an entrepreneur low in debilitating anxiety? If the six entrepreneurs who scored highest on debilitating anxiety are compared to the low scorers there is a marked contrast between the two groups as is shown in Table 55. Those entrepreneurs high in debilitating

TABLE 55

High and Low Debilitative Anxiety Entrepreneurs
Compared by Hours Worked Per Week

	Mean	
	Anxiety	Hours Worked per Week
High N = 6	28.9	83.3
Low N = 6	16.5	62.8

$t = 1.92; df = 10; p < .05$

¹A specific anxiety questionnaire measure anxiety aroused by a given situation. In this case stressful entrepreneurial functions.

anxiety work an average work week twenty hours longer than the low debilitating anxiety group. A "t" test shows those men high in Debilitative Anxiety do work a significantly longer workweek than the "lows" at $p < .05$ level. If the high n Ach (T_S) group is compared with the group scoring high on Debilitative Anxiety (T_F) there is still a distinct contrast.¹ The average workweek of those entrepreneurs scoring high in debilitating anxiety is approximately 21 hours per week longer than the high need achievers as shown in Table 56. A "t" test again shows that those entrepreneurs in this study scoring high in Debilitative Anxiety work significantly more hours per week than the high n Ach individuals at the .025 level. This would suggest the entrepreneurial group contains both individuals motivated by T_F and those motivated by T_S , therefore hypothesis five is rejected.

As noted earlier, none of the entrepreneurs scored high on both n Ach and Debilitative Anxiety as shown in Figure 5. Even though there is no overlap there does not appear to be a correlation between the two variables as shown in Figure 5. Even so there are apparently at least two different groups within this group of successful entrepreneurs--those who score high in n Ach and those high in Debilitative anxiety. From this finding it would

¹There are no entrepreneurs in these two groups who scored high in n Ach and high in Debilitative Anxiety.

Figure 5.--Debilitative Anxiety vs n Ach

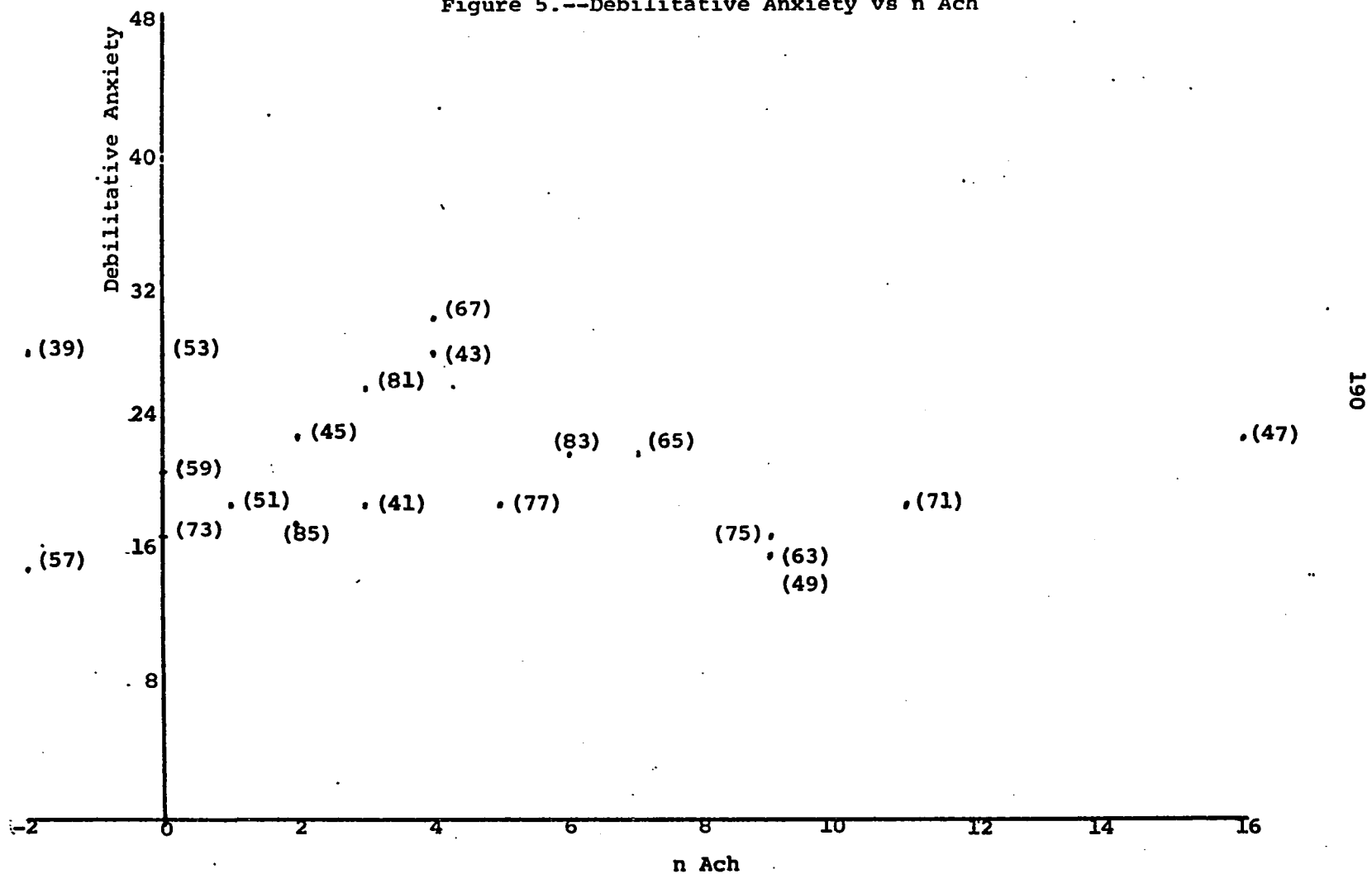


TABLE 56

A Comparison Between Entrepreneurs Scoring High in
Debilitative Anxiety and n Achievement by
Hours Worked per Week

High	Average Hours Worked per Week
n Ach ^a (T _S)	61.5
Debilitative Anxiety ^b (T _F)	83.3

$t = 2.77$, $df = 9$, $p < .025$

^aN = 6

^bThose who scored in the upper quartile of the group scores were considered to be high in debilitative anxiety. Since no financial information was available on one of these five, the top six were used. N = 6.

be logical to say this successful group of entrepreneurs includes both those motivated by a Tendency to Achieve Success (T_S) and the Tendency to Avoid Failure (T_F) as entrepreneurs. If we examine this relationship in terms of the Ring Toss exercise (often used to measure the strength of these two tendencies) we would expect those entrepreneurs $T_S > T_F$ would have less average deviation¹ from the median. However, one must remember with the ring toss exercise we are dealing with the entrepreneur's attitude toward risk in

¹This deviation is calculated as: Distance of shot - Median of all group's shots/Average Deviation of all shots and the Average deviation of all shots = Weighted total deviation from group median/Number of shots deviation from median. See Atkinson and Litwin, op. cit., p. 82 for full discussion of this method.

a non-entrepreneurial situation.

As shown in Table 57 the group of men high in n Ach (T_S) do have a smaller average deviation than the high Debilitative anxiety (T_F) group which is what would be expected from Atkinson's Model. However, both groups have

TABLE 57

Ring Toss Deviations Compared Within Entrepreneurial Group
Between Entrepreneurial Group, Governmental
Supervisors and Civic Club Members

	Average Deviation ^c	High	
		n Ach N = 6	Debilitative Anxiety N = 6
Entrepreneurial Group N = 19	.75(.60)	.85	1.02(.47)
Governmental Supervisors ^a N = 21	.85	NA	NA
Civic Club Members ^b N = 18	.76	NA	NA

NA - Not Available

^aThese supervisors were lower level supervisors attending a management development course at the Oklahoma Postal Training Operations.

^bThese men were from both the Civilian and Lions Clubs. No business owners were included from either organization.

^cThe median for all three groups was twelve feet.

an average deviation higher than the total entrepreneurial group. Averages can often be misleading and this is one of

those cases. One of the high Debilitative Anxiety entrepreneurs accounted for approximately 25% of the total entrepreneurial group's deviation.¹ If this one case were to be excluded these figures on the entrepreneurial group change rather dramatically. The resulting means after exclusion of this one individual are shown in parenthesis in Table 57. With this exclusion,² the high n Ach group has a mean deviation almost twice that of the high Debilitative Anxiety group. It would thus appear the high n Ach group is willing to accept various levels of risk (both above and below group median) while the high Debilitative Anxiety group tend to select primarily moderate levels of risk in those situations in which their skill can influence the outcome. In addition, the high Debilitative Anxiety group on the average changed distances they stood from the peg, during the ten tosses, fewer times (1.6 vs .6). Those men high in Debilitative Anxiety tended to pick a risk level (distance from peg) and stick to it for all ten throws.

The entrepreneurial group's average deviation is very similar to other non entrepreneurial groups as shown in Table 57, if entrepreneur #21 is included. However, if he

¹Entrepreneur #21's deviation was 3.20 versus 1.37 for the closest group deviation and almost four and one half times the deviation of the closest in high Debilitative Anxiety individual.

²The next entrepreneur in the array had a deviation of .40 which as may be noted is similar to the group mean excluding #21.

is excluded the total entrepreneurial group's average deviation is 25% lower than the other two comparison groups. Those men high in Debilitative Anxiety have an average deviation of only 80% of that of the entrepreneurial group as a whole. In the ring toss exercise there was no mention made of money, such is not the case in the betting exercise.

Betting Preferences of Entrepreneurs High in n Ach
and Those High in Debilitative Anxiety

Each entrepreneur was asked to complete the betting preference form included in Appendix II. The results of this part of the research are summarized in Table 58. During the interview a number of the entrepreneurs appeared uncomfortable while completing this part of the questionnaire. In fact, two men refused to complete it. Many others, even though agreeing to complete the form, made comments like "I don't like to gamble," "I never gamble unless the odds are in my favor," etc. Interestingly, most of the entrepreneurs did not like to gamble even though they take business risks every day.

If Table 58 is compared to Table 11 (which shows the results of Atkinson's earlier research) there are a number of similarities. Those people high in n Ach do tend to show a relative preference for intermediate risk as opposed to extreme risk. The finding here is that the results are a much more clear cut in the 30¢ bet than the \$300 bet which is

TABLE 58

Betting Preferences of Entrepreneurs High in n Ach
Compared with Those High in Debilitative Anxiety

		Probability Preferences		
	High	Intermediate (4/6, 3/6, or 2/6)	No Preference	Extreme (5/6 or 1/6)
30¢ Bet	n Ach ^a Deb. Anxiety ^b	60% 17%	20% 33%	20% 50%
\$300 Bet	n Ach ^a Deb. Anxiety ^b	40% 17%	20% 33%	40% 50%
Both Groups Combined	n Ach ^c Deb. Anxiety ^d	50% 17%	20% 33%	30% 50%

^aOne person who scored high n Ach would not complete bet questionnaire. N = 5

^bN = 6

^cN = 10

^dN = 12

similar to Atkinson's earlier findings.¹ As the value of the bet increased one thousand times, the high n Ach group had more of a propensity to select extreme probability preferences. Again this finding is similar to Atkinson's earlier results. Even though these results are in the direction expected chi square analysis does not yield

¹Atkinson, et al., op. cit., pp. 31-32.

significance in any category.¹

Those men high in Debilitative Anxiety (T_F) in this study showed a rather marked preference for extreme risk. This finding agrees with Atkinson's hypothesis that failure avoiding individuals will prefer extreme to intermediate risk.

As noted earlier the high failure avoiding individuals in the ring toss changed distances they stood from the peg fewer times than did the high n Ach group. In the betting preference the failure avoiding individuals were also very consistent in their selection of the extreme probability preferences in both the 30¢ and \$300 bets.

The results of the betting exercise are in general agreement with earlier research even though not statistically significant. The high n Ach individuals (T_S) preferred the intermediate probability preference level while high Debilitative Anxiety (T_F) have a preference for extreme risk.

Financial Performance of Firms Managed by Individuals High in Debilitative Anxiety and High in n Ach

In an earlier section firms within the study were compared by logarithmic growth rates to evaluate performance of those firms headed by individuals high in n Ach and Debilitative Anxiety. In this section a similar comparison

¹A Fisher's Exact Probability Test used in comparing the intermediate vs extreme probability preferences in each of the categories does not yield significance even though the findings are in the direction expected.

will be made, however, the firms are here compared to other similar sized firms within their respective industries (by means of the previously discussed index) rather than within the entrepreneurial group.

Those entrepreneurs high in Debilitative Anxiety have a mean index of Return on Sales approximately three times that of the high n Ach group and twice that of the moderate group as is shown in Table 59. However, when these results are compared to the Profit (Before Taxes)/Total Assets index of the three groups, the high Debilitative Anxiety group has a very similar index to the other groups. Even though the high Debilitative Anxiety group has a higher percentage return on sales (perhaps they are motivated by a T_F --a net loss) they don't use their assets a great deal more efficiently (in terms of profit) than the other successful entrepreneurs.

The high Debilitative Anxiety group also has a Profit (Before Taxes)/Tangible Net Worth an index at least 30% (or 70% if one used the parenthesis figure in the high n Ach group) higher than the other groups. Even though the high Debilitative Anxiety group has a much higher (1.08 vs 3.07) Return on Sales index, there isn't nearly the same difference in the Profit (B/T)/Tangible Net Worth index (2.4 vs 2.7). The high Debilitative Anxiety group doesn't perform nearly as well when the amount of return is compared to the total asset resources they use and to their own resources (Tangible Net Worth).

TABLE 59

A Comparison of Groups Scoring High n Ach, High Debilitative Anxiety and Moderate Group by Three Financial Indexes

Group ^b	Index		
	Return on Sales	$\frac{\text{Profit(Before Taxes)}^a}{\text{Tangible Net Worth}}$	$\frac{\text{Profit(Before Taxes)}^a}{\text{Total Assets}}$
High n Ach (T _S) n = 5	1.08	2.4(1.7) ^c	2.0(1.5) ^d
Moderate n = 10	2.02	2.0	1.8
High Debilitative Anxiety (T _F) n = 5	3.07	2.7	1.7

^aFinancial statement breakdown was insufficient to calculate this ratio for three men in the moderate group.

^bEach group is mutually exclusive as no entrepreneur falls in more than one group.

^cEntrepreneur #6 had an index almost twice that of (5.0 vs 2.8) the next closest entrepreneur. A mean calculated eliminating #6 is 1.7 (in parentheses) which is also the median for the group.

^dEntrepreneur #5 had an index over twice that of (\$4.13 vs 1.83) the next closest entrepreneur. A mean calculated eliminating #5 is 1.5 which is also the median for the group.

Veridical Perception of the Entrepreneurial Group

In earlier research with technical entrepreneurs Schrage found Veridical Perception of customers (at the .005 level) and employees (at the .025 level) significantly related to entrepreneurial performance.¹ Thus, the group would be expected to have positive veridical perception scores. In Table 60 the veridical perception scores of this entrepreneurial group are presented. As a group these entrepreneurs see the world as it is in reality (high veridical perception) which is consistent with the successful entrepreneurs of Schrage's study. Of particular interest is entrepreneur number 69, the only one to receive a negative score. After his interview and after the veridical perception score for this man had already been determined, this researcher learned he was having a very hard time negotiating a new contract with the union in his plant. It appeared as if a strike was very possible.

As shown in Table 61 there was a significant positive correlation between veridical perception of employees and customers for this group.² In this entrepreneurial group, the veridical perception in each of these areas was significantly, ($p < .05$) positively correlated. This would suggest

¹Schrage, "Personality and Profitability," op. cit., p. 37.

²All correlations in this section are Product-Moment correlation analyses. Tests of significance are one-tail t tests.

TABLE 60

Veridical Perception of the Entrepreneurial Group

Entrepreneur #	Veridical Perception	
	Customers	Employees
1	+1	+2
2	+2	+2
3	+2	+1
4	+2	+2
5	+2	+1
6	+1	+1
7	+2	+2
8	+2	+2
9	+2	+2
10	+2	+1
11	+2	+1
12	+2	+2
13	+2	+1
14	+1	-1
15	+2	+2
16	+2	+2
17	+2	+2
18	+1	+1
19	+2	+1
20	+1	+1
21	+1	+2

that when the entrepreneurs in this group perceived veridically in one area they also veridically perceived the other. What effect does n Ach and anxiety have on veridical perception?

There was very little correlation between total anxiety vs VP--Customers ($r = .0516$) and VP--Employees ($r = .0667$). On the other hand Facilitative Anxiety has,

TABLE 61

Veridical Perception of Customers vs
Veridical Perception of Employees

$r = .3721$	$t = 1.7474$	$df = 19$	$p < .05$
-------------	--------------	-----------	-----------

as shown in Table 62, a significant ($p < .05$) positive correlation to VP--Employees and a low positive correlation with VP--Customers. Debilitative Anxiety in contrast, as

TABLE 62

Facilitative Anxiety vs VP-Employees and VP-Customers

Facilitative Anxiety vs	r	t	df
VP-Employees	.4412	1.9665	19 $p < .05$
VP-Customers	.1545	.6820	19 N.S.

shown in Table 63, shows a significant ($p < .05$) negative correlation with VP--Employees and a low negative correlation with VP--Customers.

TABLE 63

Debilitative Anxiety vs VP-Employees and VP-Customers

Debilitative Anxiety vs	r	t	df
VP-Employees	-.4886	2.4413	19 $p < .05$
VP-Customers	-.1014	.4446	19 N.S.

The above findings would suggest that, although a causal variable is difficult to determine, Facilitative Anxiety may help VP--Employees while Debilitative Anxiety hinders an accurate perception of the employee force. However, as also can be seen above, anxiety doesn't correlate with VP--Customers. What then is the effect of n Ach on veridical perception?

n Ach was found to have a strong but not significant ($r = -.3440$) negative correlation to VP--Employees and a slight positive ($r = .1148$) relationship to VP--Customers as shown in Table 64. Individuals high in n Ach apparently have less accurate perception of their employees.

TABLE 64
 n Ach vs VP-Employees and VP-Customers

n Ach vs	r	t	df	
VP-Employees	-.3440	1.5	18	N.S.
VP-Customers	.1148	.4903	18	N.S.

This would suggest the person high in n Ach spends a considerable amount of energy looking outside his firm in those areas where he feels his efforts can be better measured (i.e. profitability of his firm).¹

¹One of the attributes of a person high in n Ach is that he is concerned with measuring his performance against some standard.

The above discussion suggests the entrepreneurs of this group have less veridical perception of their employees as either n Ach or Debilitative Anxiety increases. As the VP--Employees decrease (the entrepreneur is increasingly perceiving the employee group as he wants to rather than in reality) this lack of an accurate employee perception would cause one to expect more labor problem within this man's firm even though no data was gathered on this topic in this study.¹

Some Observations Concerning the Instruments Used in the Study

During the course of the research this writer made certain observations concerning the instruments used in the study. A few brief comments will be made concerning McClelland's Exercise of Imagination, Schrage's entrepreneurial Anxiety Questionnaire, the Allport-Vernon-Linzey Study of Values and the ring toss exercise as used to measure T_S and T_F .

McClelland's Exercise of Imagination (a special version of the TAT) requires the person taking the exercise to write short stories about each of a series of pictures. Writing this series of stories caused some of the entrepreneurs considerable difficulty. There was a special problem

¹Of interest is the fact that of only four companies who were unionized in the study three of the entrepreneurs scored high in either n Ach or Debilitative Anxiety.

with those entrepreneurs who had a rather limited education or those men who had a problem communicating verbally. Previous studies using the Exercise of Imagination have primarily been concerned with technical entrepreneurs.¹ As noted earlier, the technical entrepreneurs tend to be more highly educated than this group of general entrepreneurs. There appears to be a real need in general entrepreneurial research to develop another instrument to measure achievement, preferably one that can be scored by the researcher in the field. An additional requirement of this instrument is that it possess validity and reliability for various educational levels. Until now research, into developing a less complex instrument, has met with only limited success.² However, such an instrument if developed, would be of significant value in entrepreneurial research.

The Anxiety Questionnaire developed by Schrage appears to have promise as a tool to evaluate entrepreneurial anxiety. This questionnaire's main shortcoming is that presently there are no norms available on the instrument. Additional research would answer the question of the reliability

¹One exception where a similar form of the TAT was used was the Michigan State Study of manufacturing entrepreneurs. However, in this study protocol writing time was not limited to five minutes as is the case in the Exercise of Imagination.

²See for example, Schrage, "Personality and Profitability," op. cit., pp. 26-31, Atkinson and Feather, op. cit., p. 77, and Herbert J. M. Hermans, "A Questionnaire Measure of Achievement Motivation," Journal of Applied Psychology, LIV (#4, 1970), pp. 353-363.

and validity of this questionnaire. There is also the question of whether the Debilitative Anxiety part of this questionnaire does in other research situations measure T_F as the results of this study would suggest.

This entrepreneurial group scored significantly higher on the Economic value than the male population norms. As noted earlier, this entrepreneurial group also scored low on the Social value. Again, the problem is one of lack of norms for businessmen. Even though norms are presented in the manual for a group of southern businessmen, the group is small and no measure of dispersion is given. In addition, there is the question of whether the Economic value is an acquired characteristic of the group built up through being in business or if it was there when they started building their firms. This can only be answered through additional entrepreneurial research using the Study of Values.

Two things were noted in using the ring toss exercise: First, roughly one-half the entrepreneurs inquired as to whether a money reward was tied to the results. Since most of the entrepreneurs deal in terms of dollars won or lost each day they apparently extend this concern to non-business activities. Secondly, there was a problem in some offices of finding fifteen feet in a straight line.

As instruments are used in specific research situations (in this case to examine successful entrepreneurs) the researcher gains experience with the instrument and is able

to reflect on this experience. The above discussion is a brief reflection on that experience.

Summary

The entrepreneurial group was first typed to determine where each man scored on the O-E--C-E continuum. A significant ($p < .005$) number of entrepreneurs in this study were Opportunistic-Entrepreneurs and so the hypothesis that the group of successful entrepreneurs would not significantly differ from the model of an Opportunistic-Entrepreneur was accepted.

Firms headed by the entrepreneurs in the study were then evaluated to determine whether it would be classed as Rigid or Flexible. Approximately one-half the firms would not be classed as flexible and the hypothesis that the group of firms would not differ significantly from the model of a Flexible firm was rejected. The man and his firm were then compared by the above two variables. Even though some O-Es in this group were associated with Rigid firms no C-Es were associated with Flexible firms.

On the Study of Values the entrepreneurial group scored significantly higher than the male population on the Economic value ($p < .005$) and a large but not significant number scored low on the Social value. The scoring on the Political value (similar to authority) was not significant. Thus, this group of entrepreneurs was dissimilar to the Michigan State group by virtue of their normal concern for authority

(versus high concern for the Michigan State group). However, the entrepreneurial group's profile was very similar to the profile of the First-Generation Conglomerator. Civic participation and management experience are the two areas where there was a minor difference between the profiles of the two groups. Therefore, the hypothesis that the profile of entrepreneurs in this group would not vary significantly from that of the first generation conglomerator was accepted.

n Ach for the group varied from high (92nd percentile) to low (9th percentile). Even so, when this group is compared to a population of businessmen the hypothesis that this group is not significantly different from people classified as achievement motivated. Therefore this hypothesis is accepted. Then, the logarithmic growth rate of sales with the group was compared both by various levels of n Ach and by high n Ach and high Debilitative Anxiety group. The men scoring in the moderate range of n Ach were found to have the highest within group growth rates. Little difference was noted in growth rates when the high n Ach group was compared with the high Debilitative Anxiety group.

The above comparisons of performance were within the entrepreneurial group. Financial performance for those with high, moderate and low levels of n Ach were then compared by means of an index number to other similar sized companies in their respective industries. Those entrepreneurs above the group median score in n Ach had a 90% higher index of

return on Tangible Net Worth but had only slightly higher indexes of return on total assets and net sales.

Atkinson's model served as a model for examining the next four sections of the chapter. Nineteen of the twenty men in the group believed hard work was more important than luck (used to measure the subjective probability of a course of action leading to desired result). Those who believe in hard work were then divided into those men scoring highest and lowest in n Ach. The high n Ach group worked significantly ($p < .01$) fewer hours per week. High and low Debilitative Anxiety entrepreneurs were then compared by hours worked per week. The high Debilitative Anxiety group worked a significantly ($p < .05$) longer workweek than the "lows". After comparing the high n Ach group with the high Debilitative Anxiety group it was found the high Debilitative Anxiety group worked a significantly ($P < .025$) longer workweek than the n Ach group. Because these findings suggested there are both achievement motivated (T_S) and failure avoiding (T_F) individuals within this group of successful entrepreneurs, hypothesis five is rejected. Next, the actions of these two groups were examined.

In the ring toss exercise the T_S group had a smaller mean deviation from the total group median than the T_F group as was predicted by Atkinson's Model. However, by excluding one entrepreneur whose deviation accounted for 25% of the total group median the T_S has a higher mean deviation than

the T_F group. In addition, the T_F group tended to select a risk level (distance from the peg) and stick with it. They changed distances fewer times (1.6 vs .6) than those motivated by a T_S . In a betting risk situation those men motivated by a T_F (high Debilitative Anxiety) tended to have a relatively strong preference for extreme risk in both the 30¢ and the \$300 bets. The group motivated by a T_S showed a strong preference for intermediate risk in the 30¢ bet, however, the results weren't as clear cut in the \$300 bet. These findings were consistent with Atkinson's model and also his earlier research findings.

In terms of financial performance the high Debilitative Anxiety (T_F) group had a 100% higher index of Return on Sales than either the moderate group, those high in n Ach (T_S), but only a 30% higher index of return on Tangible Net Worth. When their return was evaluated in terms of Total Assets used, they didn't differ from the other two groups.

Veridical perception of customers and employees was found to be significantly ($p < .05$) correlated. Facilitative Anxiety apparently helped the entrepreneur veridically perceive his employees (Significant at $p < .05$ level) while Debilitative Anxiety had a significant ($p < .05$) negative correlation with veridical perception of employees. n Ach had a strong, but not significant, negative correlation ($r = -.3440$) to VP-Employees. Perhaps this lack of veridical perception of employees for both groups of "highs" may

suggest a reason for the moderate group showing the best performance in several of the financial indicators.

Table 65 presents a summary of the usefulness of the various instruments and methodology suggested by the findings in this chapter.

Chapter VI was concluded with some brief comments concerning the instruments used in this study.

TABLE 65

A Summary of Usefulness of the Instruments and Methodologies Examined in This Chapter with Their Potential for Additional Research

Item	Statisti- cally Signifi- cant	Indicative of Successful Entrepreneurs	Warrants Additional Research	Not Use- ful
Entrepreneur Classification (O-E)	.005	***	***	
Firm Classification			**	
<u>Study of Values</u>				
Economic Score (High)	.005	***	***	
Social Score (Low)		**	**	
Theoretical Score				X
Aesthetic Score				X
Political Score				X
Religious Score				X
First Generation Conglomerator Characteristics		*	*	

Degree of usefulness suggested by this study:

*-Little; **-Average; ***-Considerable.

TABLE 65--Continued

Item	Statisti- cally Signifi- cant	Indicative of Successful Entrepreneurs	Warrants Additional Research	Not Use- ful
Atkinson's Model:				
Tendency to Achieve Success:				
n Ach		**	***	
Subjective Probability of Success (Luck vs Work)	.10	**	**	
Tendency to Avoid Failure:				
Debilitative Anxiety		**	***	
Subjective Probability of Failure (Luck vs Work)	.10	**	**	
Veridical Perception:				
Employees		**	**	
Customers		**	**	
n Pow				X
n Affiliation				X

CHAPTER VII

SUMMARY AND CONCLUSIONS

This chapter in its two sections includes (1) a Summary and Conclusions, and (2) Suggestions for Additional Research.

Summary and Conclusions

The present study has examined within a group of successful manufacturing entrepreneurs, through personal interview and written instruments, certain selected qualities often attributed to successful entrepreneurship. In research previously conducted by others, as cited in Chapter III, certain methodologies and instruments used in the present study have been primarily applied to technical entrepreneurs; other instruments used have not been applied in any entrepreneurial research as far as this writer is aware.

Entrepreneurial performance, in other research studies, has been evaluated by comparing financial performance within the group of entrepreneurs in relation to certain attributes. In addition to this method of comparison, the successful entrepreneurial group's performance in this study was examined with respect to other similar sized

firms within the industry in which the entrepreneurial firm was competing. Next, selected attributes were examined both in terms of the above financial performance measures and by themselves to determine their relationship to the concept of entrepreneurship. In some instances when examining the attributes individually, non-entrepreneurial groups were also compared to the subjects of this investigation.

The qualities and methodologies examined in this study were:

Personal Characteristics

Age

Sex

Marital Status

Workweek

Nativity

Parent's

Entrepreneur's

Educational Level

Religion

Father's Occupation

Number of Businesses Owned

Need for Achievement (n Ach)

Need for Power (n Pow)

Need for Affiliation (n Aff)

Veridical Perception of:

Employees

Customers**Anxiety****Debilitative****Facilitative****Tendency to:****Achieve Success (T_S)****Avoid Failure (T_F)****Entrepreneur Typologies****Opportunistic-Entrepreneurs (O-E)****Craftsman-Entrepreneurs (C-E)****Entrepreneurial Firm Typologies****Rigid****Adaptable****Values of the Entrepreneurs****Theoretical****Economic****Aesthetic****Social****Political****Religious****Financial Ratios of Entrepreneurial Firms****Current Ratio****Acid Test Ratio****Net Annual Sales/Trade Accounts and Bills
Receivable****Net Annual Sales/Working Capital****Total Debt/Tangible Net Worth**

Net Fixed Assets/Tangible Net Worth

Profit (Before Taxes)/Tangible Net Worth

Profit (Before Taxes)/Total Assets

Net Annual Sales/Tangible Net Worth

Cost of Sales/Inventory

First Generation Conglomerators' Characteristics vs Study Group

The literature suggested the most successful entrepreneurs would be high in n Ach, high in veridical perception of both employees and customers, low in Debilitative Anxiety, motivated by a Tendency to Achieve Success, and Classified as Opportunistic-Entrepreneurs operating Flexible firms. The following discussion summarizes and concludes the findings of this research.

Hypotheses

Hypothesis I that certain early personal influences would not tend to increase a man's propensity toward entrepreneurship, is rejected. Certain early personal influences on this group of individuals do seem to increase their propensity to become an entrepreneur.

Hypothesis II that the group of selected entrepreneurs would not significantly differ from the model of an Opportunistic-Entrepreneur, is accepted. A significant number of entrepreneurs in the study group would be classified as Opportunistic-Entrepreneurs when compared to the model of an Opportunistic Entrepreneur.

Hypotheses III that the group of selected entrepreneurs' firms would not significantly differ from firms classified as Adaptable, is rejected. Approximately one-half the entrepreneurs in this study group operated firms classified as non-Flexible.

Hypothesis IV that firms in the study group would not as a group have financial ratios significantly different from their industry norms, is rejected. The successful firms of this study were significantly different from their industry norms for similar sized companies in the over-all efficiency ratios (performance ratios).

Hypothesis V that the study group of entrepreneurs would not significantly differ from the person exhibiting a tendency to achieve success, is rejected. The study group contains individuals motivated by a Tendency to Achieve Success and individuals motivated by a Tendency to Avoid Failure.

Hypothesis VI that the study group would not significantly differ from people classified as Achievement Motivated, is accepted. All individuals in this group of successful entrepreneurs did not score high in n Ach. Even so, the study group does not significantly differ from those people classified as achievement motivated.

Hypothesis VII that the study group would not significantly differ from the first generation conglomerator's characteristics, is accepted. The profile of characteristics of the entrepreneurial group is very similar to the profile

of the first generation conglomerator.

In addition to the above conclusions based on the initial hypotheses which this research was designed to examine, other conclusions are presented in the following sections.

Personal Characteristics and Influences

A brief examination of the selected personal characteristics and influences examined, which caused Hypothesis I to be rejected, follows. This study had no female entrepreneurs in the study group and the author knows of none who meet the study's requirements in Oklahoma. Other research studies, as cited in Chapter VI, have had a similar lack of females in their entrepreneurial groups; therefore, the likelihood of a successful female entrepreneur who meets the requirements of this study is nil. In addition to being male, 95% of the men in the study group were married even though their work patterns would seem to be hard on a marriage.

No entrepreneurs in the study group were foreign born, however, the entrepreneurial group did have a disproportionate number of parents who were foreign born when compared to the white, Oklahoma, general population. In addition, this entrepreneurial group's educational level was significantly higher ($p < .005$) than the white, Oklahoma, male population. The findings suggest a threshold level of high school graduation.

As a whole the entrepreneurial group was familiar with business prior to starting their present firms. Many of the men in the study group had started in a "business" early in life and had continued owning businesses through their present firm(s). This history helps explain the mean of 3.2 firms which have been or are presently owned by each member of the study group. A familiarity with the business world often began with a self-employed father as 57% of the group's fathers were self-employed.

Those personal characteristics and influences then found to be associated with the entrepreneurs of this group were:

- (1) All were male, and virtually all were married.
- (2) A disproportionate number of entrepreneurs had one or both parents who were foreign-born.
- (3) The group members were significantly better educated than the white, male, Oklahoma population.
The findings suggested a threshold educational level of approximately high school graduation.
- (4) The members of this group had a "history" of owning businesses.
- (5) Self-employed fathers tended to have a high incidence of entrepreneurial sons.

The above characteristics and influences, especially the last two, were most often associated with this entrepreneurial group.

Entrepreneurial Type Compared to Firm Type

Earlier research, as cited in Chapter III, suggested the Opportunistic-Entrepreneur tends to build an Adaptable firm while the Craftsman-Entrepreneur builds a firm classified as Rigid. The finding in this study was that the Opportunistic-Entrepreneur may build a Rigid firm if he believes it to be more appropriate. However, no Craftsmen-Entrepreneurs in this study were associated with Flexible firms. The Opportunistic-Entrepreneurs appeared to be more flexible when developing their firms than the Craftsman-Entrepreneurs. By the nature of the firm typologies, as a firm increased in size it probably would become more Flexible. As this necessary flexibility becomes more pronounced (because of firm growth), the Craftsman-Entrepreneur very possibly will feel increasing conflict between the way he wants to operate and the requirements of a large size firm. The Craftsman-Entrepreneur, that is, will find it increasingly difficult to operate his firm the way he wants to as it increases in size. Very possibly this leads to the conclusion that there is a limit to the size of a firm a Craftsman-Entrepreneur can manage effectively.

Economic and Social Values of the Entrepreneurial Group

A significant ($p < .005$) number of entrepreneurs fell above the middle 50% range of all male scores on the Economic value as measured by the Study of Values. This

finding would suggest the Study of Values may be one tool which could be useful in distinguishing the potential entrepreneur from the general, male population. In addition to the significant number scoring above the middle 50% range on the Economic value, a large, but not significant number scored below the same range on the Social value. Thus, this group of successful entrepreneurs' maximum concern was for economic matters with limited social concern as measured by the Social value. The successful entrepreneurs of this study scored high on the Economic value and low on the Social value as compared to the general, male population. Unfortunately, no effective norms of "general businessmen" were available to allow comparison of them with the entrepreneurial group.

This initial use of the Study of Values in entrepreneurial research, has suggested it may be a useful instrument to differentiate entrepreneurs--especially in terms of their scoring on the Economic value (a measure of interest in practical affairs, usually in the business world)--from the general, male population. However, two problems remain in using this instrument: (1) Is this Economic value an acquired value of the entrepreneur since starting in business and, if so, how early is it developed in his business career and, (2) Do entrepreneurs, especially successful entrepreneurs, score significantly higher than do businessmen in general? If subsequent research indicates this high

score on the Economic value doesn't require years of entrepreneurial activity and entrepreneurs are found to score differently than businessmen, this would be a most useful instrument in entrepreneurial prediction.

n Achievement and Financial Performance

Entrepreneurial performance, if measured in terms of logarithmic growth rate of sales, of the high n Ach individuals when compared with the low n Ach entrepreneurs in this group, were somewhat better. However, those companies headed by a person moderate in n Ach performed better than either the "highs" or "lows." This analysis was then extended to compare the performance of firms headed by men high in n Ach Motivated by a Tendency to Achieve Success (T_S) and those high in Debilitative Anxiety Motivated by a Tendency to Avoid Failure (T_F). Even though not significant, the results suggest those entrepreneurs moderate to high in n Ach had the best sales growth performance when compared within the group to those high in Debilitative Anxiety, a result which is consistent with earlier research.¹ However, these findings were somewhat obscured by the problem of comparing growth rates of companies in different industries. Entrepreneurial performance cannot be accurately evaluated by comparing entrepreneurial performance in different industries. Performance of an entrepreneurial firm

¹Wainer and Rubin, op. cit., pp. 178-184.

should be evaluated rather in terms of how well it is performing as compared to other similar sized firms within its industry.

When compared to similar sized firms within their industry, the firms headed by individuals above the group median in n Ach had a much higher mean index (2.8 vs 1.8) of Profit (Before Taxes)/Tangible Net Worth and a slightly higher mean index (2.0 vs 1.7) of Profit (Before Taxes)/Total Assets than those firms headed by men below the median.

The high n Ach individuals in this group operate firms in which they use their tangible net worth a great deal more intensively and total assets somewhat more effectively than the low n Ach individuals. There was less difference (2.1 vs 2.0) between high and low n Ach individual's company's Profit (Before Taxes)/Net Sales.

T_S and T_F in the Study Group

As previous research cited in Chapter II had suggested, T_S was measured by n Ach and T_F was measured by Debilitative Anxiety in the study group. These measures suggested certain individuals were motivated by T_S and others were motivated by a T_F within the group of successful entrepreneurs. As far as this writer is aware, this is the first time a group of successful, general entrepreneurs has been evaluated to determine their T_S or T_F and how these variables affect actions.

Actions of the two groups in a risk situation were compared by means of a ring toss exercise. If, as discussed in Chapter VI, the entrepreneur #19 is excluded from the mean calculations, the T_F (high Debilitative Anxiety) group had much less (.85 vs .47) deviation from the total entrepreneurial group median and changed distances stood from the peg (1.6 vs .6 times) fewer times than the T_S (high n Ach) group. Within this entrepreneurial group the individual with a T_F tended to select a risk level (distance from the peg) very close to the total group median and then remained with that risk level throughout the entire ten tosses. The T_S individuals varied their risk level (distance from the peg) more and were more willing to differ from the group median. Within this study group individuals with a T_F were less flexible and tended to stay close to the "norm" in their approach to risk, in those situations in which their skill can influence the outcome, than the T_S individual.

In contrast when their skill could not influence the outcome (such as in a gambling exercise) the T_F group showed a significant preference for extreme probability preferences while the T_S group showed a relative preference for intermediate odds. In a situation where they had no control over the outcome the T_F individual in this group showed strong preference for extreme risk while the T_S individuals indicated a slight preference for intermediate risk. Within this entrepreneurial group the T_F individuals switched

strategy when moving from that risk situation over which the outcome was affected by skill (here they preferred a consistent, intermediate level of risk) to the gambling exercise where the outcome depended upon luck (here they preferred an extreme level of risk). Thus, one could conclude that in some types of businesses because of the various types of risks associated with those types of businesses the T_S individual may be the most successful while the T_F individual may be better suited for other types of firms with different kinds of risks.

T_F and T_S Individuals Compared by Their Firm's Performance

The high T_F (high Debilitative Anxiety) group's firms had a much higher (3.07) index of return on sales than either those high in n Ach (1.08) or the moderate group (2.02). When the profitability was compared to the entrepreneur's resources (tangible net worth), the T_F group still exceeded the mean index of the other two groups (T_S and moderate group) by 30% or more. However, when profit was compared to total assets used, the T_F group had mean indexes similar to the other two groups. Within this group of successful entrepreneurs those T_F individuals in this group had a much higher index of return on sales and were better entrepreneurs (measured by return on tangible net worth), however, they were not better managers (measured by return on total assets) than the other two groups.

Veridical Perception Within the Study Group

Virtually all the entrepreneurs in this group of successful entrepreneurs exhibited high veridical perception of both employees and customers. Correlations between VP-Customers and VP-Employees were positive and significant. Both Debilitative Anxiety and n Ach showed a strong negative correlation to VP-Employees. As the entrepreneur's n Ach or Debilitative Anxiety increased he had a less accurate perception of his employee. In contrast neither n Ach nor Debilitative Anxiety in this study group were related to an accurate perception of customers.

Using the Instruments of This Study

The question with which this study was concerned was: "Can certain instruments define the unique quality that supports successful entrepreneurship and what is the possibility for utilization of these instruments in identifying good entrepreneurs at an early stage?"

In terms of the findings previously discussed some of the instruments and methodologies do appear to hold promise. These instruments include: (1) background characteristics of the individual (especially having been in "business" a number of times and having a parent or close relative who was self-employed), (2) classification of the individual as an Opportunistic-Entrepreneur, (3) score on the Economic value as measured by the Study of Values, and (4) Veridical Perception of Employees and Veridical Perception of Customers.

The results from applications of other instruments are less clear. High n Ach scores have often been cited as measuring the quality of increasing propensity toward entrepreneurship. The n Ach scores of this study group varied considerably from high to low.¹ By using n Ach to measure T_S and Debilitative Anxiety to measure T_F , it was found the T_F individual may perform best in certain financial areas when comparison is made to the respective industries. Perhaps entrepreneurial research has taken too narrow a perspective (considering primarily n Ach), not accurately comparing performance (using within group comparisons rather than similar sized firms in the company's industry) and limiting these comparisons to the sales growth rates.

The above discussion suggests that rather than predict entrepreneurial success, the instruments and methodologies may be most valuable in screening those individuals with the least potential of succeeding.² A crucial variable,

¹This finding is based on a comparison of businessmen's norms as compiled by the Sterling Institute's Motivation Research Group.

²In a study concerned with the degree of effectiveness of managers, Mahoney et al. found that failure was more easily predicted than success. Of some 98 measures of personal characteristics and managerial effectiveness only eleven were found to be significantly related at the .05 or less. See Thomas A. Mahoney, Thomas H. Jerdee and Allan N. Nash, The Identification of Management Potential--A Research Approach to Management Development, Management Development Laboratory, Industrial Relations Center, University of Minnesota (Dubuque, Iowa: Wm. C. Brown Company, Publishers, 1961), pp. 32-33.

which must be dealt with prior to an improved prediction method being developed is a better understanding of the relationship and measurement of n Ach, Debilitative Anxiety (specifically caused by the entrepreneurial act) and performance (as compared to other similar sized firms in their industry) in both technical and general entrepreneurs.

Table 65 presents a summary of the usefulness of the various instruments and methodologies used in the study. Also included is this writer's judgment of the potential each has for subsequent research.

The conclusions of this research are summarized in the following comments. In the study of personal characteristics this group of successful entrepreneurs had a history of owning their own businesses and often had self-employed fathers. The father and/or mother was foreign born in a disproportionate number of cases. High school graduation was found to be apparently the threshold level of education.

In financial ratio terms these successful entrepreneurial firms were very "normal" with the exception of the performance ratios where they were performing better than similar sized firms in their respective industries. In contrast to earlier studies, a significant number of the men in the study were classified as Opportunistic-Entrepreneurs; however, these Opportunistic-Entrepreneurs were found to be associated with both Rigid and Flexible firms. The group did parallel the characteristics of the First Generation individual running a conglomerate firm.

TABLE 66

A Summary of Usefulness of the Instruments and Methodologies Used in This Study with Their Potential for Additional Research

Item	Statisti- cally Signifi- cant	Indicative of Successful Entrepreneurs	Warrants Additional Research	Not Use- ful
Personal Characteristics:				
Age				X
Sex		*	*	
Hours worked/week			*	
Marital Status		*		
Nativity:				
Parents		**	**	
Entrepreneurs			**	
Educational level	.005	**	*	
Religion			**	
Number of				
Businesses Owned		***	***	
Self-employed				
Father	.10	***	***	
Financial Ratios:				
Tests of Solvency				X
Tests of Liquidity				X
Tests of Overall				
Efficiency	.005		**	
Entrepreneur				
Classification (O-E)	.005	***	***	
Firm Classification			**	
Study of Values				
Economic Score				
(High)	.005	***	***	
Social Score (Low)		**	**	

Degree of usefulness suggested by this study:

*-Little; **-Average; ***-Considerable.

TABLE 66--Continued

Item	Statisti- cally Signifi- cant	Indicative of Successful Entrepreneurs	Warrants Additional Research	Not Use- ful
Theoretical Score				X
Aesthetic Score				X
Political Score				X
Religious Score				X
First Generation Conglomerator Characteristics		*	*	
Atkinson's Model:				
Tendency to Achieve Success:				
n Ach		**	***	
Subjective Probability of Success (Luck vs Work)	.10	**	**	
Tendency to Avoid Failure:				
Debilitative Anxiety		**	***	
Subjective Probability of Failure (Luck vs Work)	.10	**	**	
Veridical Perception:				
Employees		**	**	
Customers		**	**	
n Pow				X
n Affiliation				X

The group scored high on the Economic Value and low on the Social Value as measured by the Study of Values. Virtually all men in the study group believed hard work to be more important than luck which suggests they all have a high Subjective Probability of Success according to Atkinson's model. Within the study group there were individuals motivated by a T_S (high n Ach) and individuals motivated by a T_F (high Debilitative Anxiety). When either n Ach or Debilitative Anxiety increased Veridical Perception of Employees dropped in the study group; however, these two variables had little correlation to Veridical Perception of Customers.

The T_S and T_F individuals had differing attitudes toward risk. The T_F individuals were less flexible and tended to remain closer to the group "norm" (an intermediate region) in a risk situation in which the outcome could be influenced by their skill. The T_S individuals changed their risk level more often, but still preferred the intermediate risk level in this same situation. In betting (where skill couldn't influence outcome), the T_F individuals switched to an extreme level of risk from an intermediate level. The T_S individuals continued to prefer the intermediate level of risk in the betting exercise.

The T_F individuals were found to have a much higher Return on Sales Index than either the moderate group or the T_S group. The T_F group also had a higher Return on Tangible

Net Worth, than either of the other groups. However, when considering the Return on Total Assets Index the three groups were very similar. If Return on Tangible Net Worth Index is used as a measure of entrepreneurial ability and Return on Total Assets Index as a measure of managerial ability, this would suggest the T_F individuals in this group are the better entrepreneurs, but not necessarily better managers than the other two sub-groups.

Implications of the Research for Business

When many firms are starting or are small and expanding it is often necessary for them to seek additional equity and/or debt capital. Thus, both investors and debtors are concerned with the "quality" of the entrepreneur with which they are dealing. What then are the implications for this research to these groups?

The findings of this research suggest that entrepreneurs probably do exhibit some common characteristics. The characteristics may serve as screening criteria to eliminate those entrepreneurs with the least potential to be successful even if these criteria cannot distinguish those entrepreneurs with the most potential for success. Even though entrepreneurial research is still at a very primitive stage, successful entrepreneurial identification appears to be possible as a broader knowledge base concerning entrepreneurs becomes available. However, this implication should be considered in light of the following comments concerning the

"unknowns" of entrepreneurial research which give rise to suggestions for additional research.

Suggestions for Additional Research

Entrepreneurial Classification and A Firm's Performance

The findings of this study have raised a number of questions concerning the relationship between entrepreneurial classification and firm performance. For instance, is there a firm size beyond which the Craftsman-Entrepreneur becomes inadequate in dealing with firm problems? There appears to be a significant conflict between the requirements of even a moderate sized manufacturing firm and the C-E's method of operation.¹ When this critical firm size is reached does the C-E either halt expansion or sell the firm which he has built? If he is unable to or willing to do either of the above things, will he increasingly exhibit more Opportunistic-Entrepreneur characteristics?

Very little is known about the relationship between type of entrepreneur and the industry in which he operates. Does the sort of industry determine which entrepreneurial type will be most successful? Little or no research has

¹Norman Smith found the Rigid firm operated by a C-E had had a shorter existence and had a smaller average sales volume than the Flexible firm operated by the O-E. See Smith, op. cit., p. 91.

been done on general entrepreneurs within a given industry.¹ Considerable clarification of the entrepreneurial picture might result from such a within industry study.

Personal Background of Entrepreneurs

This and other studies² have begun to develop a general picture of the background of an entrepreneur. This research, concurring with previous studies, suggests that self-employed fathers tend to have a disproportionate number of entrepreneurial sons. As noted in Chapter V, Roberts and Wainer suggested that a simple familiarity with business may increase an individual's propensity toward entrepreneurship. Have those individuals who do not have self-employed fathers become familiar with business from another relative or a friend? In addition to examining the father's self-employment, the scope of research on this variable should be expanded to include any person from whom the entrepreneurs could have received a familiarity with business.

Operating their own firm should be somewhat easier if one were familiar with operating a firm before starting their business. This raises a very basic question. Are the most

¹A number of studies have been conducted which focus on specific industries. For example, see Walter Adams, ed., The Structure of American Industry (New York: The Macmillan Company, 1954), Revised Edition. However, as far as this writer is aware there have been no studies on the entrepreneurs within a given industry.

²See, for example, Roberts and Wainer, op. cit.; Soslow, op. cit.; and Roberts, op. cit.

successful entrepreneurs successful because of their experience in "businesses" they have owned or operated as if they owned? One impression gained in this research was that many of the men in this study had been in "business" a number of times. Often they had started in "business" during their teen years. Does the quality of the entrepreneur depend to any degree on his entrepreneurial experience gained before he started his present successful business?

Is a stable family environment another personal characteristic found in the most successful entrepreneurs? All except one entrepreneur in the study group were married at the time of the study. What role or supportive function does an entrepreneur's family play when he is building a firm? Even though no specific data were gathered on this relationship, during the course of some interviews this researcher received the impression some entrepreneurs used their home and family as a "retreat" from the press of firm business.

The Economic Value and Entrepreneurial Research

The Study of Values appears to have real promise in entrepreneurial research if two questions can be adequately answered in subsequent research. First, are the Economic and Social value scores acquired characteristics of the entrepreneurs resulting from their being in their present business or were these characteristics present when they started building their firms? If there prior to starting in business this would be a most effective screening device

in comparing potential entrepreneurs to the general, male population.

Secondly, norms on the Study of Values are very limited. There are only very minimal norms on businessmen and no norms were available on entrepreneurs. With valid norms a much clearer picture of how an entrepreneurial group would differ from a group of businessmen could be established. This research has initiated a preliminary step toward the establishment of such norms.

T_F and T_S in General Entrepreneurs

Other groups of successful entrepreneurs must be evaluated to yield a broader base of knowledge on questions such as: (1) Do both failure-avoiding individuals and success-achieving individuals exist within other general, entrepreneurial groups as this research suggests? (2) How well do T_S individuals and T_F individuals perform when compared to other similar sized firms within their industry? and (3) Are failure-avoiding individuals or success-achieving individuals drawn to a particular type of industry or market situation?

Further research is needed in measuring T_S and T_F in entrepreneurs. Schrage's Anxiety Questionnaire needs additional work to determine its degree of validity and for developing norms to maximize its usefulness in future entrepreneurial research.

Alternative ways of measuring n Ach are needed. The present protocol methods caused some problems to the entrepreneurs who had limited communication ability.

Present norms for n Ach include a very broad cross section of businessmen. Does the average level of n Ach differ in various geographic regions of the country? Additional norms for manufacturing, retailing, wholesaling and financial entrepreneurs would be most useful.

Atkinson's theoretical formulation of T_F and T_S seem to hold promise as a useful entrepreneurial tool, however, additional work is needed on the methods of measurement and their relationship to entrepreneurial performance.

A Firm Typology

A rather limited amount of work has been done to develop firm typologies. Improved typologies would be especially useful in entrepreneurial research because the manner in which an entrepreneur builds his firm, especially through the moderate-sized firm, should provide insight into the entrepreneur himself. The Smith firm typology was a first step, but a more sophisticated method needs to be developed which would encompass a larger number of variables.

The Ring Toss as a Measure of Risk

The ring toss exercise was used as a measure of this entrepreneurial group's attitude toward risk in those situations where their actions could influence the outcome. An

expansion of this exercise would be to tie a money reward to the exercise. Entrepreneurs in day-to-day business are concerned with money made or lost, thus, if a monetary reward was associated with the exercise's outcome, the exercise might be a more realistic approximation of entrepreneurial risk.¹

¹Many individuals in the study group inquired if there was a money reward associated with the exercise.

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Appendix I

Contact Letter to Interviewees

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Dear Mr.:

I'm writing to you personally because I am most anxious to have your participation in a study being conducted by the University of Oklahoma on the background and opinions of men who have been successful in building a business. The study is being directed by Mr. Barry Gilmore who is on our staff and is engaged in graduate work here at the University of Oklahoma. Results of this study will be used not only for basic research, but to increase our understanding of the builders of Oklahoma businesses. As our understanding of the way a business is successfully developed increases, we at the University of Oklahoma will be able to better serve the needs of the Oklahoma business community.

Your participation in this study will add much to our understanding of one of the most important manpower resources in the country, namely business management. Approximately twenty-five businessmen, such as yourself, have been selected to be representative of men who have built successful firms within the state. In a few days Mr. Gilmore will be contacting you concerning an interview time which is convenient for you. This interview will take approximately two hours and may be scheduled day or night. I realize that this is a lot of time to ask of you, but the potential results of this research to students and practitioners are great. The success of the study depends on each person participating.

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Page 2

ALL INFORMATION YOU PROVIDE WILL BE HELD IN STRICTEST CONFIDENCE. The information given will in no way be associated with you, your firm, or your industry as this is scholarly research.

May I add just one additional thought. The completion of this study is vitally important to Mr. Gilmore. He needs your cooperation in order to complete his doctoral research project. The research project is the last step in his doctoral program on which he has worked approximately three years.

I hope you will join us in participating in this project. Your help will be greatly appreciated by Mr. Gilmore, by me, and by the members of the faculty who will be working with him on the project.

Cordially yours,

Horace B. Brown
Dean

Appendix II

Questionnaire

QUESTIONNAIRE

1. AGE _____

2. Number of brothers and sisters in
your family

Brothers _____

Sisters _____

3a. What is (was) your father's major occupation?

Unskilled or semi-skilled laborer ☐Skilled laborer ☐Farmer ☐Clerk or salesman ☐Minor executive (including foreman) ☐Owner of small business ☐Major executive ☐Owner of large business ☐Professional man ☐Other (please specify) _____ ☐

b. If your father owns (owned) his own business did he:

Buy his business from non-relative ☐Buy his business from relative ☐Start his business ☐Inherit his business ☐c. Where were your parents born? Father _____
CountryMother _____
Country

4. What is:

a. Your Marital Status:

Married ☐
 Single ☐
 Divorced ☐
 Widower ☐

b. Religion

Catholic ☐
 Jewish ☐
 Protestant ☐
 Other ☐ _____
 None ☐

c. The country of your birth? _____

d. Your Education: (Please check last year completed)

Less than High School ☐

High School 9th ☐

10th ☐

11th ☐

12th ☐ Graduated Yes ☐ No ☐

College 1 ☐

2 ☐

3 ☐

4 ☐

Major
 Degree BBA ☐ _____

BS ☐ _____

BA ☐ _____

Other _____
 Specify

 Name of School

Graduate of
Professional School

1	<input type="checkbox"/>	Degree	MA	<input type="checkbox"/>
2	<input type="checkbox"/>		MS	<input type="checkbox"/>
3	<input type="checkbox"/>		MBA	<input type="checkbox"/>
4	<input type="checkbox"/>		JD or LLB	<input type="checkbox"/>
5	<input type="checkbox"/>		Doctorate	<input type="checkbox"/>
6	<input type="checkbox"/>	Other	<input type="checkbox"/>	

Name of School

Specify

Other Training You Have Received _____

5. Prior to owning your own business, what types of jobs did you hold (List most recent job first).

TITLE OF JOB

DUTIES

_____ /	_____
_____	_____
_____ /	_____
_____	_____
_____ /	_____
_____	_____
_____ /	_____
_____	_____

6. How many different organizations did you work for prior to owning your own business:

☐ 1☐ 5☐ 2☐ 6☐ 3☐ 7☐ 4☐ 8 or more

7. How old were you at the time you started or purchased your business? _____ yrs.

8. In what groups do you hold membership?

Technical or Professional

Church, Civic, Social

☐ _____☐ _____☐ _____☐ _____☐ _____☐ _____☐ _____☐ _____☐ _____☐ _____

*Place a check mark in the box beside the name of the groups in which you are most active.

9. Did you:

☐ Start your business from scratch☐ Inherit business at approximately its present size☐ Inherit small business which you have significantly increased the size (three times the inherited size or more)☐ Buy your business

10. Why did you buy or start your first business? _____

11. Do you as the head of your company feel:
(Check all appropriate statements)

- ☐ You must be aware of and involved in most of the details of your organization.
- ☐ The head of the company should delegate "routine" matters to subordinates.
- ☐ The company (because of the management personnel you have hired) should pretty well be able to run itself.

12. In hiring managers, do you:

- ☐ Hire friends or "friends of friends" only.
- ☐ Strongly prefer to have known the man a significant period of time.
- ☐ Pay little attention to how long you have known the individual.

13. When evaluating a prospective manager, which of the following influences your decision:

Please rank from most (1) to least (3)

- ☐ Evaluative comments by people who know the prospect personally.
- ☐ Various "quantitative" measures (such as skills, test, I.Q. test, etc.)
- ☐ How you "size up" the man.

14. How many sources of capital did (do) you utilize?
(Personal savings, relative's investment, relative's loans, bank loans, etc., are each considered a source of capital)

- a. When starting your company?

- | | | |
|----------------------------|----------------------------|--------------------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 4 | |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 5 | <input type="checkbox"/> More than 6 |
| <input type="checkbox"/> 3 | <input type="checkbox"/> 6 | |

b. At the present time?

☐ 1

☐ 4

☐ 2

☐ 5

☐ More than 6

☐ 3

☐ 6

15. Which of the following ways is the best way of increasing the number of customers for your firm? Please rank from best (1) to least effective (4).

☐ Your (individual) reputation in the industry

☐ Use of personal selling

☐ Advertising

☐ Direct mail

☐ Other _____

Specify

16. Prior to actually starting or buying your company, how long had you planned to own your company?

☐ Less than 6 months

☐ 1 year

☐ 2 years

☐ 3 years or more

17. Please select the one statement which you most agree with:

☐ Hard work is less important than luck.

☐ Hard work is equal to or more important than luck.

18. Which of the following groups of products were made when the company started and which ones are now made (please check all the groups of goods made)?

<u>Made when starting firm</u>	<u>Now made</u>	
		<u>Consumer Goods</u> (Goods destined for the ultimate consumer to directly satisfy human wants.)
<input type="checkbox"/>	<input type="checkbox"/>	<u>Soft goods</u> (goods which will be used up within six months after purchase)
<input type="checkbox"/>	<input type="checkbox"/>	<u>Hard goods</u> (goods which usually are used longer than six months)
<input type="checkbox"/>	<input type="checkbox"/>	<u>Services</u>
		<u>Industrial Goods</u> (Those goods which will be used in furthering production.)
<input type="checkbox"/>	<input type="checkbox"/>	<u>Installation and Equipment</u> <u>Installation:</u> Major items of production equipment regarded as part of the fixed plant, such as lathes, punches, etc.
		<u>Equipment:</u> Not regarded as part of fixed plants such as small motors, tools, portable drills, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<u>Semi-Manufactured Goods</u> Those items subject to additional changes in form when used in manufacturing processes, such as extruded aluminum for windows, lumber, and chemicals.

☐ ☐
Parts

Manufactured articles which can be installed as part of a larger product without further processing; includes items like plastic parts, chrome molding for cars, tubing in refrigerators and small motors.

☐ ☐
Supplies

Items essential to a business operation that are consumed in a relatively short period of time, such as sandpaper, oils, polishing compounds and wiping materials.

19. How many businesses have you owned which you no longer own?

☐ None

☐ 2

☐ 4

☐ 1

☐ 3

☐ 5 or more

20. a. Have you ever had a (any) partner(s) in any of these businesses?

☐ Yes

☐ No

- b. If yes, why was the partnership dissolved? _____

21. How many separate businesses do you presently own?

☐ 1

☐ 3

☐ 5 or more

☐ 2

☐ 4

22. Do you have any partners in your present business?

☐ Yes

☐ No

23. Have you sold the firm you built?

☐ Yes ☐ No

If yes, do you plan to either build or start another firm of your own sometime in the future?

☐ Yes ☐ No

24. If one could divide your board of directors into certain groups, what is the primary reason they are members of your board of directors?

_____ % Friends

_____ % Relatives

_____ % Experts (Those people on the board because of some special ability.)

_____ % "Contact" Individuals (Those individuals who are on the board because they are well known in either your industry or geographic location.)

_____ % Major Stockholders

_____ % Other reasons _____
Specify

☐ Total number of members on your board of directors (Do not include yourself.)

25. How many patents have you received?

☐ None ☐ 3

☐ 1 ☐ 4

☐ 2 ☐ 5 or more

26. After starting (or buying) your business did you:

- ☐ Quit work immediately
- ☐ Quit work within 1 month
- ☐ Work longer than one month after purchase
- ☐ Quit as soon as the business could support you.
Time worked before quitting old job _____ months

27. At the end of your first year of operation what were:

Your sales \$ _____

Your net profit \$ _____

What year did you start or buy your business? _____

If started prior to 1959, what were your sales and profit figures for 1959?

Sales \$ _____

Net profit \$ _____

Code

Instructions - Assume you are rolling one six sided die. If you roll any number up to the probability number you win. For example, if you were to select a bet of 4 of 6, the numbers 1, 2, 3, and 4 would win for you. Please select only one bet from each pair.

Probability of Winning	Bet Value		Probability of Winning	Bet Value	No Preference
<input type="checkbox"/> 1 of 6	\$1.80	vs	<input type="checkbox"/> 6 of 6	\$.30	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	.45	vs	<input type="checkbox"/> 1 of 6	1.80	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	.90	vs	<input type="checkbox"/> 6 of 6	.30	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	.36	vs	<input type="checkbox"/> 2 of 6	.90	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	.90	vs	<input type="checkbox"/> 4 of 6	.45	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	.60	vs	<input type="checkbox"/> 6 of 6	.30	<input type="checkbox"/>
<input type="checkbox"/> 1 of 6	1.80	vs	<input type="checkbox"/> 5 of 6	.36	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	.60	vs	<input type="checkbox"/> 2 of 6	.90	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	.36	vs	<input type="checkbox"/> 3 of 6	.60	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	.90	vs	<input type="checkbox"/> 1 of 6	1.80	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	.45	vs	<input type="checkbox"/> 6 of 6	.30	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	.60	vs	<input type="checkbox"/> 4 of 6	.45	<input type="checkbox"/>
<input type="checkbox"/> 1 of 6	1.80	vs	<input type="checkbox"/> 3 of 6	.60	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	.36	vs	<input type="checkbox"/> 6 of 6	.30	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	.45	vs	<input type="checkbox"/> 5 of 6	.36	<input type="checkbox"/>

Firm

1. Have there been any changes or additions in the type of industries you sell to since you started in business?

☐ Yes

☐ No

If yes, what percentage of sales are now sold to the new industries? _____%

2. What categories of production methods does your firm use?

☐ Custom made products produced for a specific customer

☐ Standardized products that are produced only after they have been ordered by a customer

☐ Standardized products that are produced for inventory

3. How many different geographic locations (minimum three miles apart) does your firm have production facilities?

☐ 1

☐ 3

☐ 2

☐ 4 or more

4. Does your firm sell outside the state of Oklahoma?

☐ Yes

☐ No

5. What are the principal products your firm manufactures?

6. Is your firm's performance in:

Growth of Profits

☐ Higher than your industry

☐ Average for your industry

☐ Below average for your industry

☐ I don't have figures to compare

Growth of Sales

☐ Higher than your industry

☐ Average for your industry

☐ Below average for your industry

☐ I don't have figures to compare

7. Approximately how many full-time employees does your firm employ? _____

Code

Instructions - Assume you are rolling one six sided die. If you roll any number up to the probability number you win. For example, if you were to select a bet of 4 of 6, the numbers 1, 2, 3, and 4 would win for you. Please select only one bet from each pair.

Probability of Winning	Bet Value		Probability of Winning	Bet Value	No Preference
<input type="checkbox"/> 6 of 6	\$ 300	vs	<input type="checkbox"/> 1 of 6	\$1800	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	450	vs	<input type="checkbox"/> 1 of 6	1800	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	900	vs	<input type="checkbox"/> 6 of 6	300	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	360	vs	<input type="checkbox"/> 2 of 6	900	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	900	vs	<input type="checkbox"/> 4 of 6	450	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	600	vs	<input type="checkbox"/> 6 of 6	300	<input type="checkbox"/>
<input type="checkbox"/> 1 of 6	1800	vs	<input type="checkbox"/> 5 of 6	360	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	600	vs	<input type="checkbox"/> 2 of 6	900	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	360	vs	<input type="checkbox"/> 3 of 6	600	<input type="checkbox"/>
<input type="checkbox"/> 2 of 6	900	vs	<input type="checkbox"/> 1 of 6	1800	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	450	vs	<input type="checkbox"/> 6 of 6	300	<input type="checkbox"/>
<input type="checkbox"/> 3 of 6	600	vs	<input type="checkbox"/> 4 of 6	450	<input type="checkbox"/>
<input type="checkbox"/> 1 of 6	1800	vs	<input type="checkbox"/> 3 of 6	600	<input type="checkbox"/>
<input type="checkbox"/> 5 of 6	360	vs	<input type="checkbox"/> 6 of 6	300	<input type="checkbox"/>
<input type="checkbox"/> 4 of 6	450	vs	<input type="checkbox"/> 5 of 6	360	<input type="checkbox"/>

Please indicate the way you believe you would react by placing a .X. in one of the five available spaces.

The questions have no "right" or "wrong" answers. The only "correct" answers are the ones which most accurately describe you.

1. Nervousness when I am with a particularly demanding customer hinders me from doing a good job.

Always . _ . _ . _ . _ . Never

2. Being under pressure really helps me when I am working on a particularly important job.

Always . _ . _ . _ . _ . Never

3. When tackling a problem in an area with which I am not familiar, my fear of coming up with a poor solution cuts down my efficiency.

Always . _ . _ . _ . _ . Never

4. While I may (or may not) be nervous before making a presentation to the bank, once I start, I forget to be nervous.

I always		I am always
forget	. _ . _ . _ . _ .	nervous during
		a presentation

5. When I am poorly prepared for a meeting with the bank (or stockholder) I get upset, and do less well than I think I should.

This never		This practi-
happens to	. _ . _ . _ . _ .	cally always
me.		happens to me.

6. Although in general my work brings credit to my company and to me, for some reason it seems that the more serious the problem the less well I do.

Always . _ . _ . _ . _ . Never

7. My nervousness in an important situation helps me do a better job.

It never		It often
helps	. _ . _ . _ . _ .	helps

8. I sometimes find that, when the pressure is on, I forget some fairly important bits of information, even though I might remember them clearly a little later.

This always happens to me . _ . _ . _ . _ . I never forget under pressure

9. When I am under great time pressure to complete a job, nothing distracts me.

This is always true of me . _ . _ . _ . _ . This is not true of me

10. When I am asked a pointed question by my banker (or stockholders) my mind often goes blank for a while before I am able to think clearly.

I almost always blank out at first . _ . _ . _ . _ . I never temporarily blank out

11. In a situation where a big sale could be made or lost based on my performance, I usually do a better job than any of my subordinates.

Never . _ . _ . _ . _ . Always

12. I can put such a great amount of effort into preparing an important proposal that, by the time it is finished, I almost don't care how well it is received.

I never feel this way . _ . _ . _ . _ . I always feel this way

13. When I am under great time pressure, I don't function as well as others under such pressure.

I always do worse under time pressure . _ . _ . _ . _ . Time pressure never hurts my work

14. I like to be placed under pressure in situations where coming up with the right answer is very important.

Never . _ . _ . _ . _ . Always

15. When, prior to an important meeting, lack of sufficient time forces me to resort to "cramming" to learn some important details, I can learn the information well enough to refer to it in detail when, later, it is needed.

I am always
able to use
crammed in-
formation

successfully . _ . _ . _ . _ . _ .

I am never
able to use
crammed in-
formation

successfully

16. I enjoy tackling difficult problems more than I do easy ones.

Always . _ . _ . _ . _ . Never

17. If I make a mistake at the beginning of a presentation, it tends to upset me so that I make additional careless errors later on.

This never

happens to me . _ . _ . _ . _ .

This almost

always happens
to me

18. The more critical the situation in which I am called upon to perform, the better job I do.

This is

true of me . _ . _ . _ . _ .

This is not

true of me

19. When I am concerned over an important problem, I find that I often have to read things two or more times in order to retain them.

Never need

to re-read . _ . _ . _ . _ .

Almost always

need to re-read

Appendix III

Ring Toss Form

RING TOSS EXERCISE

CodeDate

Toss #	Distance (Feet)	Successful	
		Yes	No
1	_____	Yes	No
2	_____	Yes	No
3	_____	Yes	No
4	_____	Yes	No
5	_____	Yes	No
6	_____	Yes	No
7	_____	Yes	No
8	_____	Yes	No
9	_____	Yes	No
10	_____	Yes	No

Appendix IV

McClelland's Exercise of Imagination

EXERCISE OF IMAGINATION

Name (Mr/Mrs/Miss) _____ Date _____
Last First

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

An important personal asset is imagination. This test gives you an opportunity to use your imagination, to show how you can create ideas and situations by yourself. In other words, instead of presenting you with answers already made up, from which you have to pick one, it gives you the chance to show how you can think things up on your own.

On the following pages, you are to make up and write out a brief, imaginative story for each of the six pictures. You will have about five minutes for each story. There is one page for each story (in any case, please do not write more than about 150 words per story.)

To help you cover all the elements of a story plot in the time allowed, you will find these questions repeated at the top of each page:

1. What is happening? Who are the people?
2. What has led up to this situation? That is, what has happened in the past?
3. What is being thought: What is wanted? By whom?
4. What will happen? What will be done?

Please remember that the questions are only guides for your thinking; you need not answer each specifically. That is, your story should be continuous and not just a set of answers to these questions.

There are no "right" or "wrong" stories. In fact, any kind of story is quite all right. You have a chance to show how quickly you can imagine and write a story on your own.

Try to make your stories interesting and dramatic. Show that you have an understanding of people and can make up stories about human situations. Don't just describe the pictures, but write stories about them.

Now, turn the page, look at the picture briefly, then turn the page again and write the story suggested to you by the picture. Don't take more than 5 minutes. Then turn the page, look at the next picture briefly, write out the story it suggests, and so on through the booklet.

Total time for the six stories: 30 minutes.

PLEASE PRINT OR TYPE YOUR STORIES



Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?



Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?



Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?



Just look at the picture briefly (10-15 seconds),
turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?



Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?



Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.

What is happening? Who are the people? What has led up to this situation? That is, what has happened in the past? What is being thought? What is wanted? By whom? What will happen? What will be done?

Appendix V
Structured Interview Guide

V. P.1. Customers

How much of this product or service can I sell profitably?

Customers current and future needs?

How is my product being received by my customers? Are they satisfied?

L - The L either "know" the answers without looking or decide that it is useless to try to find out. They have little concern for what goes on out there (the market).

W - Appear to admit that they don't know enough and spend much time looking for the answers in the marketplace.

2. Employees

How is morale in the shop? How do you know?

How do your employees feel about working here?

L - The L sound quite involved with themselves and appear to be projecting their own problems onto their employees.

W - W appear to be genuinely interested in finding out what really goes on in their companies.

3. Score

+2 approaches source.

+1 accepts feedback originating from this source.

-1 blocks, filters or distorts feedback.

-2 avoids feedback from this source.

What strategies do you use to compete?

Price

New Products

Quality

New Marketing Methods

Reputation

Different Channels of
Distribution

7. Plans for Growth

What plans do you have for the future of the company?

NPFG

CPFG

What steps have been taken to implement these plans?

8. For an employee who didn't measure up what action would you take?

9. Personal Travel

10. How many hours/week do you work?

11. Is your company unionized?

If no,

If it were to be unionized what would be your philosophy toward the union?

What do you think would be the major problem you would face if unionized?

If yes,

What is your philosophy toward the union?

What is the major problem you have experienced with the union?

Individual

1. Reference Group

OE - Identifies with management

CE - Identifies with others

Prior to owning your company would you believe you were management oriented?

Are there any groups you have admired?

2. Management Spons or More Than One Role-Model

Have you worked closely with or as an assistant to top management?

Who influenced you most in your life? What was he/ were they?

3. Communications Ability

OE

CE

4. Employee Selection

What are you looking for in a prospective employee?

How long do you feel you must know a prospective employee?

5. Employee Relations

What responsibilities do you feel toward your employees as a group?

How do you think of your present employees as a group?

Do you personally get involved in counseling employees or helping them financially?

Paternalistic

Non Paternalistic

6. Competitive Strategies Utilized by the Entrepreneur

How do you build your business?

Appendix VI

Working Instrument--Entrepreneurs

Working Definitions--Entrepreneurs

A case exhibiting the characteristic delineated under number one is assumed to be representative of the C-E, and the characteristic delineated under number two is assumed to be representative of the O-E.

1. Breadth in Education and Training

a) Formal Education

(1) Technical Only

- (2) Technical Plus--The entrepreneur has a mechanical or technical education from some formal institution and, in addition, training or education in some non-technical or non-mechanical area such as law, English, economics, or other areas which are usually considered a part of the social sciences.

b) Types of Jobs Held

(1) Technical Only

- (2) Technical Plus--The entrepreneur has held jobs that are different from the purely technical, practical or mechanical. For example, he may have been a manager of or a clerk in a retail store; he may have worked as a salesman as well as having worked in a tool and die plant; he may have held the position of foreman in a plant or of engineer in charge of a project.

c) Reference Group

(1) Not Management

- (2) Management--The category "work-force" as a reference group is not used here because, as we noted in the previous chapter, the individual entrepreneur does not necessarily identify with either management or the work-force as a reference group.

d) Management Sponsor or More Than One Role-Model

(1) No

- (2) Yes--Case is included here if the entrepreneur indicates that he worked closely with, or as an assistant to, a top executive in a company. Also, the entrepreneur's statement that various individuals influenced him at different stages of his life is assumed to indicate flexibility and receptivity to a changing environment.

2. Social Awareness and Involvement

a) Social Involvement

- (1) Belongs to Professional Associations Only

Source: Smith, op. cit., pp. 59-63. Used with permission.

- (2) High Community Involvement--Active in community associations not directly related to his profession, trade or business.

b) Communication Ability

- (1) Very Limited
- (2) Effective with Many Forms of Communications--Our concern is with verbal and written communication. Evidence of verbal ability is gained through the interviewer's observation and also by the content of the interview itself. Written communication ability is assumed when the respondent relates information on reports or articles he has written.

3. Ability to Deal with the Economic and Social Environment

a) Delegates Authority and Responsibility to Build an Organization

- (1) No
- (2) Yes--The entrepreneur is placed in this category when he indicates he thinks the organization can now run itself or says he tries to hire responsible people to lessen time he spends on routine matters.

b) Criteria for Selection of Employees

- (1) Particularistic--Some employers are concerned about whether they have a rebel (someone who does not really identify with the union) or someone who will turn out a good day's work for a good day's pay and thereby be a full member of the family.
- (2) Universalistic--It might be noted here that when an entrepreneur hires in a universalistic manner, he does not expect to get the ideal employee but, rather, feels that he can deal with those employees who meet his standards, which are similar to those of most other organizations.

He can take this type of person and still build an organization that is able to compete effectively with others.

c) Sources of Capital Utilized for the Initiation of the Company

- (1) Maximum of Two Sources Utilized
- (2) Over Two Sources of Capital Utilized--In this area, it has been noted that the O-E is much more flexible in seeking out capital and feels that he can utilize many sources. As an operational definition the cut-off point has been set at two sources of capital utilized. In many cases the C-E utilized two sources, his savings or money borrowed from a close friend or relative. When more than two sources are utilized it would indicate a movement towards the O-E end of the continuum.

d) Methods of Establishing Relationships with Potential Customers

(1) By Personal Contact Only--The C-E builds his organization on the basis of his reputation in a particular industry. Never, in the cases analyzed, does the C-E go into an industry where he has had no previous experience. When he does start his business he gains customers because he has known them for many years and, more importantly, they have known him. This is in contrast to the situation where a variety of methods are used to contact customers--personal selling, advertising, direct mail, etc.

(2) A Variety of the Usual Marketing Methods

e) Competitive Strategies Utilized by the Entrepreneur

(1) Limited--To price, quality and reputation of the company. The entrepreneur feels that he can compete only on these bases.

(2) Various Strategies Utilized--In addition to price and quality, the O-E sees many methods that can be utilized, such as new products, new marketing methods, different channels of distribution.

4. Time Orientation

In this area it is held that the C-E end of the continuum is indicated by an orientation which is limited to perceiving and reacting effectively to the present and to the near past. An orientation to the future, indicated by statements regarding concrete plans for the company or statements indicating the entrepreneur had made plans long before he actually initiated the company, is taken to be indicative of the characteristic of the O-E.

a) Amount of Planning Prior to Initiation of the Company

(1) No evidence of plans established more than one year prior to initiation phase.

(2) The entrepreneur's statements indicate that he had planned initiation over one year prior to actual start of company.

b) Future Plans for the Company

(1) No plans for growth or change.

(2) Wants to grow and discusses concrete plan on how to accomplish this growth.

c) Employee Relations

(1) Paternalistic--The entrepreneur is placed in this category if he indicates that he conceives of his workers as children who need to be protected, or uses the analogy that his company is his family, or indicates in his statements a strong emotional involvement with his employees.

(2) Not Paternalistic

Appendix VII

Working Instrument--Firms

Working Definitions of the Elements Making
Up the Company Characteristics

If the company has not changed or diversified significantly from the time of its initiation to the time of its interview, then we will give this firm a numerical value of -1 and define this as a factor which would move the firm towards the Rigid Firm end of the continuum. (Definitions of the terms of the criteria follow.) If there has been a significant change, however, a +1 is assigned, which moves the firm towards the Adaptive Firm end of the continuum. For factor 4, Dispersed Production Facilities, 5, Dispersed Markets, and 6, Concrete Plans for Change, if the answer is no to any of these items, a -1 value is given, which will move the firm towards the Rigid end of the continuum. If the answer is yes to any of these three, a +1 is given, moving the firm towards the Adaptive end of the continuum.

1. Customer Mix

a) Same (-1)

Operationally, same means that the firm is still selling approximately two-thirds of its total sales to the same type of customers (that is, in the same industrial classification) as during the initiation phase of its business. The U.S. Census S.I.C. classification was not used because the data were not in this form. Rather, it was the judgment of the author that determined whether one industry differed from another. This judgment was based on the perception of the respondent as to whether or not he had moved into a new type of industry. That is, if he considered it to be a different type of industry, his belief was accepted.

b) Changed (+1)

2. Product Mix

a) Same (-1)

b) Diversified or changed (+1)

It should be recalled that products were divided into consumer and industrial types of goods and that the latter were classified further into four sub-types of industrial goods. In this section, a company would be placed in the "diversified or changed" category if: 1) the company started manufacturing only one of either consumer goods or industrial goods and then, at the time of the interview, has added the other; or 2) if a firm which at the time of the interview is manufacturing industrial goods only had added at least two of the sub-types of industrial

goods since it started in business. For example, if the firm started out manufacturing two of the industrial sub-types and is now manufacturing only three of the four items, then it would be placed in the "same" category.

3. Production Methods

a) Same (-1)

b) Changed (+1)

In order to fill the requirements for the "changed" category, the firm would now have to be using all three methods of production as defined in the previous section. If the firm at its initiation used one of the production methods only and in the intervening time added a second, it still would not be put in the category of "changed." If, however, the firm had moved from utilizing two of the methods to utilizing three of the methods, it would be included in the "changed" group.

4. Dispersed Production Facilities

a) No (-1)

b) Yes (+1)

The cut-off point here is quite clear. If a firm has production facilities in two different geographic locations (minimum of three miles apart) it is considered to have dispersed production facilities.

5. Dispersed Markets

a) No (-1)

b) Yes (+1)

In this category, if a firm sells outside its own state it is defined as having dispersed markets. The problem of a firm located in a city on the border between two states did not arise and so was not considered.

6. Concrete Plans for Change

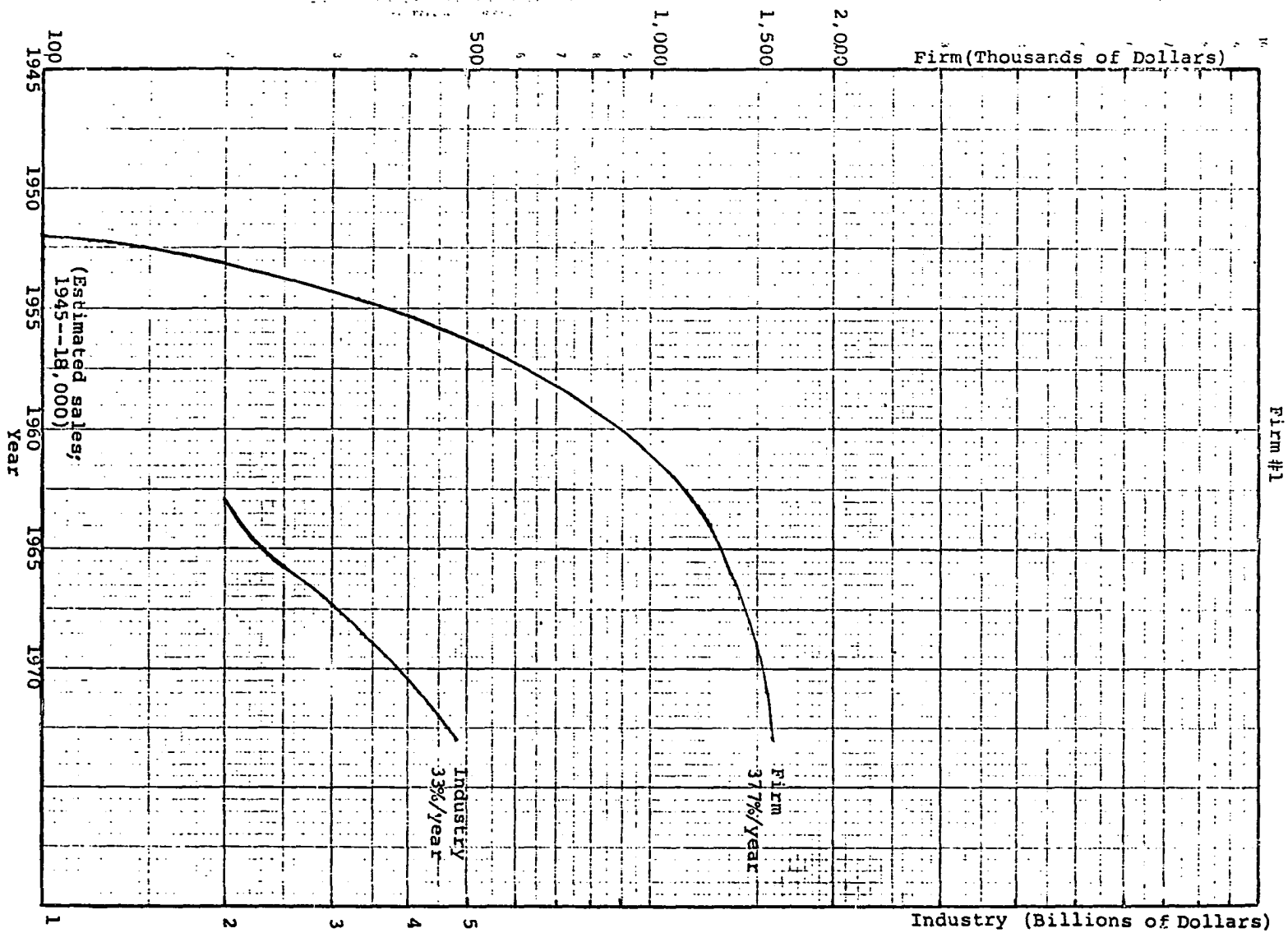
a) No (-1)

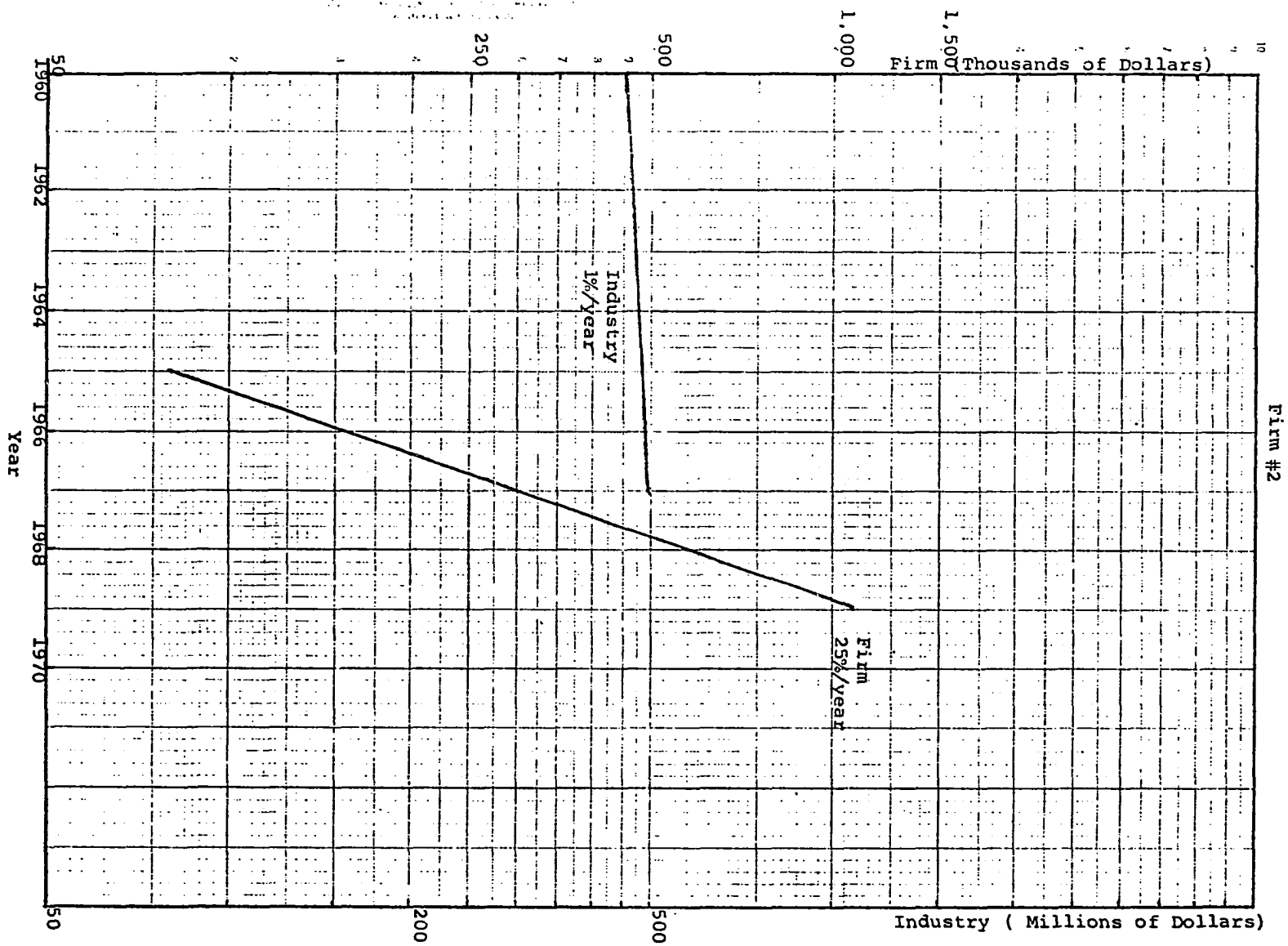
b) Yes (+1)

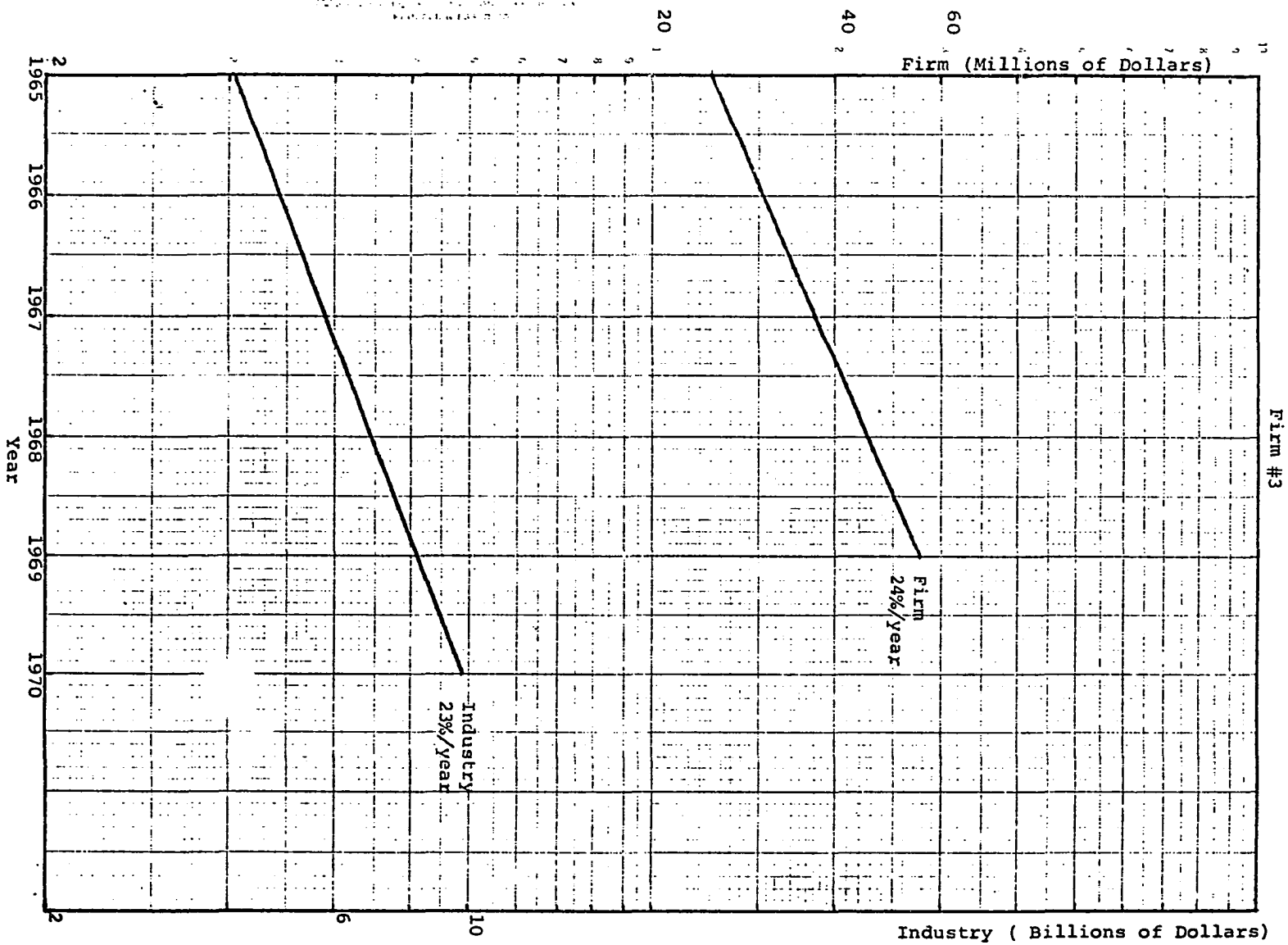
As with the other criteria, there was considerable judgment used in placing a firm in this category. What the researcher looked for was some evidence that there were concrete plans which would lead to change or growth. That is, that there were plans already made or already instigated and steps already taken for change in one of the five preceding items. Mere wishful thinking, dreaming, or conjecturing was not enough to put the firm in the "Yes" category.

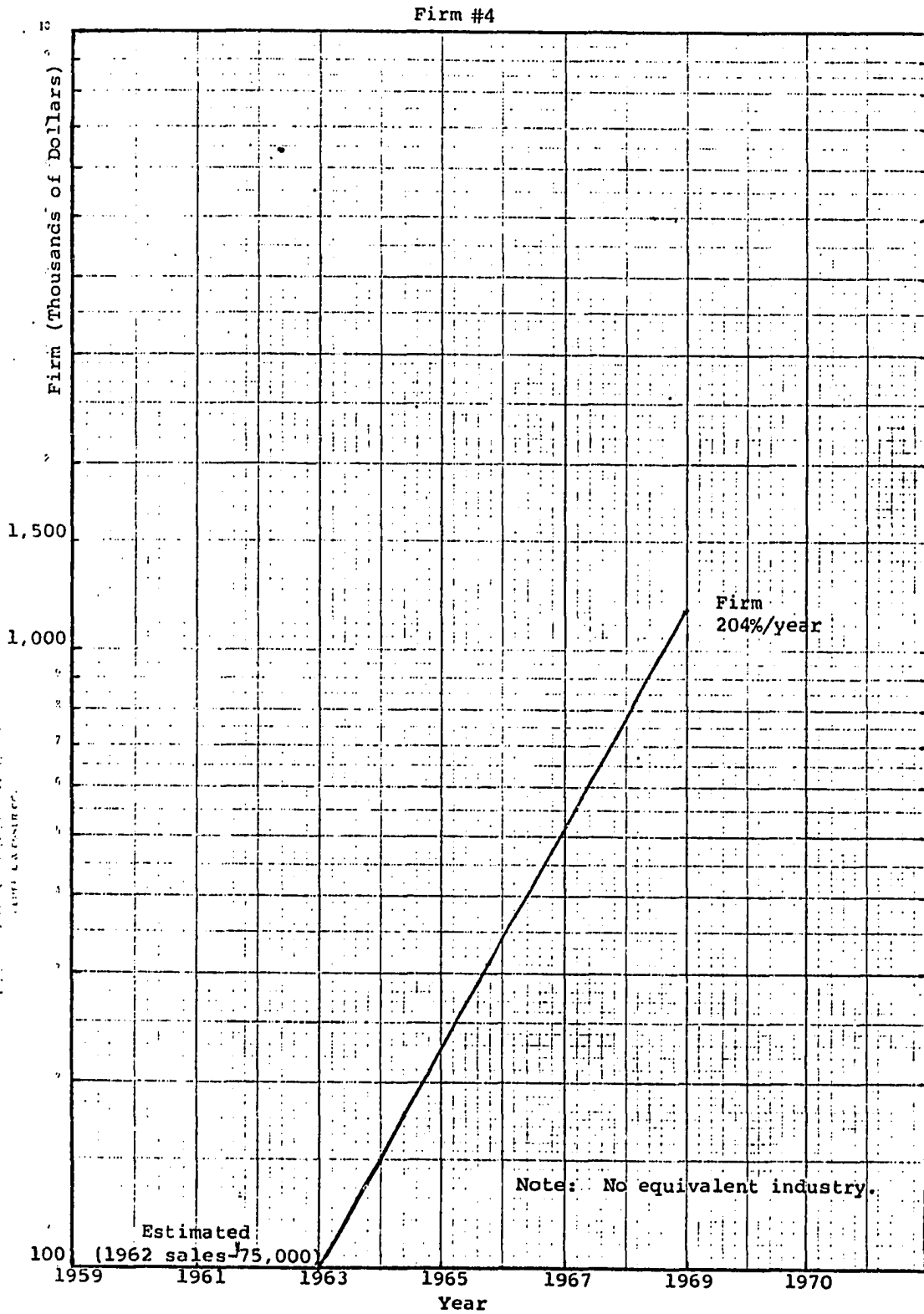
Appendix VIII

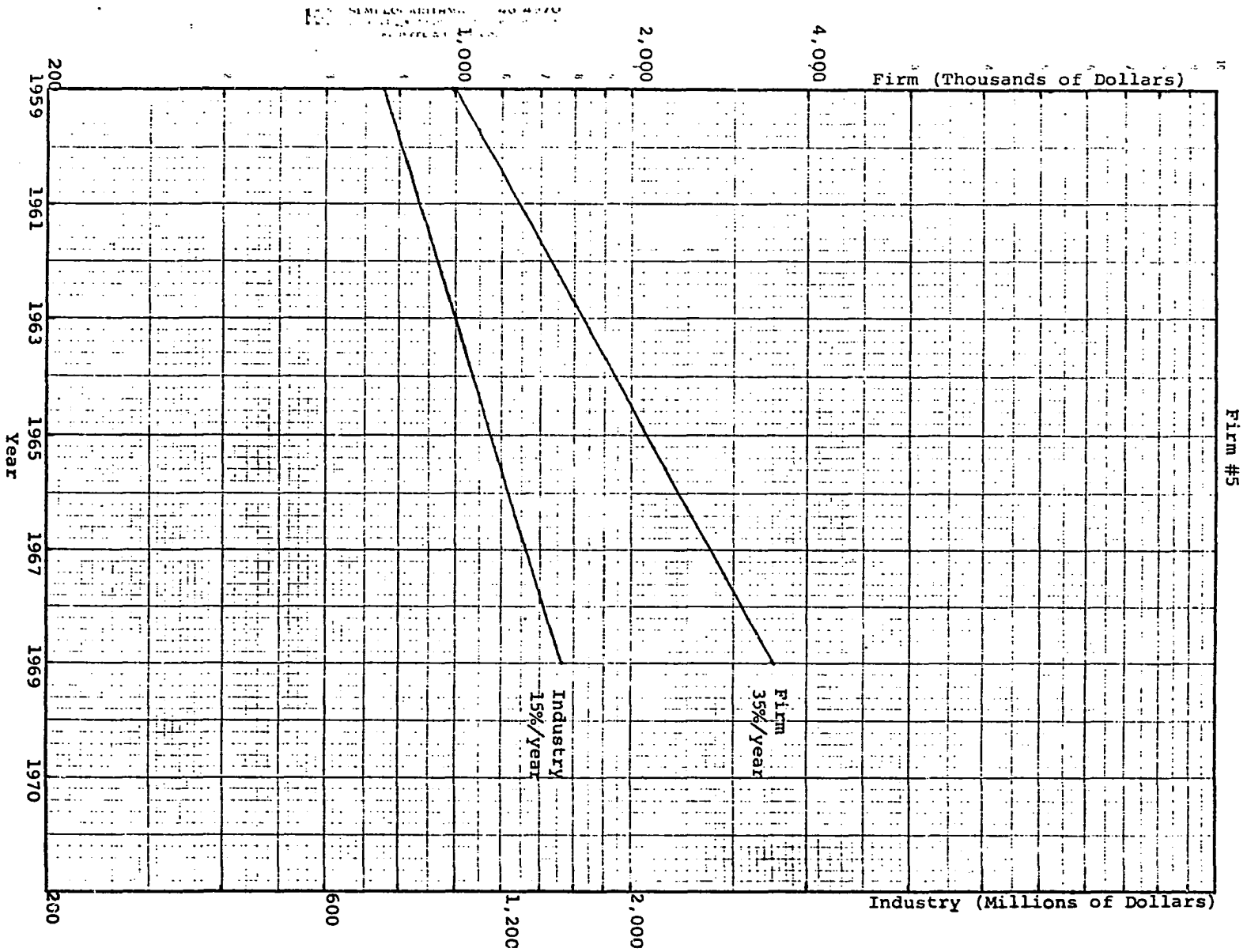
Plotted Sales Growth Rates of Entrepreneurial Firms



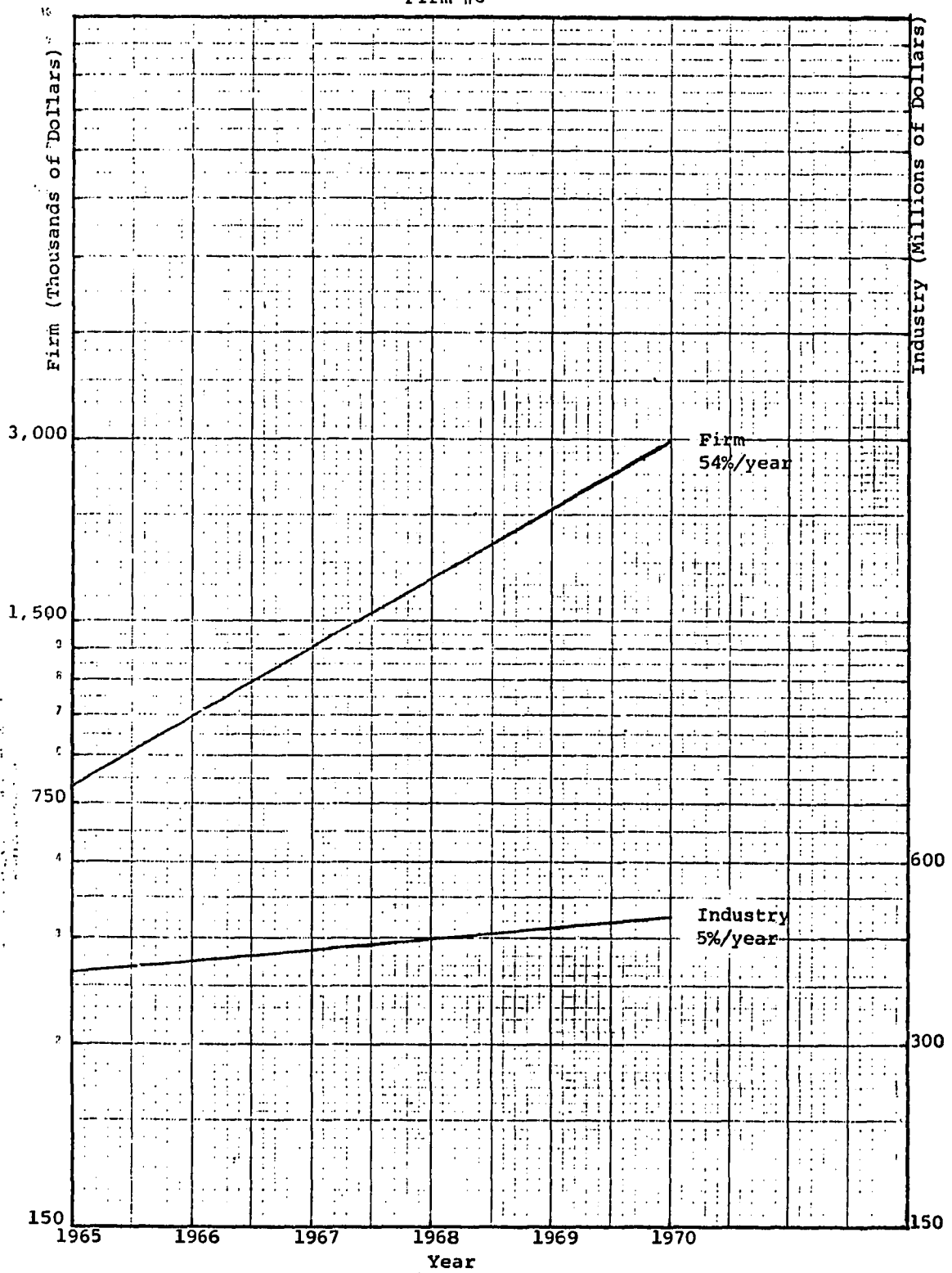




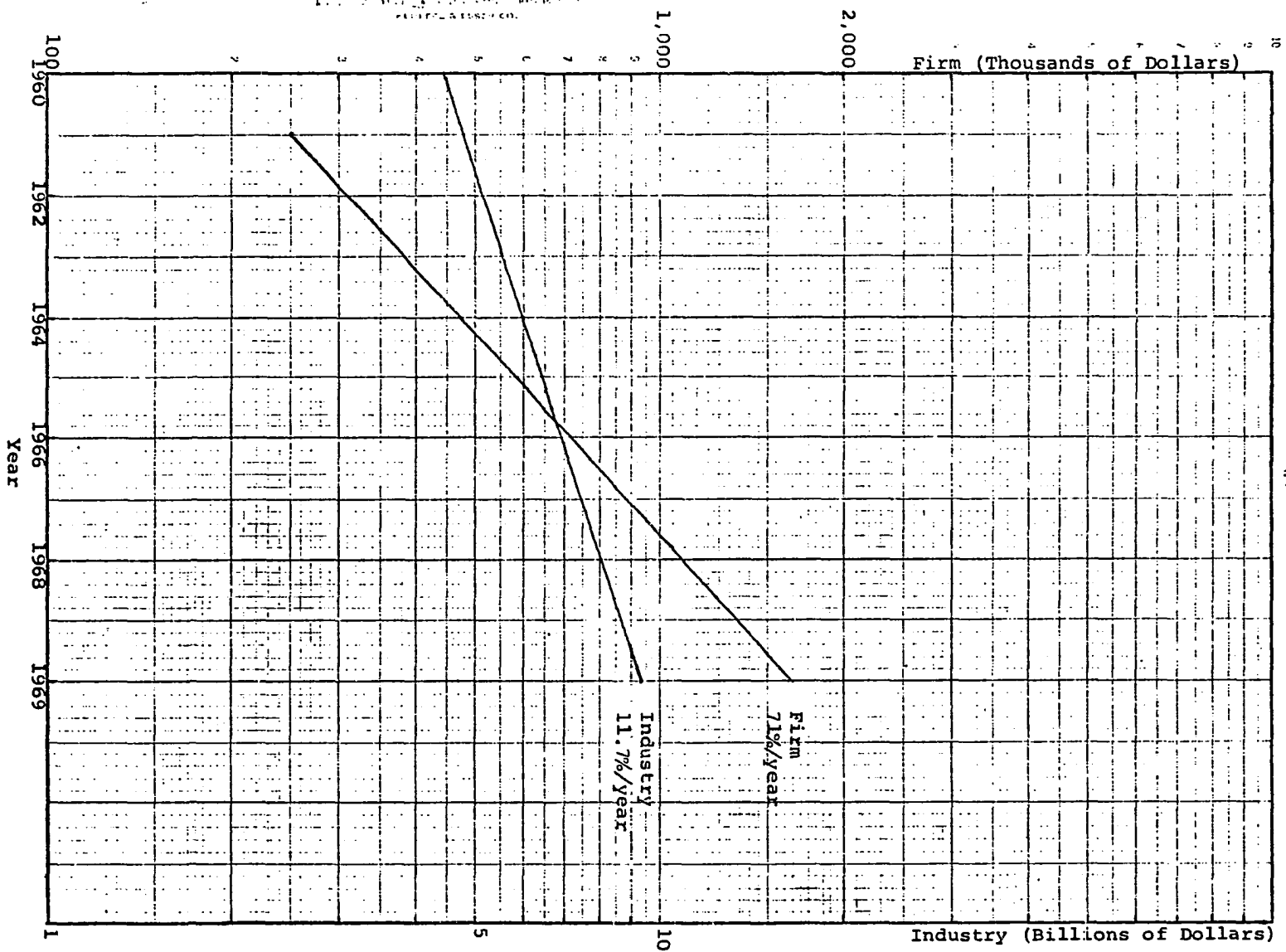


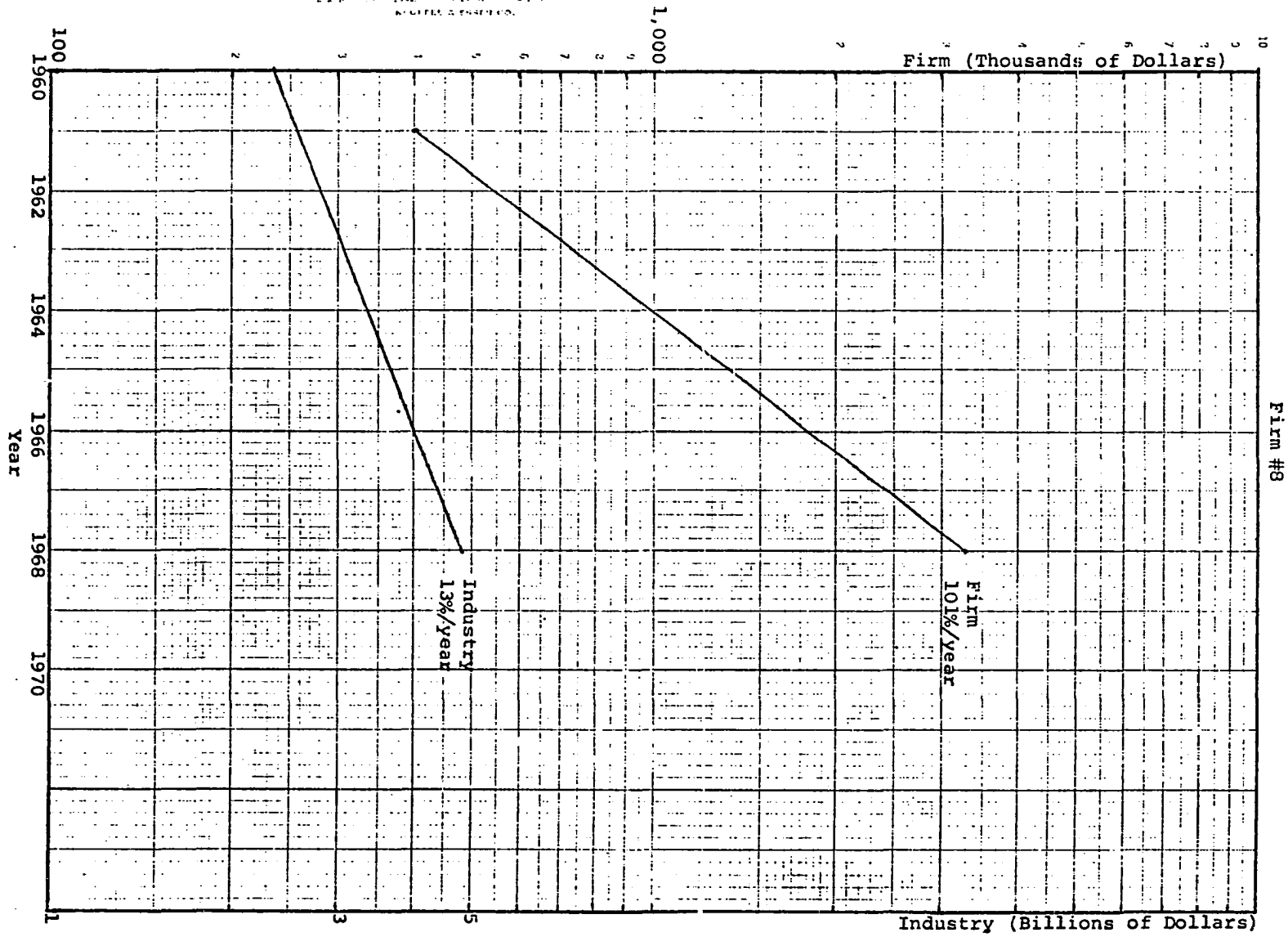


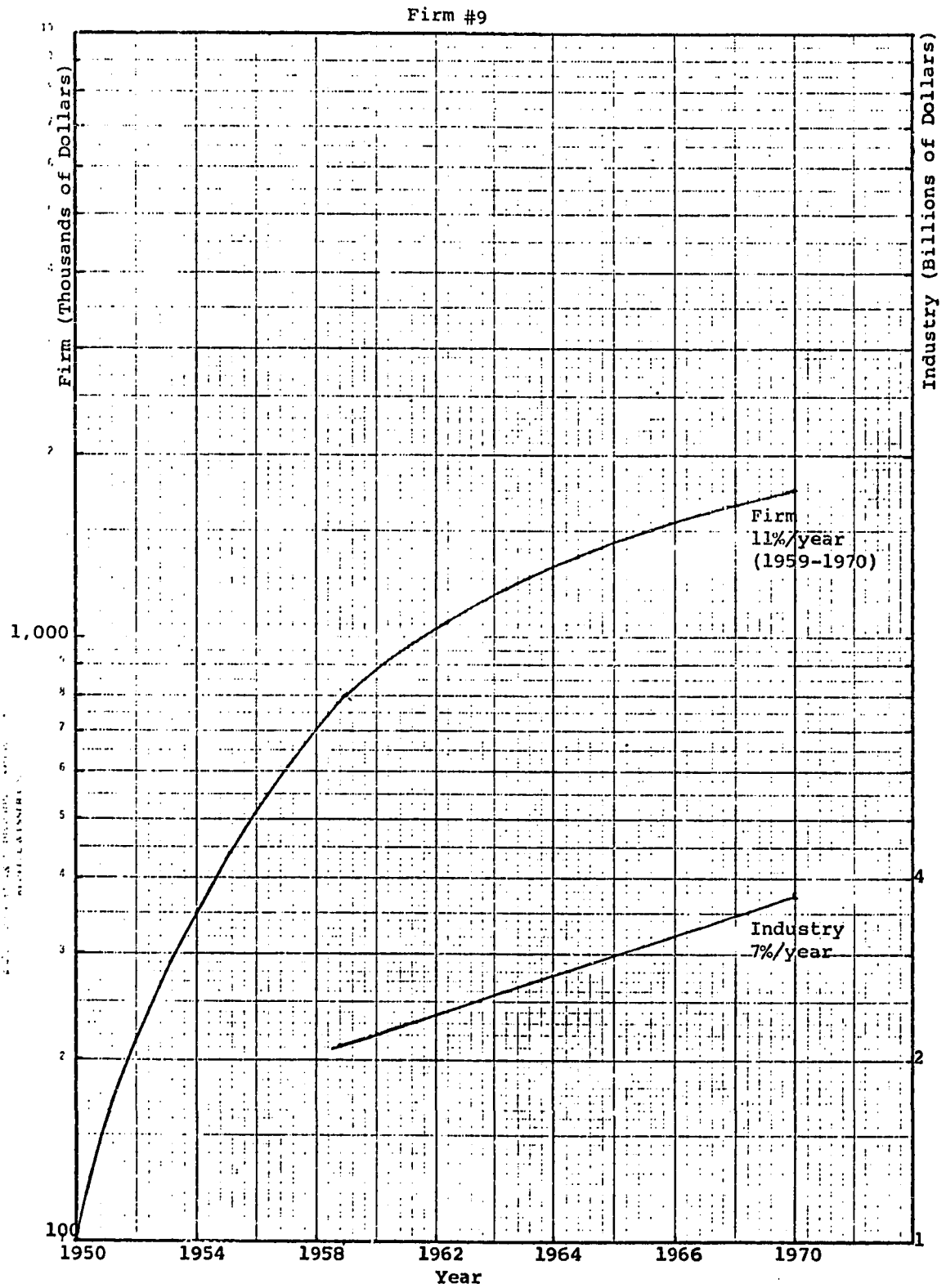
Firm #6

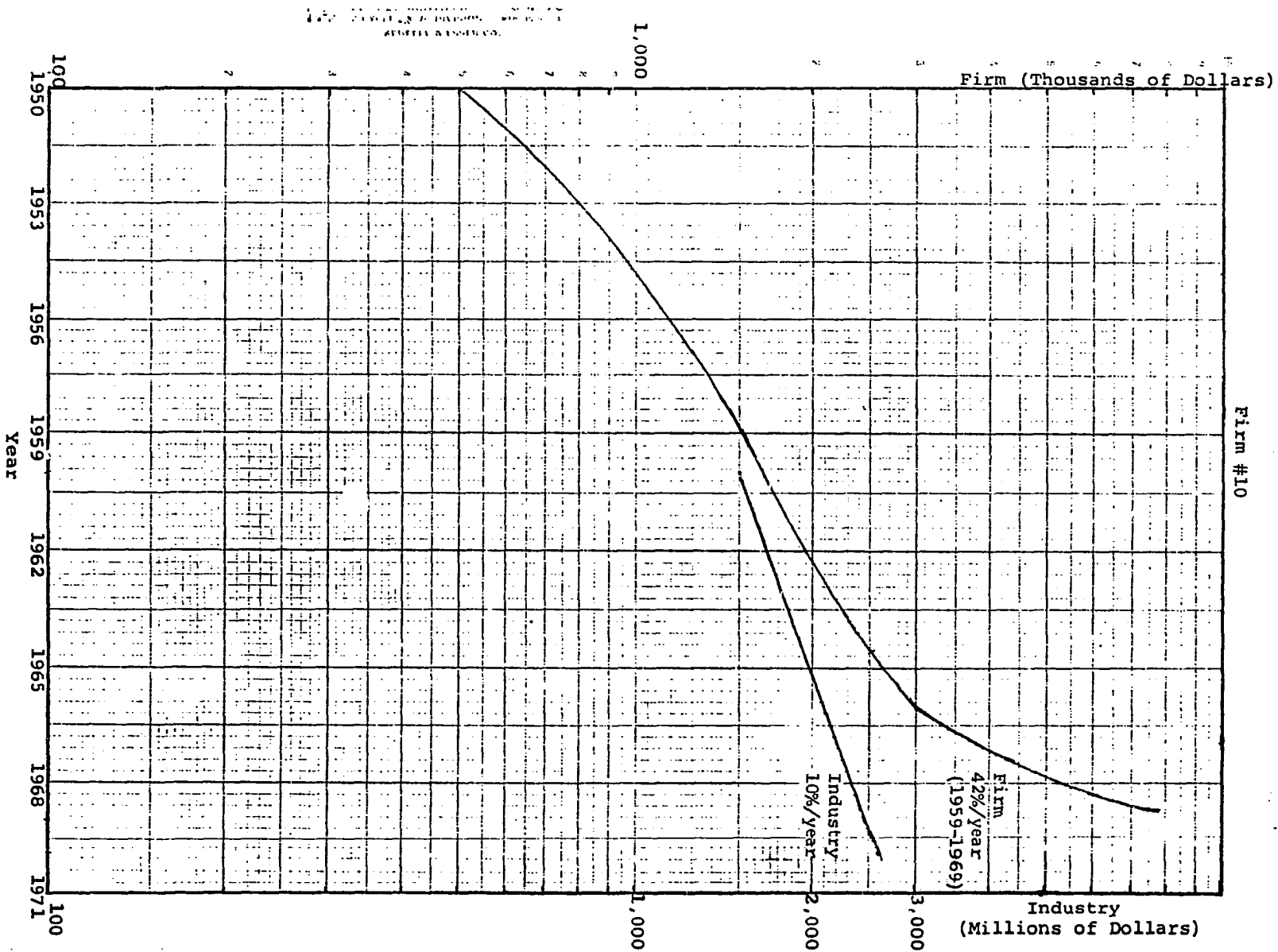


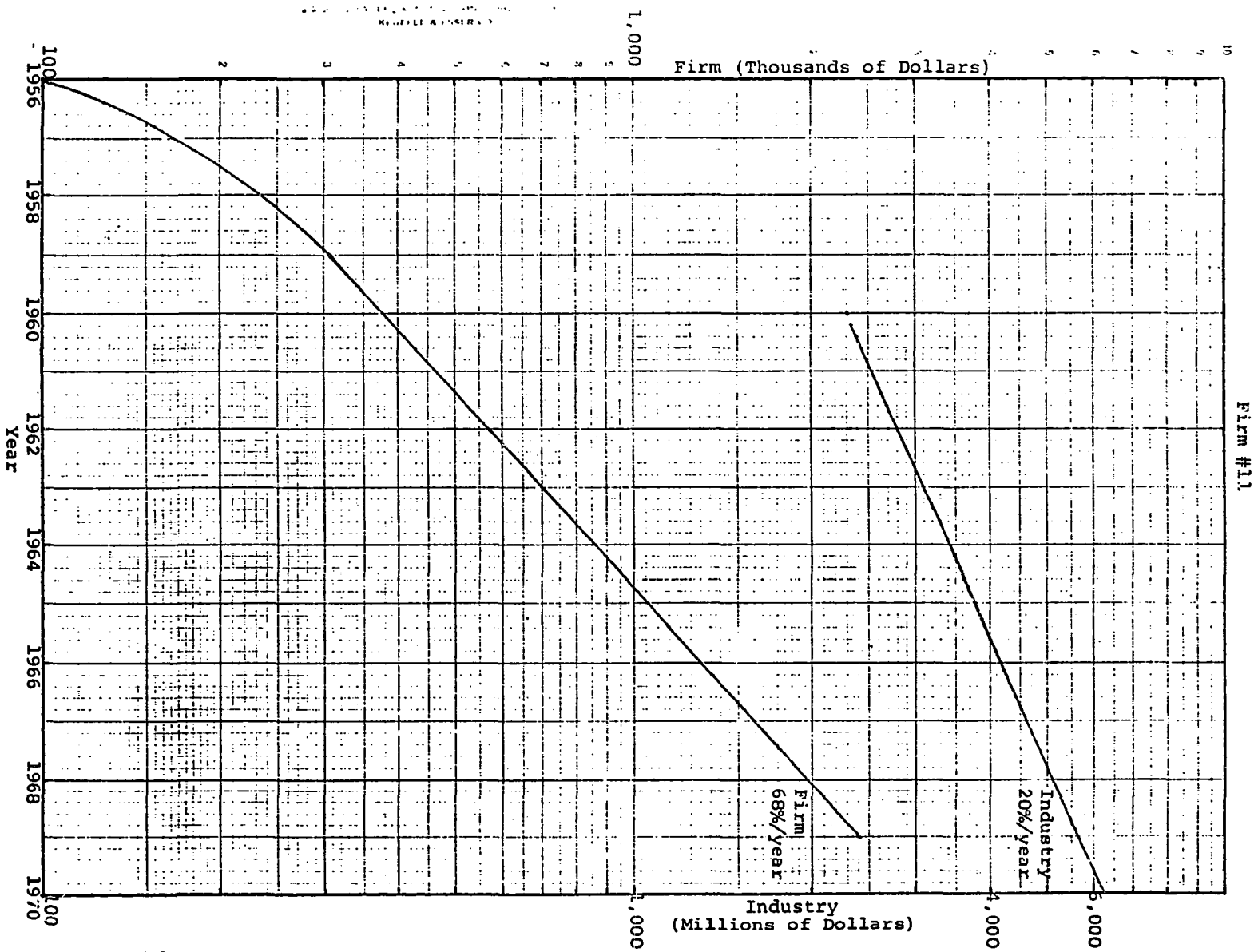
Firm #7

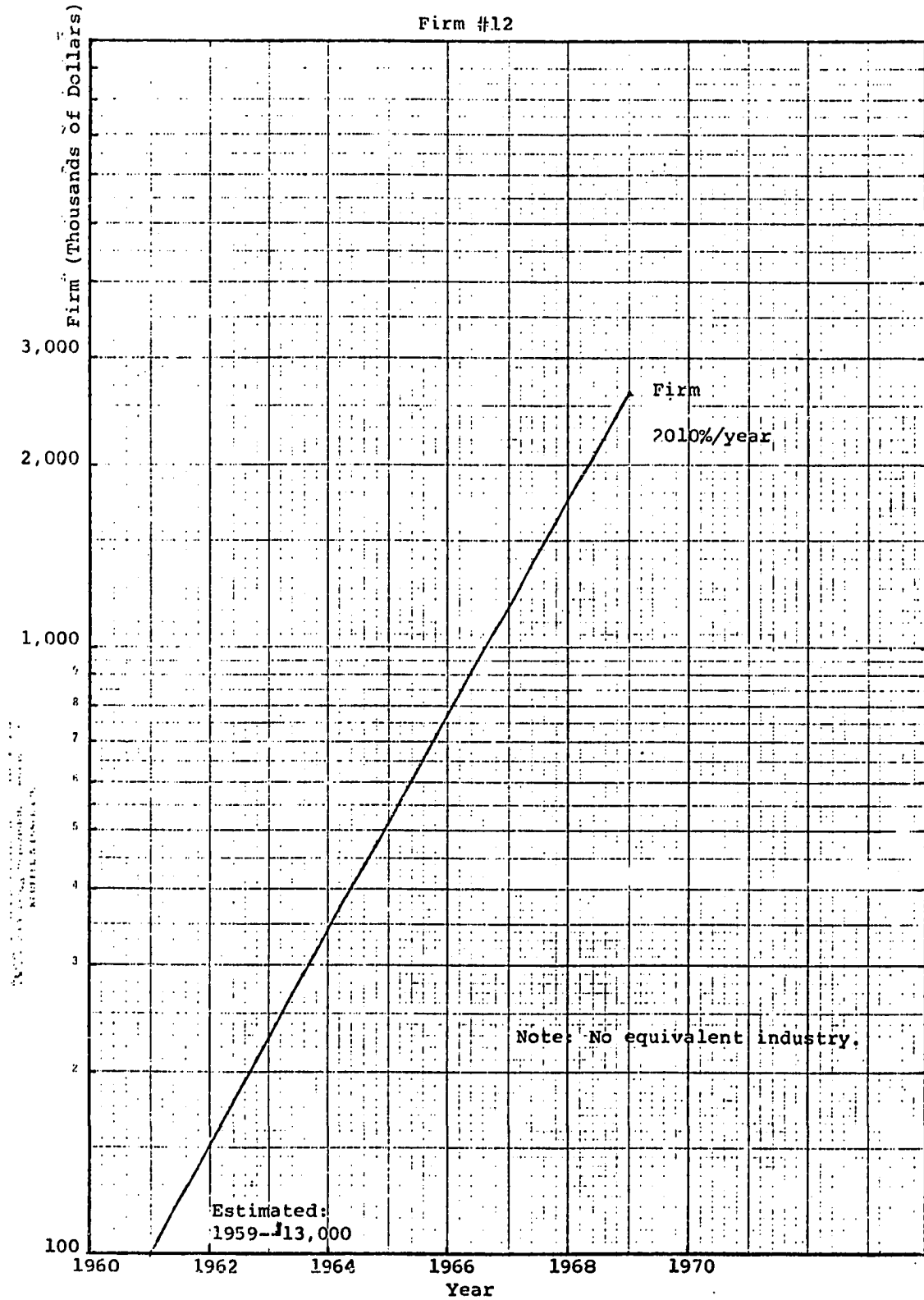


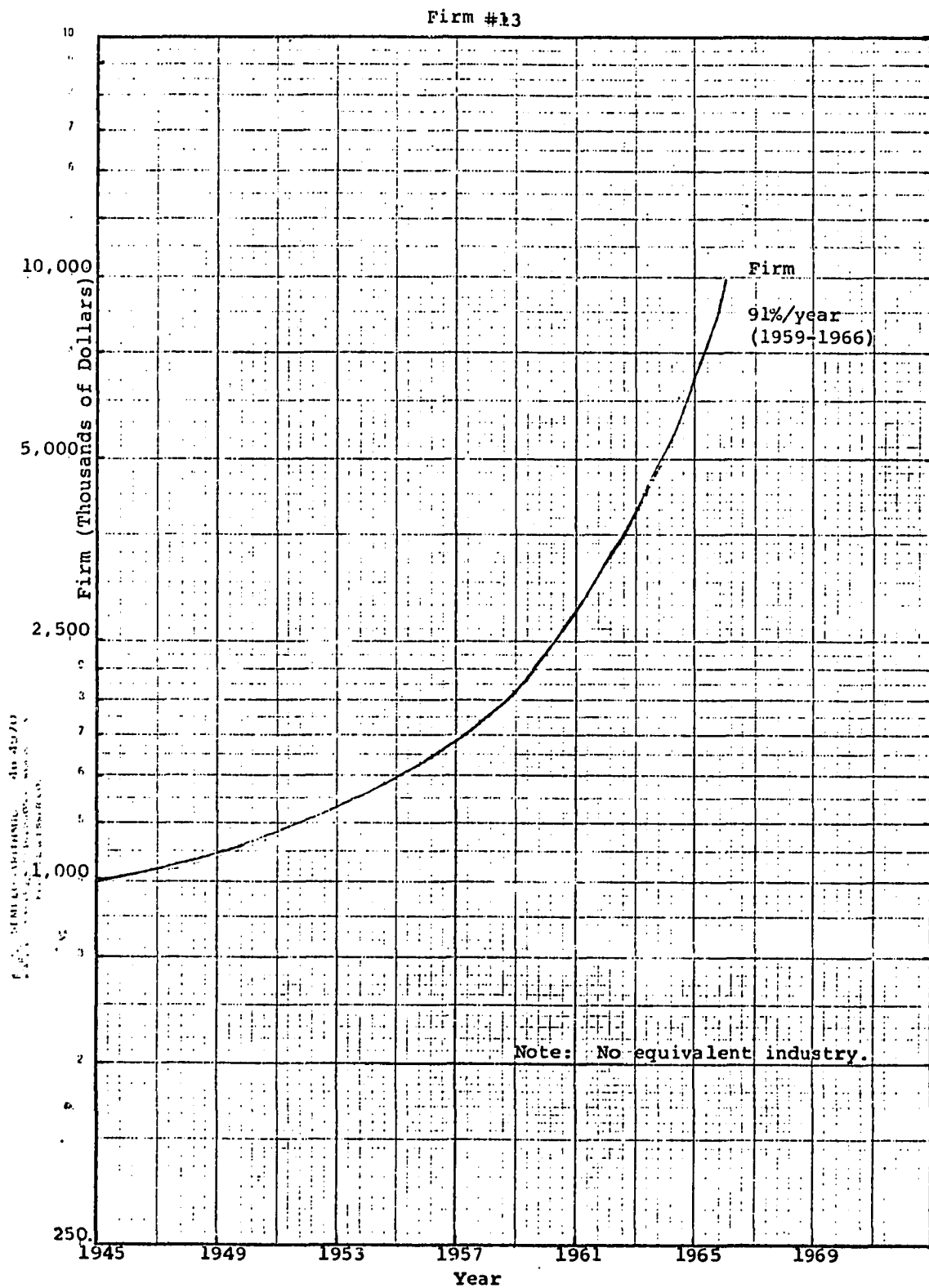


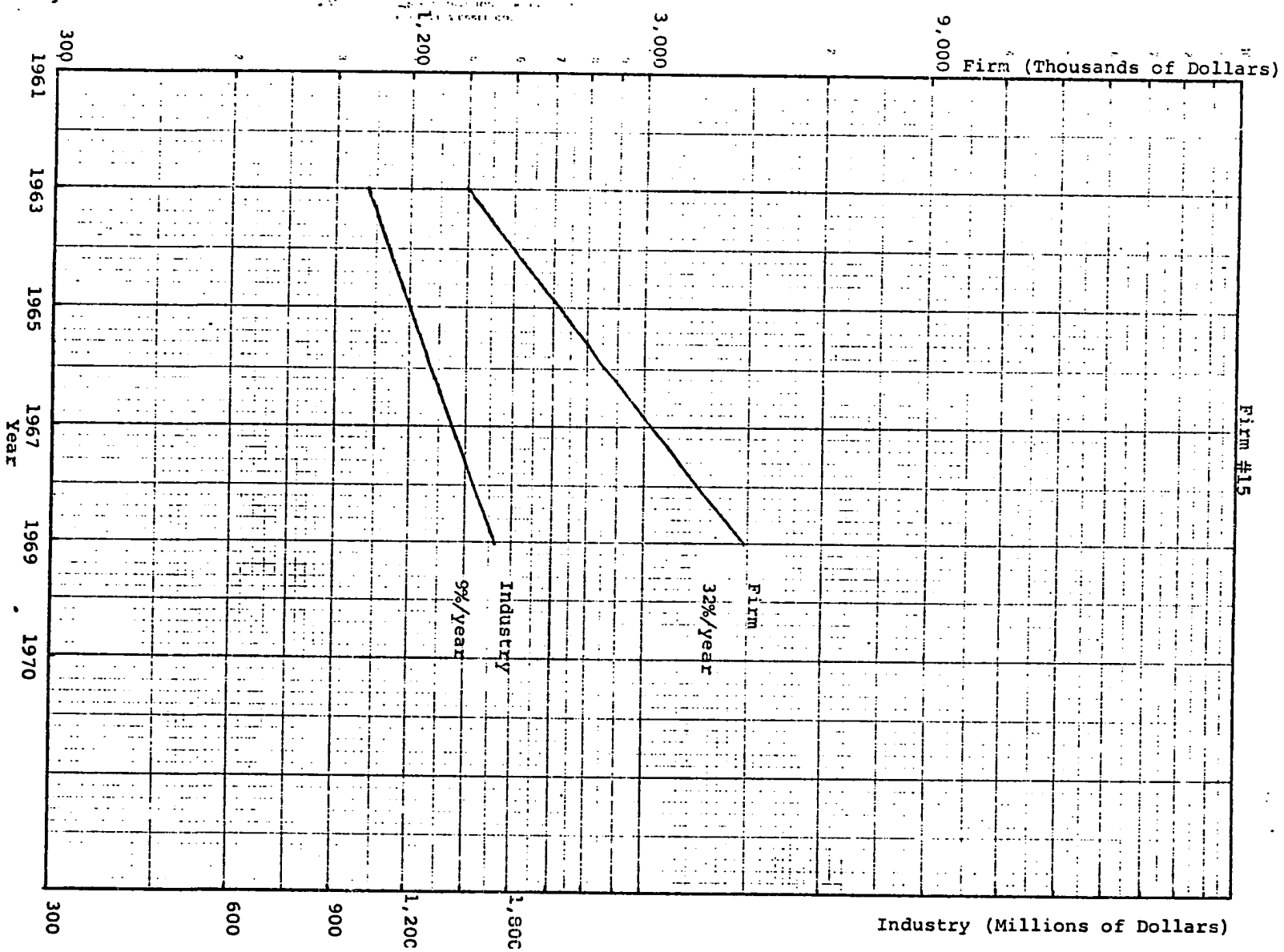






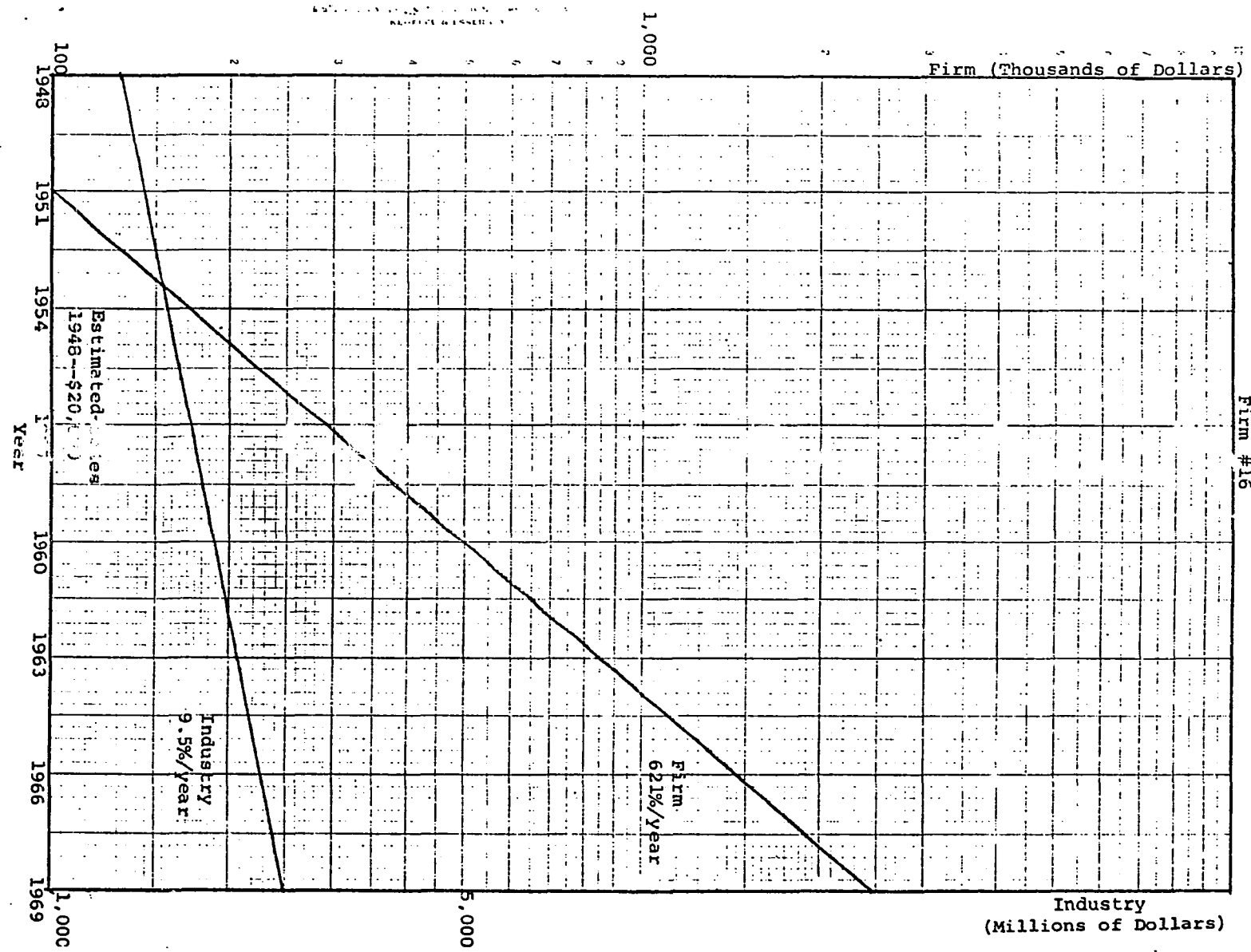


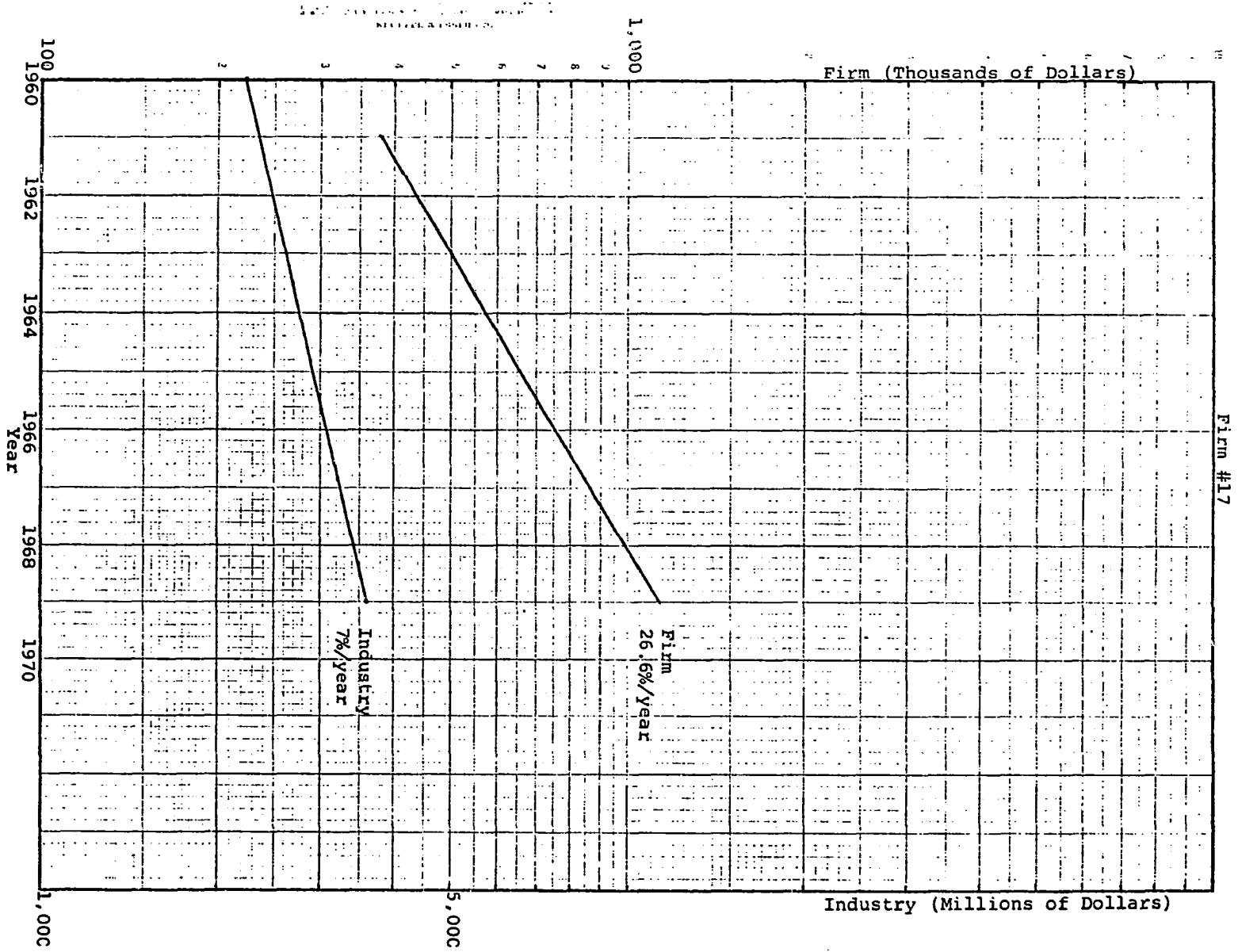


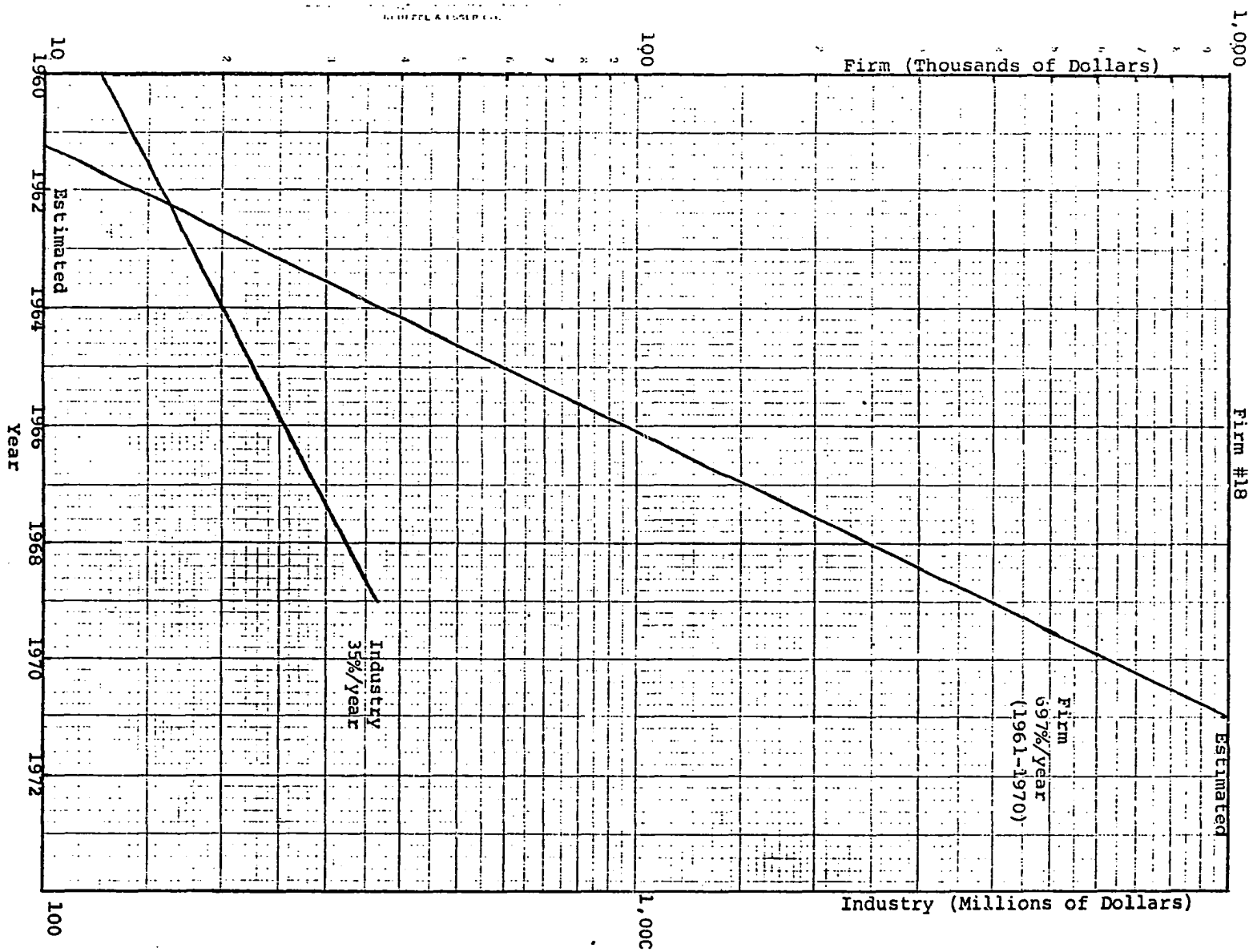


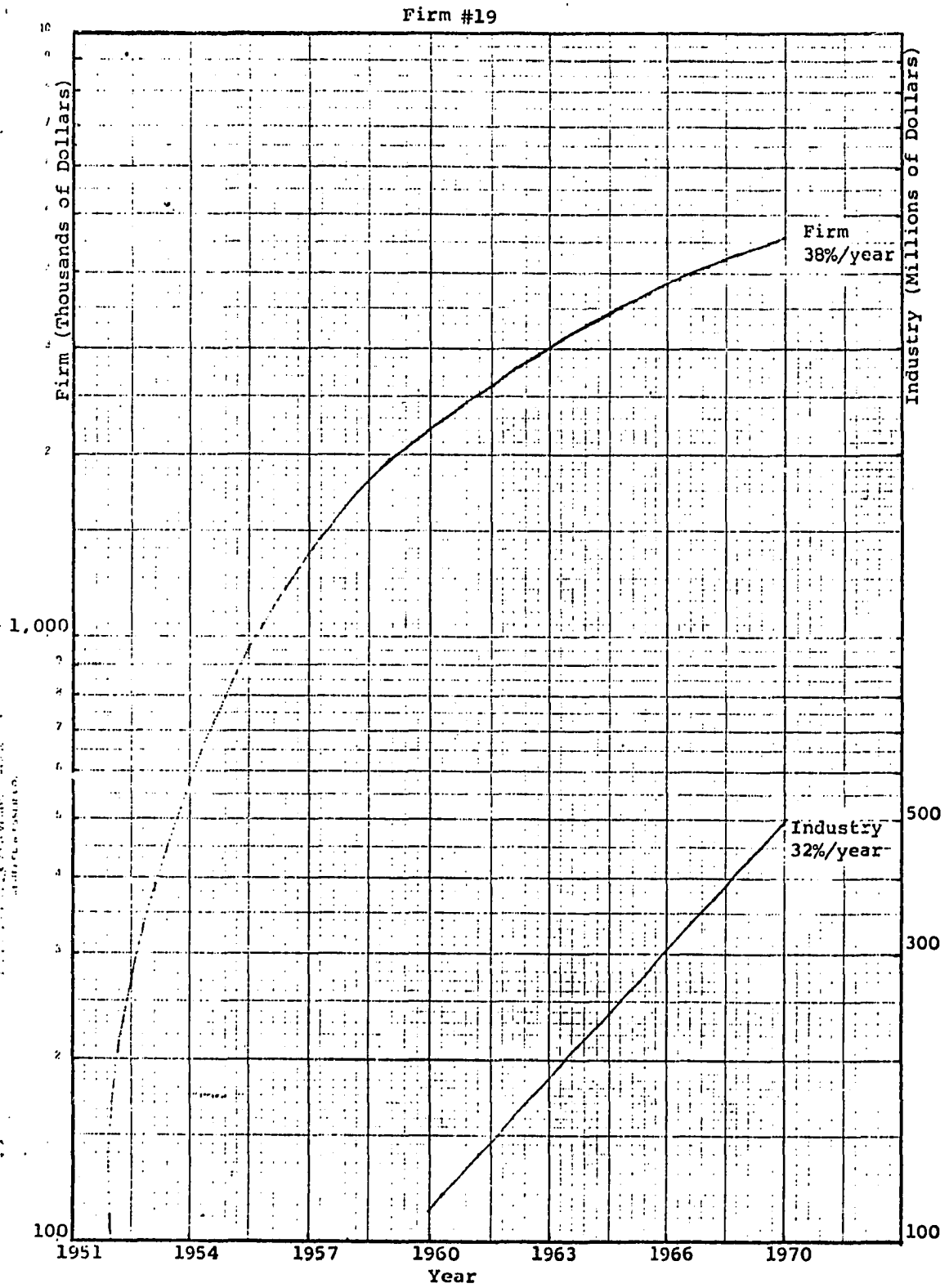
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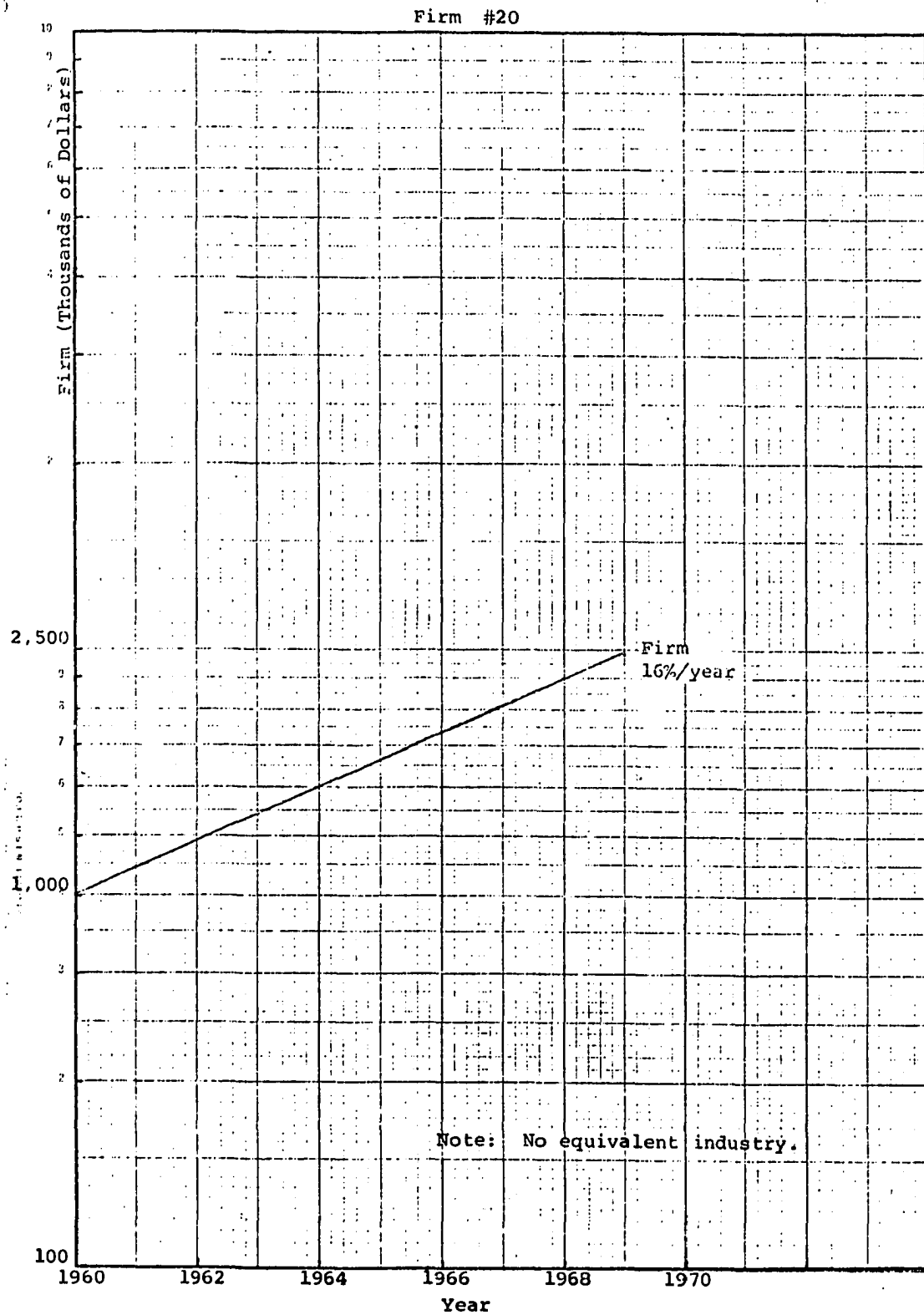
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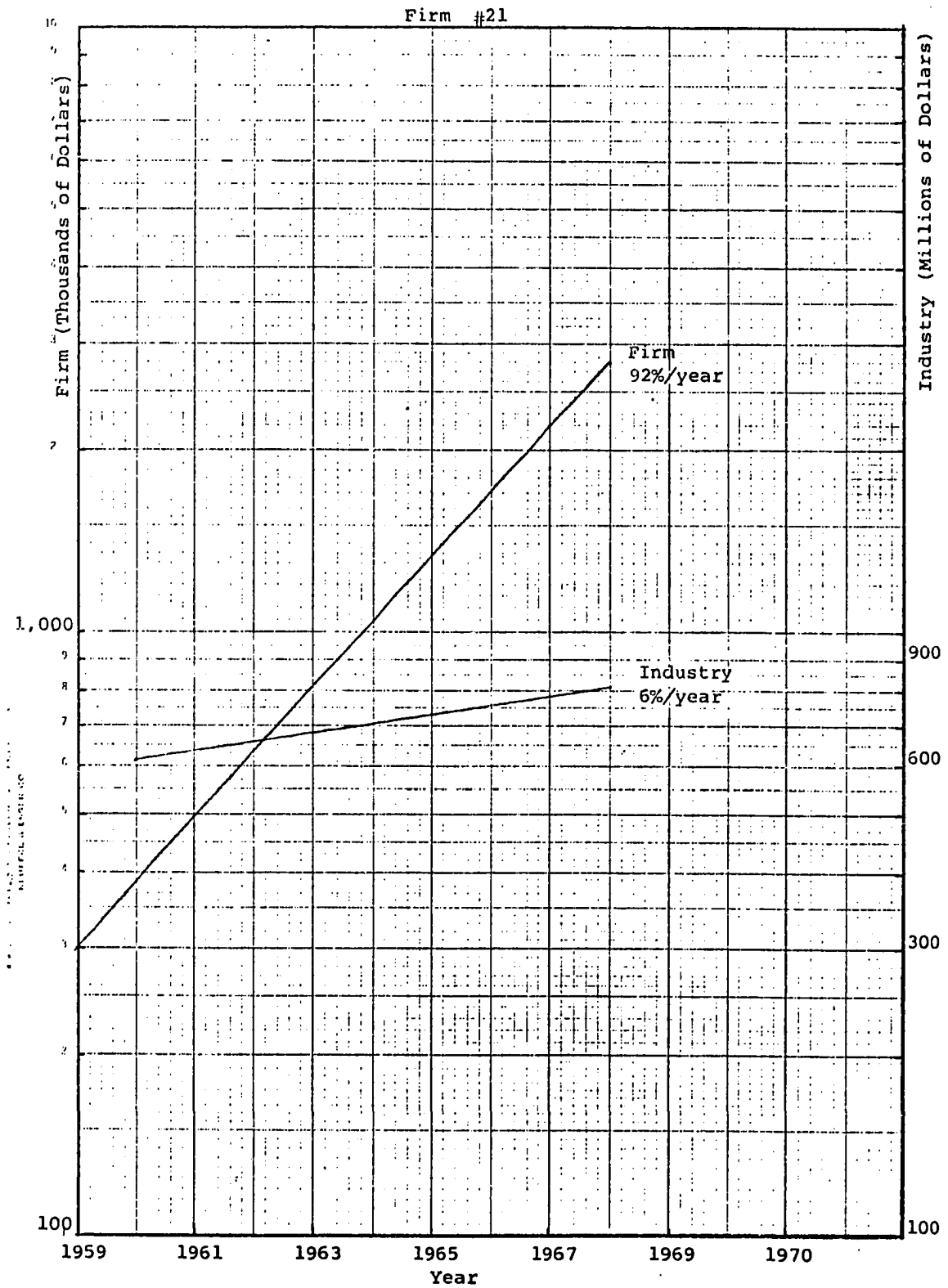












BIOGRAPHICAL SKETCH

John Barry Gilmore was born in Heavener, Oklahoma on December 14, 1941. After receiving his elementary education in Heavener, he graduated from Will Rogers High School in Tulsa, Oklahoma. In 1963 he graduated from Evangel College in Springfield, Missouri with a Bachelor of Business Administration degree. After completing course work for a Master of Business Administration degree at the University of Tulsa in January, 1965, he was employed as a temporary Instructor at Evangel College in the Business Department. For two academic years starting in 1965 he was a member of the Business Administration Faculty of Missouri Southern College in Joplin, Missouri. In June, 1966, after completing his thesis, he graduated with a Master of Business Administration Degree from the University of Tulsa. During the Summer of 1966 he attended the University of Arkansas Graduate School of Business. For three academic years beginning in September, 1967, he held a teaching graduate assistantship in the Department of Management at the University of Oklahoma while studying for the degree of Doctor of Philosophy. While at the University of Oklahoma he was the recipient of the Humble Oil Fellowship and the Department of Management Fellowship. During the past year he has been teaching full-time in Post Office Programs--a management development program for the Post Office Department--at the University of Oklahoma. His professional memberships include the Southwestern Social Sciences Association, and the Southern Management Association. He is married and the father of a son and a daughter.