

BUREAU OF BUSINESS AND ECONOMIC RESEARCH
SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITY OF MINNESOTA-DULUTH

Working Paper No. 89-9

MODELLING
INTEREST IN
ENTREPRENEURSHIP:
IMPLICATIONS FOR
BUSINESS
DEVELOPMENT

by

Kjell R.
Knudsen

and

Donald G.
McTavish

April 1989

Meeting Presentation: 1989 Babson Entrepreneurship Research
Conference, St. Louis, Missouri, April 27-29, 1989.
Supported by the Natural Resources Research Institute.

MODELLING INTEREST IN ENTREPRENEURSHIP:
IMPLICATIONS FOR BUSINESS DEVELOPMENT^{1 2}

Kjell R. Knudsen, University of Minnesota, Duluth³
Donald G. McTavish, University of Minnesota, Twin Cities

ABSTRACT

Interest in starting a business was assessed for a general Minnesota sample of 1,204 adults in 1987. A substantial number of individuals in the sample (13.2%) were seriously considering starting a business. A follow-up study indicated that 24 percent of those initially interested had started a business within a year. Available variables on personal characteristics, resources, and assessments of the economic situation were used to move toward an overall explanatory model of interest in going into business. We discuss a number of important main effects and interaction effects which impact interest in going into business.

INTRODUCTION

Entrepreneurship is a critical feature of the creation of wealth in any society. In this paper entrepreneurship is defined primarily as the process of starting a new business. Elements of entrepreneurship are also involved in expansion and turnaround of existing businesses. Broad based participation in entrepreneurial activity reduces a community's dependence on any one single business or industry. It also increases the likelihood that an area will be alert to changes in economic opportunities and new ideas. Maybe most importantly, broad based entrepreneurship offers a large number of individuals opportunities to participate in the economic decisions of society as well as the rewards from economic activity. In the same way that voting represents the level of participation in the political structure, the level of entrepreneurship represents the level of participation in the economic structure. The process of starting a new business starts with an interest. Social contexts of regions and societies influence the perceived risks of starting a new business and the distribution of interest in doing so. We see the distribution of

¹ Paper to be presented at the 1989 Babson Entrepreneurship Research Conference, Saint Louis, Missouri, April 27-29, 1989.

² Partial funding for this study was provided by the Natural Resources Research Institute (NRRI) at the University of Minnesota, Duluth.

³ Authors' names are listed alphabetically. The research reported on here is a joint effort. Address correspondence to Kjell R. Knudsen, Director, Center for Economic Education, University of Minnesota, Duluth, 10 University Drive, Duluth, Minnesota 55812.

interest as a basic resource of a region or society, reflecting both the social values and context of an area; serving as a basic resource for economic development.

The personal characteristics of entrepreneurs (Hornaday and Aboud, 1971), the motivations of entrepreneurs (McClelland and Burnham, 1976; Scheinberg and MacMillan, 1988), the survival rates of newly started businesses (Churchill, 1955) and the economic contributions of new firms (Birch, 1979; Reynolds and Miller, 1988) have received substantial attention by researchers interested in entrepreneurship and new business formation. Both areas remain active research topics as evidenced by recent proceedings from the Babson Research Conferences and the Academy of Management Annual Meetings. However, little attention has been paid to interest in entrepreneurship for the more general population. Most of the research on entrepreneurs and business formation involves businesses already started.

This paper reports on interest in going into business and specifically moves toward the development of an overall model to explain interest in going into business.

METHODOLOGY

Six questions on entrepreneurship were included in the 1987 Minnesota Fall Survey which was conducted by the Minnesota Center for Survey Research, University of Minnesota, during October 1987 through January 1988.

The Minnesota Fall Survey is a telephone survey. The 1987 sample consisted of randomly selected households from all Minnesota telephone exchanges. Only adults 18 years or older were interviewed. The sample was weighted to be representative of adults. A total of 1,204 interviews were achieved with a 71% response rate.

The obtained sample was compared to 1980 data from U.S. Census and other more recent estimates for geographic distribution, gender and age. The geographic distribution was very close to census data and the deviations were slight enough to assure that the obtained sample provides an adequate representation of Minnesota adults (Knudsen and McTavish, 1988).

The follow-up study had two parts. All those who expressed interest in starting a business were contacted by phone 9 to 12 months after the first interview. They were asked if they were still interested and, if so, what steps they had taken toward realizing their goals. If they were no longer interested, the reasons were sought. The second part was a random sample (n = 50) of respondents who initially said they were not interested in going into business. They were asked if they were now interested and if so, what accounted for the change.

We have three initial hypotheses for which available data are relevant. First, level of interest in going into business reflects socialization factors. For example, gender is a proxy for traditional socialization into careers in business and thus interest in starting a business. Cohort born into (here confounded by length of life) is also a measure of the impact of historic events which suggest that starting a business is an option for handling hard times or taking advantage or opportunities as well as an index for changing sex role socialization in business. Many other factors would be helpful but are not available in this initial study (e.g. family business background).

Secondly, we expect that those who see the economy as favorable for going into business would act on those beliefs and be more interested in going into business. We would also expect that those who perceive times as worsening would turn to their own business as a way to proceed. This would be heightened if the person were unemployed or facing unusual financial burdens although we do not have sufficient variables to explore these relationships very extensively.

Thirdly, we expect that level of resources will have a positive effect upon interest in going into a new business. For example, having high income or education or living in an area with high resources such as a more metropolitan area should have a positive effect on interest.

FINDINGS

At the time of the study, 13.2 percent of the adult population of Minnesota expressed a serious interest in starting a business (see Table 1). On average, they had started .47 businesses. Most were interested in starting service and retail businesses (70.5%) and few were interested in manufacturing (8.8%).

There appears to be considerable cumulative involvement in business, defined as current expressed interest or prior experience with starting a business or being self-employed. Overall 43.4 percent of adults had some involvement in entrepreneurship. This is probably a low estimate because we do not have detailed information about the number of people who were once self-employed but are not currently self-employed (i.e. the retired). Table 1 also indicates that those initially interested are active since 24 percent started a business by the 12 month follow-up. Over half (54%) were still thinking of starting a business and 22 percent were no longer interested by the time of the follow-up. Among those not initially interested in starting a business, 7 percent changed to become interested within the follow-up period.

We developed a characterization of types of venturing which involved combinations of interest, self-employment and past experience in starting a business. Most (62%) were neither interested, experienced nor currently self-employed. At the other extreme, 2.4% were interested, experienced and self-employed and these were more likely to have gone into business during the follow-up period.

Table 2 presents the percent interested in starting a business by selected variables. The more interested include males (18%), the young (18-34 years with 21%), college educated (17%), single (22%), self-employed (19%), not retired (16%), non-white (23%), the employed (16%), persons with high household income (16%), and those with two children under 18 years of age (20%). All differentials shown in Table 2 are statistically significant well beyond the .02 level. (ANOVA is used throughout this paper.) Seeing ones self as retired is the most impressive interest vs. no-interest 'switch'. The percentage for more rural areas is also especially low.

While there are a number of important single-variable main effects, it is the special combination of situations which has an impressive impact upon the level of interest in entrepreneurial activity. Table 3 shows a range from high levels of interest down to essentially no interest, among, for example, the retired and the older, low-income, not-self-employed respondents. The percent interested goes up to about 30 percent for substantial sub-groups such as males in metropolitan areas who expect to be better off financially next year as

compared to this year. Among smaller sub-groups the percent can go to 50% for part-time, young, high-income adults and to 71% as an estimate among the tiny group of small-city, not-employed, but not retired males. Thus, social conditions seem to have a substantial consequence for expressed level of interest in entrepreneurship.

Significant gender and age differences are evident in this study, and those probably reflect traditional socialization and historic effects. Young and middle aged males express substantially more interest (see Table 4) as compared to people born before 1943 of either gender. Overall fewer women than men express an interest in entrepreneurial activity. It is interesting to note that the overall 2 to 1 ratio of male to female interest becomes systematically smaller for people born after 1952 compared to those born before 1943 (1.4, 2.7, 3.0).

Table 5 shows level of interest by respondent's estimate of their economic situation. One variable concerns whether the respondent considers their current situation to be better, the same as, or worse than a year ago. The second financial assessment variable is an estimate of whether the next year will see them in a better, same or worse financial situation. These data are shown separately for respondents located in the major metropolitan area versus the smaller city and rural areas of the State.

Overall, those who consider the future to hold a better financial situation are more likely to express an interest in venturing. This pattern was also true of another variable (not shown) which asked whether it was a good time to buy a major household item. When age is controlled, the effect of perceived change from a year ago becomes statistically not significant (at our .05 level) but not the estimate of the financial future. There is a main effect of metropolitan and non-metropolitan status as well as a three way interaction effect of past and future assessment and metropolitan status. For respondents in the metropolitan area, Table 5 suggests that the level of interest in entrepreneurial activity increases where change in financial situation is perceived. For example, 20 percent are interested among those who see the situation worsening in the future and 23 percent are interested among those who see it as getting better and this becomes stronger depending upon perception of change in the past year. The effect for non-metropolitan and metropolitan interest appears to be driven more by good future prospects rather than perceived change. For both groups, no change from past to present or into the future, spells very low expressed interest.

A number of variables dealing with resources available to the respondent were included in the survey. These include household income, educational experience and prior experience in starting a business. Table 6 shows the distribution of interest in starting a new business by these variables. The main effects of education and income are statistically significant but the main effect drops out when age is controlled. There is also a significant interaction effect of income and educational level. Prior business experience does not contribute significantly to these differences although under some conditions prior starts makes a significant contribution in explaining interest (e.g. with gender).

Table 6 shows the income and educational advantage generally promote higher interest in starting a new business. Those in the least advantaged category on both variables show very low levels of interest. In most cases, prior business experience increases the level of interest (even though many will be settled in a successful business). However, in the least advantaged group it is the inexperienced who

express most interest. Business start experience does not contribute in a statistically significant way to the overall pattern observed here so those findings may not reflect population differences. Noteworthy is the apparently strong interest among those in the middle income and technical school education categories.

Other variables were available for analysis which reflect some facets of resources such as work status, number of children under age 18 in the household, marital status, etc. In each case the variables dropped out under most conditions, suggesting that the main resource variable among those available in this study is level of educational experience.

DISCUSSION AND CONCLUSIONS

It is evident that social conditions have a substantial impact on the level of interest in going into business. There appears to be support for the initial hypothesis that socialization variables have an impact on level of interest. Here we have used gender and cohort (age) as proxies for these variables, but future research needs to use more direct measures of socialization. Secondly, perceived economic change both over the past year as well as into a future year, make a difference in the expressed level of interest. However, the metropolitan versus non-metropolitan differences complicate the picture in that metropolitan respondents appear to be more sensitive to change whether for better or for worse and non-metropolitan respondents express greater interest as future conditions are perceived as improving (a finding which is especially true in the most rural areas). Thirdly, those with more education, income and business experience are more interested in going into business. Finally, resource levels (especially education) support greater interest, although specific business start experience or general work status generally do not create statistically significant differences in this study.

Even given the limitations of the present study in terms of variables and regional coverage, there are some implications for business development activities. The study points to the need for encouraging going into business as a career option for underrepresented groups such as women, those not particularly advantaged by income and education, people outside of metropolitan areas and the experienced retired. An encouraging feature of the results is the high interest expressed by racial minorities. Not encouraging underrepresented groups, could potentially contribute to widening economic differences especially in rural areas. For example the study suggests that the metropolitan area picks up steam both when conditions are thought to change for better and for worse, while rural areas only pick up when conditions are thought to change for the better.

Table 1

SUMMARY OF ADULT INTEREST IN BUSINESS, MINNESOTA, 1987*

Overall sample size		1204
Average number of businesses ever started	mean	.47
	std dev	.92
Percent Seriously Interested in Starting a Business		13.2%
Percent Involved in Own Business		43.4
Types of Venturing (percent)		
"Hot" (interest, experience, self-employed)		2.4%
"Changing In" (intr, exper, Not self-emp)		2.4
"Settled" (No int, exper, self-empl)		10.7
"Novices" (Interest, No exper, Not self-empl)		8.5
"Changing Out" (No int, exper, Not self-empl)		14.3
"The Pool" (No int, No exper, Not self-empl)		61.8
Outcome Among Those Initially Interested (N=98)		
Started a business		24.1%
Still Thinking About		54.4
No longer interested		21.5
Outcome Among Those Initially Not Interested (N=50)		
Now Thinking of Starting		7.2%

* Data are a 1987 probability phone survey sample of adults, by MCSR, U of Minnesota. The follow-up study included all who indicated an interest at time one and a random sample of 50 of those who indicated no interest at one time.

Table 2

PERCENT SERIOUSLY INTERESTED IN STARTING A NEW BUSINESS BY
SELECTED VARIABLES, MINNESOTA ADULTS, 1987 *

Overall		13.2	(1201)
Gender	Male	18.3	(530)
	Female	9.2	(671)
Age	18-34	20.8	(452)
	35-44	17.6	(277)
	45 and over	3.3	(458)
Education	Highschool or less	8.4	(508)
	Technical School	13.8	(125)
	College	17.4	(568)
Marital Status	Married	11.3	(814)
	Single	22.4	(277)
	Other	4.8	(104)
Self-Employed	Yes	18.6	(234)
	No	11.9	(968)
Retired	Yes	.6	(183)
	No	15.5	(183)
Race	White	12.7	(1144)
	Non-white	23.4	(56)
Job	Last Week	15.6	(834)
	None	8.0	(366)
Household Income	5-25 thousand	9.4	(399)
	26-35 thousand	12.7	(274)
	36 thousand up	16.4	(529)
Number of Children Under 18	None	11.9	(571)
	One	12.8	(197)
	Two	19.9	(190)
	Three +	14.4	(136)
Place of Residence	Major Metro. Area	17	(411)
	Suburbs of Major Area	15	(298)
	Smaller Cities	18	(97)
	Rural Places	8	(395)

* Differences are significant at .02 or less for each variable.

Table 3

ILLUSTRATIVE RANGE OF PERCENTAGE INTERESTED
IN STARTING A BUSINESS BY SELECTED SITUATIONS

<u>Condition</u>	<u>Percent Interested</u>	<u>N</u>
Male, not retired, from smaller cities	71	(4)
Male, \$36 thousand +, works part time	57	(15)
Male, manager-professional, smaller cities	53	(8)
Male, not retired, \$36,000. or more	50	(9)
Part-time, 18-34 yrs, \$36 thousand +	50	(29)
Male, College, Self Employed	47	(33)
Technical schooling, 35-44 yrs, Self-employed	46	(7)
Male, Some College, Part Time Work	41	(23)
Smaller City, Full-time work, 18-34 yrs	40	(18)
Male, Started 1+ businesses, not retired	39	(16)
Started 1+ businesses, 35-44 yrs, not retired	37	(14)
Sales/Adm/Tech Occupation, 18-34 yrs, \$36,000 +	35	(45)
Male, Major metro area, Finances Next Year	30	(117)
Major Metro Area, Better now, Better next yr	26	(171)
Last Year Better, Next year better	23	(100)
Male, Greater Minnesota	15	(266)
Suburban	15	(298)
Major Metro, No change in finances next year	10	(265)
Female, Greater Minnesota	5	(303)
Female, Greater Minnesota, Next year same	3	(180)
Greater Minnesota, Same as last year, next year	2	(117)
Retired	1	(183)
45+ age, \$5-25 thousand, Not self employed	1	(153)

Table 4

PERCENT EXPRESSING INTEREST IN VENTURING
 BY AGE AND GENDER, MINNESOTA ADULTS, 1987 *

<u>Age Category</u>	Gender		<u>Overall</u>
	<u>Male</u>	<u>Female</u>	
18-34 (1953-69)	25 (201)	17 (251)	21 (452)
35-44 (1943-52)	27 (125)	10 (152)	18 (277)
45 on (- 1942)	6 (200)	2 (258)	3 (458)
Overall	18 (527)	9 (661)	13 (1187)

(* Main and interaction effects are statistically significant at the .05 level of significance.)

Table 5

PERCENT INTERESTED IN STARTING A BUSINESS BY RESPONDENT'S
ESTIMATE OF FINANCIAL CHANGE OVER PAST YEAR AND A YEAR FROM NOW
FOR METROPOLITAN AND NON-METROPOLITAN ADULTS, MINNESOTA, 1987 *

Change in Financial Well-Being From A Year Ago	Expectations for Financial Well-Being One Year From Now?			Totals
	Worse	Same	Better	
Better				
Non-Metropolitan	0 (14)	10 (130)	16 (95)	12 (239)
Metropolitan	31 (16)	14 (133)	26 (173)	21 (320)
Same				
Non-Metropolitan	5 (19)	2 (118)	24 (34)	7 (168)
Metropolitan	19 (16)	4 (86)	5 (37)	6 (135)
Worse				
Non-Metropolitan	6 (44)	11 (74)	13 (43)	10 (159)
Metropolitan	13 (24)	7 (51)	27 (57)	17 (131)
Totals				
Non-Metropolitan	5 (75)	7 (319)	17 (172)	10 (566)
Metropolitan	20 (55)	10 (266)	23 (264)	17 (585)

* All main effects and only the three-way interaction effect are statistically significant at the .05 level of significance. Numbers in parentheses are the base of the associated percentage.

Table 6

PERCENT INTERESTED IN STARTING A BUSINESS BY SELECTED
RESOURCE VARIABLES, MINNESOTA ADULTS, 1987 *

Respondent's Education and Business Start Experience	Household Income			Overall
	\$5-25 Thousand	\$26-35 Thousand	\$36 & over Thousand	
Some College or more				
No Business Starts	11 (97)	12 (78)	18 (169)	
1+ Business Starts	16 (44)	13 (36)	33 (84)	
Overall	13 (141)	13 (113)	23 (253)	17 (568)
Technical School				
No Start Experience	9 (33)	22 (28)	15 (28)	
1+ Business Starts	11 (14)	25 (4)	0 (4)	
Overall	10 (47)	22 (32)	13 (32)	14 (125)
Highschool Graduate or less				
No Business Starts	8 (155)	10 (89)	6 (78)	
1+ Businesses Started	4 (55)	12 (39)	12 (33)	
Overall	7 (209)	11 (128)	7 (109)	8 (508)
Totals	9 (399)	13 (274)	16 (529)	13 (1201)

* Main effects of education and income as well as interaction effects of education and income are significant at .02 or less. When age is controlled, the main effect of income becomes not statistically significant. Base of percent is in brackets.

REFERENCES

Birch, D.L. (1979) The Job Generation Process. Cambridge, Mass: MIT Program on Neighborhood and Regional Change.

Churchill, B.C. (1955) Age and Expectancy of Business Firms. Survey of Current Business, Vol. 35, No. 12, 15-19.

Hornaday, J.A. and Aboud, J. (1971) Characteristics of Successful Entrepreneurs. Personnel Psychology, Summer, 141-153.

Knudsen, K.R. and McTavish, D.G. (1988) Venturing: The Search for the High Potential Entrepreneur. Paper presented at the Eighth Annual Strategic Management Society Conference, Amsterdam, October 17-20, 1988.

Reynolds, P. and Miller B. (1988) 1987 Minnesota New Firms Study: An Exploration of New Firms and Their Economic Contributions. Center for Urban and Regional Affairs, Minneapolis, Minnesota, CURA 88-1.

Scheinberg, S. and MacMillan G.C. (1988) An 11 Country Study of Motivations to Start a Business. Paper presented at the 1988 Babson Entrepreneurship Research Conference, Calgary, Alberta.

SUMMARY

Name

Kjell R. Knudsen
Donald G. McTavish

Address

Center for Economic Development
University of Minnesota, Duluth
and Department of Sociology
University of Minnesota, Twin Cities

Title

Modelling Interest in Entrepreneurship: Implications for Business Development

Principal Topics

The paper addresses the level of interest in starting a new business shown by adults in a general population. It is this that is the starting point for business development. The data provide insight into level of interest by selected socialization, resource and current situation of respondent variables and a beginning for a model of interest in entrepreneurship.

Method and Data Base

Data are from questions about interest in starting a new business added to a general phone interview survey of households in Minnesota in 1987. The probability sample of 1,204 adults had a 71 percent response rate. A 9-12 month follow-up of those initially indicating an interest was conducted. A random sub-sample of 50 of those not initially interested were re-interviewed.

Major Findings

Overall there is considerable interest in a general population for starting a new business. Over 13 percent indicated an interest and of these, 24 percent actually started a business within the follow-up period. Twenty-one percent of those initially interested dropped their interest and 7 percent of the initially uninterested became interested a year later. We estimate (conservatively) that 43 percent of the population have had some involvement in business.

Gender and age have significant effects on the level of interest in going into business which we interpret to be effects of socialization factors. Especially small and rural places are unlikely to have many interested individuals. Estimate of future financial well-being is related to interest. Further, the more advantaged a person (education and income), the higher the interest.

Conclusions

There is substantial interest among adults in going into business. This interest varies by a number of conditions. Socialization factors such as gender and cohort, resource factors such as education and income, and estimates of the future financial condition all have significant effects on the level of interest in going into business. Of particular interest is the high level of interest among minorities.